1972

Determination of Salmonella Species in the Big Sioux River and Development of a Quantitative Most Probable Number Method

Myung Hyun Kim

Follow this and additional works at: https://openprairie.sdstate.edu/etd

Recommended Citation
Kim, Myung Hyun, "Determination of Salmonella Species in the Big Sioux River and Development of a Quantitative Most Probable Number Method" (1972). Electronic Theses and Dissertations. 4793. https://openprairie.sdstate.edu/etd/4793

This Thesis - Open Access is brought to you for free and open access by Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.
UTILIZATION OF ENCOUNTER GROUPS IN A RESIDENCE HALL

BY

ROBERT MELVILLE KEITH, JR.

A thesis submitted
in partial fulfillment of the requirement for the
degree Master of Science, Major in
Guidance and Counseling, South Dakota
State University

1972
This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Thesis Advisor

Date

Head, Guidance and Counseling Department

Date
ACKNOWLEDGEMENTS

We human beings pride ourselves in being independent and self-supporting. In a humanistic counseling relationship, this self-actualization becomes a guiding orientation. However, in a world of people, we soon become aware that, although we must stand on our own two feet, other people are significantly important to us and to our living.

To those significant others who gave of themselves in this thesis learning experience, the author expresses his feelings of deepest gratitude and warmest regard. For the author, Dr. Allan Lindstrom epitomizes the significant other.

Mrs. Barb Doherty and Mr. Virgil Rust are warmly acknowledged for their giving of themselves as group facilitators and as people.

The author also wishes to express his gratitude to Dr. Dean Hofland and Dr. William Tucker for their assistance in the statistical analysis of this investigation.

To Debbie Nelson, Mark Eastwold and Jan Roseland, the author acknowledges his indebtedness for their support and aid in the preparation of the thesis.

To the many significant others the author expresses his realization that, without them, this investigation would have little meaning.

RMK
To Tommie, Troy and Jennifer

The group I would most prefer to encounter.
# TABLE OF CONTENTS

## I. INTRODUCTION
- Statement of the Problem ........................................... 1
- Importance of the Problem ......................................... 2
- Research Design .................................................... 3
- Limitations of the Study ........................................... 5
- Definition of Terms ................................................. 6
- Residence Hall Wing ............................................... 6
- Basic Encounter Group ............................................. 6
- Facilitator .......................................................... 6

## II. REVIEW OF LITERATURE

## III. METHODOLOGY
- Selection of a Sample ............................................... 19
- Description of the Instrument ..................................... 20
- Reliability ........................................................... 22
- Validity ...................................................................... 22
- Description of the Procedure ....................................... 23
- Collection and Analysis of Data ................................... 26

## IV. RESULTS

## V. CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS
- Conclusions ................................................................ 32
- Discussion .................................................................. 33
- Recommendations ..................................................... 36
LIST OF TABLES

I. Pre- and Post-Test Means for the Experimental and Control Groups ........................................... 29
II. Summary of the t-Test ........................................... 30
III. Self-Report Summary ........................................... 31
CHAPTER I
INTRODUCTION

On a college campus where the majority of students reside in residence halls, educators are becoming increasingly aware of the impact dormitory living has on the total growth and development of the student residents, both academically and personally.

Statement of the problem. The research is focused on how to make residence hall living a more valid and relevant learning experience for the students. The physical arrangement of living areas in most traditional American residence halls is constructed with separate general living areas, i.e. wings. Since the residents of the wing are usually physically separated from the other wings, the individual wing becomes a relatively independent environment having living/interacting peculiarities all its own. The author of this research assumed that the individual wing is the most immediate dormitory influence on a resident. By concentrating a directed growth producing experience at the wing level, effective enhancement of the residence hall life would occur. This assumption indicated the implication that most negative resident hall experiences of a resident occur at a wing level. The object of this research was to provide positive interactions at the wing level, thus heightening the individual's self concept and the wing community's functioning. The hypothesis was that by utilizing a basic encounter
group relationship, these positive attributes of a wing can be accentuated. It was the contention of this author that by providing the residents of a wing with a positive learning experience as a result of basic group procedures, these positive wing components will be brought out and serve as information necessary for continued healthy interactions.

**Importance of the problem.** Observations by student services personnel have suggested that the total wing environment is directly affected by the interactions that take place between the wing residents. This is substantiated by the literature which indicates that the wing, as a separate, functional living unit, is a subculture, having its own norms and mores. Each wing exerts its own influences which tend to modify the individual's behavior and create that wing's atmosphere and climate. Reinforcements, both positive and negative, arise as a means to establish and maintain that wing's unique personality. As with any personality, the overt and covert behavior is not always conducive to healthy, normal development. When frictions within the wing occur, the result can have profound effects on that wing and its individual members. Among the many possibilities of negative behavior are the decline in academic motivation, general irritability, generalized and/or personalized anxiety, fear, guilt, as well as a feeling of isolation, animosity and frustration.

On the other hand, the positive influence the wing's functioning can have on itself and individual residents is equally dramatic. Favorable factors growing directly from within the wing can enhance
the resident's life significantly. Academic motivation can be heightened, acceptance of self and others may be fostered. A healthy sense of community may grow in direct proportion to the positive encounters on the wing. The attitude a particular wing has developed may also serve as significant input to other wings within the same residence hall. The potential that a wing has over its members is a most germane area of consideration for those concerned with student development. Since the wing is a self-contained group with its own dynamics, using a group procedure was the most appropriate means by which to investigate the wing group.

Research design. In accessing the utility of a group experience on the interactions of wing residents, the experimental method of research was employed, with particular emphasis on the control-group design. Two groups were established, one group as the control, the other as the experimental group. Each group was a wing in the same residence hall.

Since all eight wings shared the same total environment, Scobey Hall, it was felt that each wing would be under the same overall stimuli of the total environment. Therefore, each wing has the same probability of being a representative wing. The residents of Scobey Hall had been randomly assigned to rooms before the academic semester began, so the wing composition as to classification, age, race and major had already assumed randomization.

Both groups were initially told that they were being asked to take part in a communication study being done by the author. They were asked
to commit themselves to the required time period and that all responses, etc., would be held in strictest confidence. The time commitment was stressed and a consensus was reached on time and place.

Both groups were given a pretest (see Chapter III) to assess the individuals present perception of peer relationships and his own self perceptions. The test was designed to give an estimate of how the student sees himself in relation to the other members of his community; and how he views himself in terms of involvement in peer functions, academic motivation, goal orientation, acceptance by self and others, his acceptance of others and self.

The group was conducted for four weeks, a total of twenty-two hours. During the session each member was allowed to express his own feelings toward himself and/or his peers. The group was also permitted to set its own direction and take responsibility for its own processes.

Facilitation of the group was rendered by two graduate students in the counseling and guidance department at South Dakota State University. The facilitators displayed competence in group counseling procedures as indicated by their experience in the graduate program.

It was necessary to divide the experimental group into two subgroups due to the large number of residents on the wing. By having two smaller groups, it was felt that the groups could more easily function at a higher level of cohesiveness.

At the end of the four weeks, both the experimental and the control group were retested, using the original test instrument. It was assumed that the time span was sufficiently long and the test items varied
enough so that the initial exposure to the test would not transfer to the post testing and bias those responses.

The results of the analysis of data, in addition to graphical presentation of the data, may be found in Chapter IV.

**Limitations of the study.** The findings of this study apply specifically to Scobey Hall, South Dakota State University, Spring Semester, 1972. Since wing composition will vary from semester to semester, particular responses from individuals were appropriate for only the aforementioned time and place. However, since the entire dormitory structure at South Dakota State University is of the wing concept, the findings may be generalized to the total campus. One possible exception would be in the co-ed dormitories which consist of both floors of men and floors of women. The wings, however, are always of the same sex and are physically separated from any other wing.

Other universities or colleges having the same residence hall arrangement and who have the majority of students residing in residence halls could be applicable corollaries to this study. Those institutions which have a more relaxed control system (e.g., twenty-four hour visitation, alcohol in the hall, etc., which South Dakota State University does not) might find a different set of forces acting on its residents, but the basic wing-community concept and communication dynamics would still be appropriate.

The research was limited to a one month period of time. It would be difficult to assess the full impact of the group experience on the wing due to this relatively short period of time.
The data supporting or rejecting the hypothesis was based primarily on the objective test results. This does not fully allow the wing residents the latitude to display the gamut of changed behavior and/or attitudes. A self-report was included as a measure of change but the weight of assessing the change fell on the objective test.

The use of two different facilitators may have introduced unequal dynamics between the two experimental groups. The possible difference within and between the two experimental groups should be avoided and, when necessary, should be taken into consideration in the statistical analysis.

**Definition of terms.** To more easily understand the dynamics of the study, the following definitions are offered:

**Residence hall wing.** The wing is that portion of a college residence hall which contains the living areas for approximately one-half of the residents of one floor of the hall. One wing is physically separated from the other wing on the floor by two sets of closed doors and a small lobby at the staircase. The staircase and lobby are roughly in the middle of the two wings.

**Basic encounter group.** Rogers (1970) suggests that this form of group experience fosters "personal growth and the development and improvement of interpersonal communication and relationships through the experimental process." The encounter group has as its main function that of enriching the experiences of each member of the group through the open sharing of an individual with the group. This involves taking
personal risks in confiding feelings and thoughts to the group and being open to feedback from the group.

**Facilitator.** The facilitator is one who has experienced the growth process found in a group experience and, by virtue of his gained awareness, oversees, guides, responds, to what is happening in the group. He may serve as a leader but, more typically, is a participant. By demonstrating risk taking and trust through his taking risks and trusting, the group more quickly learns. The facilitator is also usually a professional counselor who can lend professional aid when needed in the group.
CHAPTER II

REVIEW OF LITERATURE

That the experiences occurring within residence hall life can dramatically effect those students living in the halls and their resultant academic and social behavior is a widely recognized fact. What was once the role of the classroom and the library is now one of the roles of the residence hall: to enhance the cultural and intellectual life of those who live in them. This chapter is an attempt to review pertinent literature dealing with the quality and impact of residence hall life and the role encounter groups play in modifying the residence hall life.

As Standing (1969) suggested, the attitudes and behavior of students within dormitories may be modified as a consequence of frequent meaningful and intimate interactions between those students. Newcomb (1962) expands this, adding that students who spend so much of their time together jointly create their own set of norms by which each student is directly influenced.

The importance of the peer group relationships is implied by Banduro and Walters (1963). They assert that all behavior is learned and that through the process of social modeling the learner imitates the behaviors of important others with whom he identifies. Identification, not only in traditional learning situations, but also social
settings may be one of the basic ingredients of the educational process. Perhaps the most potent source of identification and potential learning experiences is the peer group, the fellow residents in the hall and on the particular wing. Friesen (1970) contends that when an institution provides structure in such a way as to harness the potent forces of peer associations, learning is greatly enhanced; and where learning is attempted without the utilization of peer groups, learning is measurably thwarted. He continues with the assumption that the power of the peer group (as within the residence hall) is in direct proportion to the degree to which it provides "identity, security and stimulation to its members; that is, in the measure that it sustains human life."

That man is a social animal, needing fellow men, is a well documented fact. Authors such as Fromm (1965), Audrey (1966) and Maslow (1962), have concluded that we need each other for our own survival and that regardless of our unique individuality, it is this common unity that ties us all together. This common need is the basis for community and it is this sense of community, the belonging and accepting that comes with it, that is at the heart of the residence hall life and its resultant climate for learning.

Community is not a gift; it is achieved. Friesen (1970) uses the terms "confrontation and encounter" as the means by which community is reached. To those who share the reality of community in their study and learning, a context of governance and discipline is understood and basically accepted and the resultant behavior is responsible, supportive and community enhancing. Those who are not accepted as a part of the
community will become frustrated, annoyed and destructive. Therefore, concerted effort must be expended to create community that does sustain "humanness", that encourages spontaneity and self-directed activity. Susman (1970) pursues the concept of community and its importance in the residence halls and concludes that these students should be encouraged to arrive at their own styles of living and dealing with the realities of the world—without the buffers of what he calls "university paternalism".

Friesen (1970) continues with the suggestions that the self-directing and self-fulfilling attitudes as well as the tolerant, broad-minded and reason controlled behaviors are the products of what takes place within the peer group community. It is the responsibility of each member of the community to foster an environment conducive to the attainment of those goals.

Standing (1969) contends that these noble and highly desirable attributes of residence hall life are not always to be found and, should they be in existence, will vary in degree. In his study on residence halls as centers of productive living, he found that even though the hall may afford cohesion for some, it is a source of alienation and dissatisfaction for others. He agrees that for the majority of residents it is a growth-producing experience; but for some others, it is little more than a place to sleep. The halls serve as primary reference groups for some, but by no means for all. Many residents indicated extreme dissatisfaction with the life within their respective halls. Standing points to the generally high turnover of residents from year to year as a sign of the inability of the halls to satisfy the needs of all residents.
Along with this, he points out that fraternities are able to maintain full houses, even when they exert considerable control, due to the inadequate peer group relations in residence halls.

The college youth of today is described by those in close contact with him as sophisticated, affluent, experienced and knowledgeable. He is, at the same time, dissatisfied with the world around him and insecure and anxious in his response to our societal complexities. Shaffer (1967) has listed seven forces which he sees impinging on the college student: (1) general social milieu of affluences, the Viet Nam war, the cold war, a threat of atomic annihilation, overt racial strife, growing organized protest, and the "cultural shock" resulting from advanced technological developments; (2) the existential philosophy, that nothing is of value unless personally experienced or felt to be personally relevant by the individual himself; (3) the increasing decline of the church's role and impact on higher education and adult life; (4) the relativism of family standards; (5) the developing change in philosophy of higher education without benefit of interpretation to parents, students and alumni, including the rejection of in loco parentis; (6) the political involvement of students, suggesting a new view of the role universities play in our contemporary society; and (7) a trend toward legalism.

Considering the forces acting on the youth, Goodenough (1963) conducted an investigation from which he concluded that each individual organizes at least part of his conception of experience according to the way in which he perceives what his peers have organized their standards.
of perception, prediction, judgement and action. The individual builds his own "operating culture" of behavior to correspond with the operating cultures which he perceives other individuals to project. Extending this concept, Wallace (1951) views culture as basic policy, tacitly and gradually concocted by groups of people for the furtherance of their own interests. These people, reinforced by rewarding practice, establish "contracts" which organize their strivings into mutually facilitating and enhancing structures. Assuming then that culture provides roles for the attainment of desirable goals and personality provides drives which are satisfied by performing and maintaining the available roles, it is the role that provides the concept through which the interests of culture and personality intersect.

Lieberman (1956), on the basis of an attitude questionnaire investigated the theory that a person's attitudes will be influenced by the role he occupies in a social system (as on a wing). He asserted two principles based on the results of his study. These principles lend themselves to partially understanding the dynamics in a wing in a residence hall. They are: (1) the reference group principle--a change in roles involves a change in reference groups, which leads to a change in action; (2) the self-consistency principle--a change in roles involves a change in function which leads to a change in actions, which leads to a change in attitudes.

Borgatta (1961) reports that the common view of the relationship between personality and social structure includes two important propositions: (1) personality types tend to gravitate to positions (as on a
wing) which are consistent with the normative demand of that group; (2) occupancy of that position which asserts its normative demands tends to alter the personality towards a consistency with the existing normative demands.

The influence and impact that peer groups have within the residence halls and the behavioral consequences of those interactions has been indicated. The remaining part of this chapter will deal with literature indicating the effect of structured group experiences on the peer relationships.

Due to the varied backgrounds of occupants of the residence halls, counseling programs generally originate from the individual's needs. The results effect changes which contribute to the group living situation. However, many college personnel officers have recognized the need for more comprehensive counseling services within the residence halls. The activities of the counselors generally fall into two phases: those concerned with the welfare of the individual student and those concerned with the development of the group. Since the present study is primarily concerned with the group counseling experience, it is appropriate to consider the reported positive and negative results of groups.

As the aforementioned findings have suggested, the individual is strongly motivated to establish himself within his group setting. The group will mold the individual into its value system and directly influence his behavior and personality. As the individual begins to develop, he may become disenchanted with the groups values and expectations. When this happens to one who is in a predetermined group, such
as with a residence hall wing, the frustrations and agonies may cause various forms of disruption and destruction. It is through the group counseling procedure, or more commonly called the group experience, that the individual and the group are reconciled. The group procedure may also be used to facilitate the reconciliation of an individual and some other problem area, as a result of that person's group experience.

There are those who feel that psychotherapy and counseling are virtually ineffective. As stated by Wrenn (1960), "the critical observer is led to the conclusion that there is no proof that counseling actually makes a difference." Two studies, Eysenck (1952) and Levitt (1957), reviewed research material exploring effects of different therapeutic counseling and guidance activities. They both found no significant average differences in the outcome variables of persons who were treated and persons who were not treated.

Barron and Leary (1955) conducted a study of the therapy of 150 neurotics in treatment at mental health clinics. They found no significant difference on any of the outcome measures between the control group, group therapy groups, or individual therapy groups. Cartwright and Vogel (1950), at the Chicago Counseling Center, found no greater improvements in adjustment in the therapy group than the control group.

Using the grade point average of superior college students in counseling, no significant g.p.a. difference was found by Searles (1962) between the counseled and the control groups. In counseling minimally achieving students, Richardson (1960) found that neither counseled nor non-counseled students demonstrated improved academic performance.
While the above mentioned studies question the validity of counseling and its effects, other investigators have reported positive results from the counseling process.

One such study was conducted by Howard (1970). This study centered around parents of mild behavioral problem children and the parents' resulting negative self concept. Howard, a psychologist in the Tennessee state re-education program, worked with children whose emotional problems interfered with their learning in school. The children in the program were considered of average or above intelligence with no gross physical handicaps though various behavioral problems were impairing their functioning in school. Their ages ranged from 6 to 16.

Howard randomly selected two groups of parents, each group representing a cross-section of socio-economic and racial backgrounds. The groups consisted of both parents with a total of ten parents in a group. A self-concept evaluation form, devised by Howard, was administered to both groups. He then randomly assigned one group as the control and the other as the experimental group. The control group had no contact with each other (the evaluation done via mail) and did not know the identity of the other members. The experimental group, also receiving the evaluation by mail, began weekly three-hour group sessions for a period of eight weeks. Howard facilitated this group. During the experience, the parents were encouraged to share their various feelings toward themselves, their children and each other as a result of their children's plight of life.
At the end of the eight week sessions, the same self-other concept evaluation was administered to both groups by mail. Howard found a statistically significant positive change in the experimental group's attitudes whereas no significant change was noted for the control group.

Spielberger, Weitz and Denny (1962) indicate many college freshmen who experience "cultural shock" during the first year of college may be helped through early application of a group counseling program. This program would be used as a preventive measure for helping students learn how to deal effectively with the many problems which raise conflicts with the students' academic performance. In their study they found positive effects of brief group counseling on academic achievement in anxious college students. The counseled students showed a higher grade point average at the end of their counseling than did a matched control group of non-counseled students. In a similar study, Dickenson and Truax (1966) also discovered a positive effect on academic functioning as a result of brief group counseling as opposed to no significant change for the matched non-counseled group.

In 1940 Williamson and Bordin used the matched treatment and control counseling technique and found a positive effect on counseled college students. In a follow up to Williamson and Bordin's study, Cambell (1965), statistically supported the "positive contribution to society" of the 1940 counseled group over the non-counseled group. As Cambell states, "the fact that any difference could be detected twenty-five years later is in itself striking evidence."
Shaw and Tuel (1965) indicate a trend for group procedures in schools from remediation of problems toward being preventive in nature. The object is to prevent problems from growing beyond the point where the individual requires special help to deal adequately with his concerns. These preventive procedures attempt to help students anticipate difficulties, particularly at "articulation points", and to prepare them to deal with such problems in an effective manner.

Mahler (1959) discusses the importance and relevancy of group counseling in the schools. He feels that an effective group counseling program is one of the more promising means by which schools can help students learn to effectively deal with the educational environment. He contends that a counseling program should not be constructed in such a manner that it only handles problem students. "Rather," Mahler asserts, "it should be preventive in nature and concern itself with the normal development tasks of the students."

Meltzoff and Kornreich (1971) report that a person who is in need of help and is in consultation with a skilled therapist will have a better than average chance for improvement. In their article Meltzoff and Kornreich quote sources such as R.B. Morton, J.E. Exner, George A. Shouksmith, James W. Taylor, Earl J. Ends, et al, all of whom did exhaustive experimental studies of patients to ascertain the effectiveness of therapy. The authors quoted by Meltzoff and Kornreich substantiate the position that "improvement in patients who received treatment was clearly greater than improvement in patients in a control group who received no treatment." An example of such an improvement was that of former acrophobics who, after treatment, were able to climb the fire escape of an
eight-story building, look over the edge and count the cars passing below.

Rogers (1970) reports that even though not every group experience is successful, he has personally seen the majority of members in many groups feel they have had a rewarding experience. Rogers' observations of the successful experiences are based on the reports of the members after a month has elapsed since the disbandment of the group.

As this chapter has demonstrated, the powerful influence of peer group associations may alter significantly the individual's behavior and/or attitudes. Although the volume of literature on this subject is not at present extensive, it is encouraging to see the current results and hopefully new research will be continuing and forthcoming.
CHAPTER III
METHODOLOGY

This chapter is concerned with the implementation of the group procedure as applied to the residents of the individual wing. It should be noted that even though the total group was chosen as the vehicle with which to study effective behavioral change, it is the individual person who lies as the fundamental entity toward whom this study is oriented. Group dynamics modify individual behavior and feelings, but the single person accepts or rejects the group influence. To ignore the personal responsibility for one's actions and feelings, both for himself and his relationship within the group, would invalidate the academic nature of this paper and would seriously question the humanistic motives for pursuing this investigation.

Selection of a sample. As stated in Chapter I, the experimental paradigm was chosen as the mode with which to investigate enhancing functional wing interactions. The control-group method was deemed most appropriate for this purpose since it allowed for comparing the changes which occurred, making it possible to determine if the changes were attributable to the group experience or to other intervening variables.

The subjects were selected on the basis of belonging to a particular wing. Both wings, the control and the experimental, were in Scobey Hall, South Dakota State University, an all male residence hall. Each
wing contained an heterogeneous mixture of ages, academic majors and background. Both the experimental group and the control group were composed of male underclassmen. Both wings reflected a cross-section of freshmen though seniors, with each academic college being represented. No attempt was made to control the make-up of a wing since it was the commonality of belonging to a particular wing only that was of concern.

Originally, all wings had an equal chance of being selected as the experimental group. It was later decided that the experimental wing should be one with overt behavioral problems since any change could be more easily measured. The appropriate wing was selected accordingly. Problems such as frequent disturbances, blatant disregard for university rules, disrespect for individual's rights (e.g., trespassing, thefts, unrealistic noise) were among the criteria used for the choice of the wing. The number of residents in this wing was 23.

The control wing was chosen from the remaining wings which also exhibited these behavioral signs. The final selection resulted from matching the size of the wing with that of the experimental wing. The number of residents in the control wing was 23.

**Description of the instrument.** Before change can be said to be a function of a process or experience, it must first be established that change did, in fact, occur. To this end, two means of assessing change were accepted: (1) a forced-choice, pencil and paper personality inventory, and (2) an open-ended self-report.
The FIRO-B (Fundamental Interpersonal Relations Orientation–Behavior) (Schutz, 1967) was used as the forced-choice, pencil and paper test. The FIRO-B was chosen for its appropriateness in measuring the behavioral symptoms under question; i.e., acceptance, inclusion, and control, its high validity and reliability coefficients, and its simplicity and ease in administering and interpreting.

FIRO-B measures the person's trait of how he characteristically relates to other people on the behavioral level. This measurement is based on how he acts in interpersonal situations. The instrument also facilitates the prediction of the individuals interaction between people. The fundamental interpersonal dimensions of the FIRO-B are Inclusion, I; Control, C; and Affection, A. Defined behaviorally (Schutz, 1967), they are as follows:

Inclusion. The interpersonal need for inclusion is the need to establish and maintain a satisfactory relationship with people with respect to interaction and association. Some terms that connote various aspects of a relationship that is primarily positive inclusion are: "associate, interact, mingle, communicate, belong, companion, comrade, attend to, member, togetherness, join, extrovert, pay attention to, interested, encounter." Negative inclusion is connoted by "exclude, isolate, outsider, outcast, lonely, detached, withdrawn, abandon, ignore."

Control. The interpersonal need for control is the need to establish and maintain a satisfactory relationship with people with respect to control and power. Control behavior refers to the decision-making process between people. Some terms that connote aspects of primarily positive control are, "power, authority, dominance, influence, control, ruler, superior, officer, leader." Aspects of negative control are connoted by "rebellion, resistance, follower, anarchy, submissive, henpecked."
Affection. The interpersonal need for affection is the need to establish and maintain a satisfactory relationship with others with respect to love and affection. Some terms that connote aspects of primarily positive affection are "love, like, emotionally close, personal, intimate, friend, sweetheart." Aspects of negative affection are connoted by "hate, cool, dislike, emotionally distant, rejecting."

The behavior is seen in two dimensions: the behavior an individual expresses toward others (e) and the behavior he wants others to express toward him (w). One aspect of the interaction of two people may be evaluated through the "fit" between what one wants and what the other expresses.

The author of FIRO-B reports high reliability and validity coefficients. A brief description of the test's qualifications are appropriate.

Reliability. Coefficient of internal consistency: instead of using the usual split-half method, the FIRO-B Scales were converted to Guttman Scales. Reproducibility then is the measure of internal consistency, the reproducibility for all Scales being very high and constant over all samples (N 1543, mean .94).

Coefficient of stability: the author used the test-retest-method. The mean coefficient of stability for the six Scales was .76.

The intercorrelation of scales was small enough so that predictions about specific individuals would be somewhat hampered by reducing the number of scales.

Validity. Content validity studies, utilizing a 90 per cent reproducible (i.e., predictable) criteria based on sample items, suggested the sampling of the universe of items yielded a "satisfactory content
validity."

The second means with which to verify a change in behavior/attitudes was the open-ended self-report. It is the contention of this author that the individual is the best authority on himself. Not only is the person the most appropriate source for reporting change within himself, he is also the best qualified since he is the closest source to himself.

The implementation of the FIRO-B and the self-report is described in the following section in the procedures utilized.

**Description of the procedure.** Once the experimental and control groups had been designated and established, the FIRO-B was administered to both groups. In a cover letter from the author to the residents involved, the two groups of participants were told they were asked to take the test as a part of the author's master's thesis on communication. They were not told of any of the purposes or possible ramifications of the study other than communication between members of the wing was under investigation. No form of remuneration or incentive was offered except that of helping the author with his study. Complete anonymity of the tests was stressed.

Upon completion and receipt of the tests, there were no attempts to influence the control group in any way by the author. Their day-to-day life on the wing was not structured and no reports of any extraneous factors which could influence their post-testing were noted by the author.

Both the experimental and control group were given the pre-test at the same time. Immediately after administration of the test, the exper-
i mental group began its first group experience. The experimental group was divided into two sub-groups since the initial $N$ of the group (23) was deemed too large for functional group processes. The division required the use of two group facilitators. This factor, and the sex (one male, one female) of the facilitators, were taken into account in the analyzing of the data reported in Chapter IV.

The author of this study was not used as a group facilitator since a possible bias might result due to his role as the residence hall director and also as the author of the paper. Two facilitators were chosen on the basis of their experience and orientation toward group procedures. Both facilitators were graduate students in the Guidance and Counseling department at South Dakota State University. They exhibited expertise in mature counseling relationships and were inclined toward a humanistic, client-centered philosophy of counseling.

Again, within the group setting, no information was given as to the ultimate use of the groups. The enhancement of communication was reiterated as the sole purpose of the study.

Ground rules, common to both groups, were established by each group: all conversations were to be held in the strictest confidence, no "outsiders" were to be allowed to enter the group; no physically destructive behavior was to be condoned; all areas or topics were open to discussion; only honest, open comments were to be encouraged. The concepts of trust and risk-taking were suggested by the facilitator as possible tools to be used in the group by each member of the group. The facilitator briefly described his/her role as a participant/observer and stressed
the fact that he/she was as much a member of the group as the group allowed. The groups were not structured, setting their own directions and dynamics.

The groups were conducted for a period of four weeks, the timing and length of sessions varying with academic test schedules, university social functions, and individual group dictates. Each group decided as a group when the session was finished. They also had the group task to decide when to meet again. At the end of the four weeks, both groups had met an approximate total of twenty-two hours, spaced relatively evenly over the four week period.

At the conclusion of the four week group sessions, the FIRO-B was again administered to both the experimental and control groups. The same instructions were also given. In addition to the FIRO-B, the self-report was administered to both groups. They were asked to report any significant change that they felt had occurred within them and/or their wing as a function of the four week period. In an attempt to hold all factors constant, the group experience was not specially referred to since the control group did not receive the sessions. It was also felt that to mention the group sessions would prejudice the members to the point of possibly artificially ascribing inappropriate consequences to it.

The members of the experimental group were asked at the time of post-testing to make any comments they wished concerning any or all facets of their group experience. They were not directed as what to say or what type of comment was desired; their choice of comment and decision to comment was left completely up to them.
Collection and analysis of data. To accurately assess any change which resulted from the group experience, the scores from the pre- and post-testing of the FIRO-B were subjected to a t-test. The t-test was chosen as the statistical tool since it lent itself to analyzing the difference between the two groups. The statistical results may be seen in Chapter IV.
CHAPTER IV

RESULTS

The purpose of this investigation was to furnish data with which to assess the influence a basic encounter group would have on changing self/other attitudes of members of a residence hall wing. Two wings were investigated. One wing served as the experimental group and the other wing, the control group. Both wings were administered the FIRO-B personality test, each wing being given a pre- and post-test. The experimental group participated in a one month group experience with a facilitator from the graduate department of counselor education. In addition to the FIRO-B, the experimental group also was given the opportunity to utilize a self-reporting procedure in which they could indicate, in their own words, any change they felt that had occurred as a result of the group experience. The control group was not involved in a group procedure. Their only contact with the study was in the pre- and post-testing.

The investigation yielded the following results. Utilizing the t-test as the statistical tool, the difference between means for the control and experimental group in the area of expressed inclusion was .740; for wanted inclusion, the difference between means was 1.233; expressed control had a .513 as the difference; wanted control yielded .899; in the area of expressed affection, the difference was 1.524; and wanted affection showed a difference between means of .480. Table I
contains the pre- and post-test means for the control and experimental
groups for the six areas of behavior under investigation. Table II
contains the summation of the t-test analysis.

In analyzing the effect of group counseling procedures on the
members of the residence hall wing, it was found that there was no
statistical difference between means at the .05 level of probability
as measured by the FIRO-B personality test. Within each of the six
areas of the FIRO-B, no difference between means at the .05 level of
probability was found.

The data reflects a participant attrition of three members from
the pre- to the post-test for the experimental group.

The self-report was made available to the entire experimental group.
Nine of the fourteen members contributed written comments, or 64 per cent
of those participating. Of the nine offering comments, eight wing mem-
bers (89%) stated that the group experience was positive with benefits
for themselves. Only one member stated the experience was a negative
one for him. Two members, or 22 per cent, suggested that the group
experience be of longer duration. Table III presents a breakdown of
comments among those reporting.
### TABLE I

**PRE- AND POST-TEST MEANS FOR THE EXPERIMENTAL AND CONTROL GROUPS**

(Experimental $N=14$, Control $N=16$, both receiving pre- and post-tests)

<table>
<thead>
<tr>
<th>Group</th>
<th>Category</th>
<th>Pre-Test Mean</th>
<th>Post-Test Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>$e^i$</td>
<td>5.1</td>
<td>5.3</td>
</tr>
<tr>
<td>E</td>
<td>$w^i$</td>
<td>5.5</td>
<td>5.8</td>
</tr>
<tr>
<td>C</td>
<td>$e^i$</td>
<td>5.2</td>
<td>5.3</td>
</tr>
<tr>
<td>C</td>
<td>$w^i$</td>
<td>4.3</td>
<td>4.0</td>
</tr>
<tr>
<td>E</td>
<td>$e^c$</td>
<td>2.2</td>
<td>2.7</td>
</tr>
<tr>
<td>E</td>
<td>$w^c$</td>
<td>4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>C</td>
<td>$e^c$</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td>C</td>
<td>$w^c$</td>
<td>4.4</td>
<td>4.8</td>
</tr>
<tr>
<td>E</td>
<td>$e^a$</td>
<td>3.5</td>
<td>3.9</td>
</tr>
<tr>
<td>E</td>
<td>$w^a$</td>
<td>4.6</td>
<td>4.8</td>
</tr>
<tr>
<td>C</td>
<td>$e^a$</td>
<td>3.4</td>
<td>3.7</td>
</tr>
<tr>
<td>C</td>
<td>$w^a$</td>
<td>3.4</td>
<td>3.9</td>
</tr>
</tbody>
</table>
TABLE II

SUMMARY OF THE t-TEST

(Experimental N=14, Control N=16, both receiving pre- and post-tests)

<table>
<thead>
<tr>
<th>Group</th>
<th>Category</th>
<th>Mean Difference</th>
<th>Difference Between Means</th>
<th>Standard Error of the Mean Difference</th>
<th>df</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>E/e</td>
<td>e_i</td>
<td>-.125</td>
<td>.304</td>
<td>.748</td>
<td>13</td>
<td>.740</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>e_i</td>
<td>-.429</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/w</td>
<td>w_i</td>
<td>.688</td>
<td>1.617</td>
<td>1.311</td>
<td>13</td>
<td>1.233</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>w_i</td>
<td>-.929</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/e</td>
<td>e_c</td>
<td>-.563</td>
<td>-.349</td>
<td>.673</td>
<td>13</td>
<td>.518</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>e_c</td>
<td>-.214</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/w</td>
<td>w_c</td>
<td>.438</td>
<td>-2.351</td>
<td>2.613</td>
<td>13</td>
<td>.899</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>w_c</td>
<td>2.789</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/e</td>
<td>e_a</td>
<td>-.25</td>
<td>1.607</td>
<td>.948</td>
<td>13</td>
<td>1.524</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>e_a</td>
<td>-1.857</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/w</td>
<td>w_a</td>
<td>-.188</td>
<td>.526</td>
<td>1.099</td>
<td>13</td>
<td>.480</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>w_a</td>
<td>-.714</td>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance at the .05 level of probability is 2.160.
### TABLE III

**SELF-REPORT SUMMARY**

(N=9, each S making a self-report)

<table>
<thead>
<tr>
<th>Comment</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beneficial</td>
<td>8</td>
<td>89%</td>
</tr>
<tr>
<td>Not Beneficial</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Too Short</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>No Comments</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Total Reporting</td>
<td>9</td>
<td>64</td>
</tr>
</tbody>
</table>
CHAPTER V
CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

It is now appropriate to focus attention toward what conclusions can be made from this investigation. Along with this is a discussion of the study, its ramifications and suggestions based on the collected data.

Conclusions. It was hypothesized by the investigator that a basic encounter group experience would significantly change self/other attitudes of residence hall wing members as measured by the FIRO-B personality test. The research did not support the hypothesis.

The study consisted of forty-six male undergraduate residents of Scobey Hall, South Dakota State University. The subjects composed two individual wings in the residence hall, one wing designated as the experimental group, the other wing designated as the control group. The experimental group received a basic encounter group experience for twenty-two hours over a period of one month. The control group did not participate in a group experience. Both wings were administered a pre- and post-test. The testing instrument utilized to assess difference in attitudes was the Fundamental Interpersonal Relations Orientation—Behavior. The FIRO-B measured change in expressed and/or wanted behavior in the areas of inclusion, control and affection.
The subjects' responses to the FIRO-B were statistically analyzed by means of a t-test comparing the mean difference of the pre- and post-test scores of the experimental and control groups. The summation of the analysis yielded: (1) there was no statistical difference between the experimental group's attitudes toward self/others after experiencing a basic encounter group as compared to the control group's attitudes, and (2) there was no statistical difference on the experimental group's attitudes within the six areas of behavior measured by the FIRO-B as compared to the control subjects.

The experimental group also was given the opportunity to make unstructured written remarks concerning their group experience. Since the control group did not undergo a group process, it was felt it would be inappropriate to solicit a self-report from them. The comments from the experimental group suggested: (1) the group process had been beneficial to a majority of the members, and (2) the group experience needed to be continued over a longer period of time.

Discussion. The data based on the FIRO-B indicated no significant difference in attitudes as a function of the group process. However, the self-report suggested that a majority of the subjects had felt a noticeable impact on their perceptions and feelings toward self/others. This seemingly discrepant report of change could be attributed to the following areas of concern.

The twenty-two hours over a one month period of time was the minimal time considered valid as length of experience for testing purposes. That no change was reported could be due to the possibility that this
period of time was inadequate. The FIRO-B measured absolute change as reported by the subject's responding with a zero up to and including a nine, depending on how strongly he felt toward a given question. The question was designed to elicit a numerical response directly proportional to the subject's feelings/thoughts for that category (expressed or wanted inclusion, control and affection). The extent of experience as a function of time may not have been sufficient to raise or lower the numerical responses. This becomes more likely when compared to the subjects' own unforced responses which indicated that change had occurred. It would seem that the subjects were directly affected (as the self-report indicates), but not to the degree to significantly change their test scores.

The failure to establish statistical difference between groups may be possibly attributed to the minimal number of groups participating in the investigation. Only one experimental and one control group were utilized. The data relied completely on change occurring within one set of groups. By employing more than one set of groups, the probability of observing change would be increased.

Those participating in the group process were not completely aware of the purpose for being in the group. The composition of the group, especially at the time of pre-testing, was such that some of the subjects may not have initially joined the group had they known the possibility that an encounter group would take place. The total wing had been encouraged to participate in a communication building group. It could be assumed that they viewed this as little more than the dorm rap session which are inherent in residence halls. Assuming this was the case,
little motivation would have been present for those residents to become involved in a more intense encounter session. Three members of the experimental group refused to return to additional meetings which suggests they were uncomfortable with the nature of the group. It may also be assumed that others were also less than eager to become so intensely involved but still remained in the group. To see and hear their fellow residents reveal themselves may have been sufficient motivation to remain a group member but was not adequate to stimulate them to actively participate. Their test scores would reflect this lack of involvement.

One very important spin-off from this study, which does not lend itself to measurement, is the individual growth resulting from the group experience. Such a phenomenon appears to have taken place and merits comment. One member of the experimental group was stimulated to the degree of investing himself in an apparently painful personal search for himself. Based on what he learned about himself and his relationships with other people while in the group, this individual has entered into a counseling relationship which he reports is a very growth producing endeavor.

In assessing change in group and individual behavior, it was assumed that the FIRC-B would suffice as an adequate tool. The FIRC-B facilitated ease in administering and scoring. However, as with most test instruments, it was unable to measure little more than surface feelings and thoughts. Although the FIRC-B represented a relatively accurate measurement of change, additional test instruments should be reviewed in search of a more intensive investigative tool.
**Recommendations.** As already mentioned, there are several factors which may have influenced this particular study and its findings. Among these were the need to lengthen the total span of the group experience. It was felt that the twenty-two hours over a one month period may not have allowed the group process to reach its ultimate consequences for the group members. Logically, to expand the length of experience would seem appropriate.

To more accurately assess the full impact of the encounter group, it would seem greatly beneficial to increase the total number of experimental and control groups involved. Change is often an illusive factor to measure and by having more groups with which to study, change or the lack of change, may be more easily assessed.

This study was conducted during the spring semester of the academic year. This minimized turnover in wing composition which usually occurs from semester to semester. However, the containment of experience to one inclusive semester did not allow for influence to be felt as a function of seasonal, academic pressures; i.e., comparison of attitude change from winter to spring, pre-, during and post-final examinations, vacation periods, etc. To conduct the investigation over a two semester span would then include these situational pressures and their influence on the residents.

It was felt by the investigator that it was best to hold the group sessions within the residence hall. By having the sessions in the same environment which was also the impetus for the study, the intervening variables would be held to a minimum. To have used a neutral area, such
as a lounge in another building might have given artificial support or encumbrment to those who may function differently in a setting other than the residence hall, especially since it was the residence hall living situation which produced the need for the study. It could be useful, in future studies, to compare the effect a neutral environment might have on the group process.

This study did not consider the possibility of follow-up investigations. It is supported by the writer that it would be advantageous to have the opportunity to measure any change of attitude/behavior which might occur as a function of time after the formal group experience had ceased.

To rely completely on the statistical analysis of test results as the basis of merit for this study would be a mistake. Tests cannot measure what is inside someone. They cannot measure what one is gaining and losing from being alive, from being with other people. While data may support or reject a particular theory, it cannot come close to comprehending and appreciating the unique feelings and thoughts that make each person special. That individual members of the residence hall have expressed a need for group experiences and have emphatically reported a positive change for them as a result of the residence hall group process, is substance enough that encounter groups in a residence hall are an enhancing experience, at least for some of those involved. And, if one person is affected, that is sufficient impetus to continue to pursue this area of research.
SELECTED REFERENCES


