



eCOMMONS

Loyola University Chicago
Loyola eCommons

Dissertations

Theses and Dissertations

1976

A Study of Ego-Strength as It Relates to Homogeneous-Heterogeneous Grouping in Group Process

Evelyn Evans
Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_diss



Part of the [Education Commons](#)

Recommended Citation

Evans, Evelyn, "A Study of Ego-Strength as It Relates to Homogeneous-Heterogeneous Grouping in Group Process" (1976). *Dissertations*. 1523.

https://ecommons.luc.edu/luc_diss/1523

This Dissertation is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Dissertations by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-NonCommercial-No Derivative Works 3.0 License](#).
Copyright © 1976 Evelyn Evans

A STUDY OF EGO-STRENGTH AS IT RELATES TO
HOMOGENEOUS-HETEROGENEOUS GROUPING IN GROUP PROCESS

by

Evelyn Evans

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

March

1976

ACKNOWLEDGMENTS

I wish to thank the entire staff and my fellow students for the support, guidance, and help I received during my study at Loyola. To Dr. John Wellington who has extended warmth, understanding, encouragement, and continual assistance as my advisor and the chairman of this committee, a very special thank you. To Dr. Judy Lewis of San Francisco University who not only served as teacher, advisor, and a member of my committee, but shared her friendship, a note of gratitude is extended.

For their support and technical assistance, thank you is due Drs. Jack Kavanaugh, Gloria Lewis, and Judy Mayo, who were members of my committee.

Without the encouragement of my professional colleagues and friends, Ruth Sporer and Harold Siegel, I would not have attempted this professional preparation. To them, I extend a warm thank you.

Thanks to Carolyn Toso, my typist, who made her work an artistic event.

Three people have given me love and encouragement to provide me with the strength required during these past years. They are Bob, my husband, and Chris and Doug, my sons, whose belief in me has sustained me. I wish to thank Bob for his professional drafting service and also for his reading service.

I am appreciative and grateful to all of the people who have placed their belief and confidence in me and who have cared about my progress. Surely this is a lonely task, but it cannot be accomplished alone.

VITA

Evelyn Evans was born on June 19, 1932, in Chicago, Illinois. She is the daughter of Josephine and the late Peter Kasperski.

She was graduated from the Henry Clay Elementary School in Chicago, Illinois, in February of 1945, and Thornton Fractional Township High School in Calumet City, Illinois, in June of 1948. She completed undergraduate work in June of 1952, earning a BA degree at the University of Illinois in Urbana. In August of 1956, she completed graduate work at the same institution to earn an MEd degree. In addition, she attended Purdue University Calumet, Indiana University Calumet, DePaul University, and the Illinois Institute of Technology. In February of 1974, she began Doctoral studies at Loyola University of Chicago.

She was employed as a teacher, dean of girls, and a counselor in public schools in the state of Illinois for twelve years. She has worked privately as a counselor in a clinic setting for three years. She was a teaching assistant at Loyola and taught also at Governor's State University.

She was married in December of 1952 to Robert D. Evans, and they had two sons; Christopher, who was born in September of 1955, and Douglas, who was born in November of 1959. She lives with her husband, Bob, and son, Douglas. Currently, she works privately as a counselor.

TABLE OF CONTENTS

| | Page |
|--|------|
| ACKNOWLEDGMENTS..... | ii |
| LIFE..... | iii |
| LIST OF TABLES..... | vi |
| LIST OF ILLUSTRATIONS AND GRAPHS..... | vii |
| CONTENTS OF APPENDICES..... | viii |
| Chapter | |
| I. INTRODUCTION..... | 1 |
| Cohesiveness-Dissonance..... | 2 |
| Group Isolation, Deviancy, and Premature Termination.. | 3 |
| Extrapolation from Natural Groups..... | 4 |
| Clinical Impressions..... | 7 |
| The Statement of the Problem..... | 9 |
| The Subproblem..... | 9 |
| Definition of Terms..... | 9 |
| Abbreviations..... | 12 |
| Hypotheses..... | 12 |
| The Limitations of the Study..... | 13 |
| Assumptions..... | 13 |
| Rationale..... | 14 |
| II. REVIEW OF THE RELATED LITERATURE..... | 16 |
| General Theories and Positions with Research Support.. | 16 |
| Relevant Research..... | 25 |
| Unpublished Works..... | 30 |
| Summary..... | 39 |
| III. METHODOLOGY..... | 40 |
| Description of the Population..... | 42 |
| Description and Support of Instruments..... | 42 |
| Description of Groups..... | 48 |
| Description of Leader Orientation..... | 51 |
| Description of How the Study Was Conducted..... | 52 |
| Statistical Model..... | 53 |

| | |
|--|-----|
| IV. RESULTS, CONCLUSIONS, RECOMMENDATIONS..... | 55 |
| Introduction..... | 55 |
| Purpose of the Study..... | 55 |
| Population and Groups..... | 56 |
| Hypotheses..... | 56 |
| Difficulties of the Study..... | 57 |
| Control for Trainer Variability..... | 58 |
| Power..... | 58 |
| Pre-test Data Ego-Strength..... | 60 |
| Norms..... | 61 |
| Primary Personality Factors Pre-test..... | 64 |
| Results..... | 66 |
| Conclusions..... | 69 |
| Discussion..... | 78 |
| Recommendations..... | 79 |
| VI. SUMMARY..... | 80 |
| REFERENCES..... | 85 |
| APPENDIX A..... | 90 |
| APPENDIX B..... | 95 |
| APPENDIX C..... | 101 |
| APPENDIX D..... | 108 |

LIST OF TABLES

| Table | Page |
|---|------|
| 1. Pre-test ANOVA -- Barron's Ego-Strength Scale..... | 62 |
| 2. Pearson Product Moment Correlations (BEs and 16 PF)..... | 67 |
| 3. Post-test ANOVA -- Barron's Ego-Strength Scale..... | 68 |
| 4. Post-test ANOVA -- 16 PF..... | 70 |
| 5. Composite 16 PF Sten Change..... | 72 |

LIST OF ILLUSTRATIONS AND GRAPHS

| Figure | Page |
|--|------|
| Illustration 1 -- Standard Scores and Stens..... | 63 |
| Graph 1 -- Composite Comparison of "Like" Groups..... | 65 |
| Graph 2 -- Composite Comparison of "Like" Groups Pre and Post..... | 73 |
| Interaction Graph -- Trainer Patterns (a)..... | 74 |
| Interaction of Task Trainer with Homogeneity/Heterogeneity (b).... | 75 |
| Interaction of Therapy Trainers with Homogeneity/Heterogeneity (c) | 75 |
| Interaction of Task Orientation Across Groups (d)..... | 76 |
| Interaction of Therapy Orientation Across Groups (e)..... | 76 |
| Interaction Graph -- Trainer Variation Patterns (f)..... | 77 |

CONTENTS OF APPENDICES

| | Page |
|--|------|
| APPENDIX A Data..... | 90 |
| Barron's Ego-Strength Scores -- Pre-test..... | 90 |
| Barron's Ego-Strength Scores -- Post-test..... | 91 |
| Difference Scores Pre and Post -- 16 PF..... | 92 |
| Tukey's Pairwise Comparisons of Changes in Factors - 16 PF. | 94 |
| APPENDIX B Instrument and Its Description..... | 95 |
| Barron's Ego-Strength Scale..... | 98 |
| APPENDIX C Instrument Description..... | 101 |
| 16 Personality Factor Description..... | 101 |
| APPENDIX D Syllabuses of Courses in Which Groups Occurred..... | 108 |
| Individual Appraisal and Group Processes..... | 108 |
| Group Dynamics..... | 111 |

CHAPTER I

INTRODUCTION

One effect of the increasing acceptance of group as a therapeutic method since World War II is the greater involvement of "normals" in therapeutic processes, both group and individual. Increased attention of professionals of many disciplines, who customarily work with groups, has resulted in some dichotomous issues that have not been resolved and may never be resolved. Among those issues, the question of whether groups should be formed homogeneously or heterogeneously continues to be debated. While there is much opinion in the literature, there is little empirical research to support either position. A look at the literature raises the immediate question of whether therapists practice what they preach. Though the prevailing opinion opts for heterogeneously formed groups selected at random, one sees literature generally oriented toward "specialized groups" which have been formed to deal with specific problems. For example, in a review of the literature by Lubin and Lubin in 1972, specialties ranged from the familiar problems of family, marriage, alcoholism, drug addiction, sexual deviancy, and so forth, to such highly specific problems as treatment of chronic lower back pain, premature ejaculation, and exhibitionism and voyeurism.¹

¹B. Lubin and A. W. Lubin, "The Group Psychotherapy Literature: 1972," International Journal of Group Psychotherapy 23 (October 1973): 474-513.

Cohesiveness-Dissonance

Of the factors on which the theoretical positions are based, those of cohesiveness and dissonance are recurrent. Most therapists agree that group cohesiveness is mandatory for group success. In groups, cohesiveness means that participants tend to stick together or hold together in a unit. The greater the degree of group cohesiveness, the better the experience for individual participants.

Yalom speaks directly to this issue:

Homogeneous groups are believed to "jell" more quickly, to become more cohesive, to offer more immediate support to the group members, to have better attendance, less conflict, and to provide more rapid symptomatic relief. On the other hand, however, the homogeneous group, in contrast to the heterogeneous group, is widely believed to tend to remain at superficial levels and to be an ineffective medium for the altering of character structure....Foulkes and Anthony suggest blending together a "mixed bag of diagnoses and disturbances" to form a therapeutically effective group. "The greater the span between the polar types, the higher the therapeutic potential, if the group can stand it."

Unfolding from these clinical observations, is the rule that a degree of incompatibility must exist between the patient and the interpersonal need culture of the group if change is to occur. This principle--that change is preceded by a state of dissonance or incongruity---has considerable social psychological research backing....

However, heterogeneity¹ must not proceed at the price of creating a group isolate....

It is clear from Yalom's discussion that even the theoretical foundations supporting cohesiveness and dissonance appear to be clouded with exceptions. Since cohesiveness is the quality of group used to support the principle of homogeneity in group composition and dissonance is the quality used to support the principle of heterogeneity, it appears resolution of the theoretical conflict cannot be achieved

¹Irvin D. Yalom, The Theory and Practice of Group Psychotherapy (New York: Basic Books, Inc., Publishers, 1970), pp. 193-95.

through clinical impression or theoretical attitude.

Group Isolation, Deviancy, and Premature Termination

Bach, in a study of people who dropped out of groups, found that they did not do so because they were unsuited for group therapy since they did well when placed in other groups. Rather, "Those who left the group had been considered deviant in some way by a majority of the other members and sought to evade the overt group pressures to change by dropping out."¹

In a research study of clinic outpatients, Yalom investigated the group deviant and group dropout. His findings are consonant with the cohesiveness-dissonance issue. He found the following:

...(they) deviated significantly from the rest of the group in several areas crucial to their group participation, and this deviance and the consequent repercussions were considered as the primary reason for premature termination.... always they were isolates and were perceived by the therapists and often by the patients as retarding group locomotion. It was said of all these patients by the group, by the therapists, and sometimes by the patients themselves that they just "didn't fit in". Their differentness or "not fitting in" is difficult to translate into objectively measureable factors. The most commonly described characteristics are these patients' lack of psychological sophistication, psychological insight manifested in part by the common utilization of denial. Concurrent with this there is usually a lower socioeconomic status, a lower educational level, and a narrower range of cultural interests. Many of them were in non-skilled occupations.²

Therapists cited other reasons that seemed to differentiate the eventual deviant member in their description of the deviant's group behavior.

¹G. R. Bach, Intensive Group Psychotherapy, cited by Irvin D. Yalom, "A Study of Group Therapy Dropouts," Archives of General Psychiatry 14 (April 1966): 394.

²Ibid., Yalom, pp. 399-400.

...these patients functioned on a different level of communication from the rest of the group. They tended to remain at the symptom-describing, advice-giving and seeking or judgmental levels and avoided discussion of immediate feelings and here-and-now interaction. The rest of the group was prevented from progressing farther until these patients terminated. The group response to their dropout was usually one of relief. Little guilt was experienced, since in most instances the group knew in advance that the patient was a "misfit". Rarely was the dropout unexpected. Occasionally there was some mild apprehension since the patient according to the therapist had been keeping the group "safely superficial"....the fact that over 40% of the dropouts reported subsequent improvement in other modes of therapy suggests that the dropouts¹ are not a therapeutically recalcitrant group of patients.

Quite the contrary. It would appear that they had not developed sufficient therapeutic skill to participate in a group experience. And finally:

There is experimental evidence (Sherif and Asch) then, that the group deviant derives less satisfaction from the group, is rejected by the group, is isolated by the group, experiences anxiety, is less valued by the group, is less prone than non-deviants to terminate membership.²

Extrapolation from Natural Groups

Extrapolation from the study of natural groups and problem-solving groups to group therapy is of itself a matter of debate.

According to Berelson and Steiner, "As people move from one social group to another, they tend to take over the attitudes and practices of the new group, in this regard as in others."³ They also find that people choose to associate with people who have like attitudes and behavior.

¹Yalom, "Study of Dropouts," pp. 400-408.

²Ibid., p. 409.

³Bernard Berelson and Gary A. Steiner, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace & World, 1964), p. 509.

Cartwright and Zander note that "...on the basis of several studies, it appears that those who are not members (of a group) but who are strongly attracted to membership act as members do, and in some cases may outdo the members apparently in order to prove their suitability for acceptance by the group."¹

Newcomb², in 1961, and Van Dyne³, in 1940, found a strong positive relationship between interpersonal attraction and interindividual similarity. Lindzey and Borgatta⁴, in 1954, and Zander and Havelin⁵, in 1960, report trends that individuals choosing one another lean toward likeness in attitudes. Cartwright and Zander in 1960 made the following statement:

...persons preferred to associate with those close to them in ability (rather) than with ones divergent from them in ability. The results of the tendency for like to join like in group association is an eventual increase in similarity among the members.⁶

Bach claims relevance of group dynamic influences in therapy groups. He indicates that small problem-solving group variables such as cohesiveness, clique formation, norm development, occur also in therapy

¹Dorwin Cartwright and Alvin Zander, Group Dynamics, as quoted in A. P. Goldstein, K. Heller, L. B. Sechrest, Psychotherapy and the Psychology of Behavior Change (New York: Wiley, 1966) p. 353.

²T. M. Newcomb, The Acquaintance Process, as cited in Goldstein, Heller, and Sechrest, pp. 350-51.

³V. E. Van Dyne, "Personality Traits and Friendship Formation in Adolescent Girls," cited Ibid.

⁴G. Lindzey and E. F. Borgatta, "Sociometric Measurement," cited Ibid.

⁵A. Zander and A. Havelin, "Social Comparison and Interpersonal Attractiveness," cited Ibid.

⁶Ibid., Cartwright, p. 350.

groups.¹ However, Goldstein, Heller, and Sechrest say, "With few exceptions...such extrapolations have neither been developed nor placed under experimental scrutiny. Thus, although we clearly lean toward this extrapolatory position, confirming evidence is yet to become available. Further, there are others who hold that group dynamic considerations are wholly irrelevant to psychotherapeutic interactions."² The consideration of one such point of view might be appropriate. The writers give the following example of such a position.

The...authors (Lowrey (1944) and Wolf and Schwartz (1962) take their stand against group dynamics with a remarkable degree of vehemence and apparently base it on a misperception of the manner in which group dynamics principles and therapist orientation to the group as a whole influence the resulting therapeutic interaction. They comment:

The group dynamic emphasis tends to homogenize the membership, to create an apparency of psychologic uniformity and so to block the emergence of... healthy differentiation. The group dynamic point of view sponsors a false belief in the value of mediocrity. The group dynamic orientation is anti-rational and anti-multidimensional. It emphasizes structure and neglects content and process. The stress on group dynamics is anticlinical and anti-therapeutic....³

Goldstein, et al., go on to say that most therapists give attention to both individual psychodynamics and group dynamics rather than to only one or the other. They summarize the whole discussion by saying, the "question to which this material is directed is 'What are the implications for group cohesiveness?'"⁴

¹G. R. Bach, Intensive Group Psychotherapy, cited in Goldstein, Heller, and Sechrest, pp. 320-21.

²Goldstein, Heller, and Sechrest, pp. 320-21.

³A. Wolf and E. K. Schwartz, Psychoanalysis in Groups, as quoted in Goldstein, Heller, and Sechrest, pp. 320-21.

⁴Goldstein, Heller, and Sechrest, p. 354.

Clinical Impressions

Referring to a review of the literature by Jack Gibb, Carl Rogers had the following to say about the matter of selection of participants for group experiences:

One of the commonest myths regarding groups is that only certain people should be included, or that there should be a careful screening of participants. This does not fit my experience at all. In fact when asked such questions in public I have facetiously replied that I thought very careful screening should be done, and no one should be admitted unless he was a person! I am pleased to see this point of view confirmed by a review of all the available research.¹

While Gibb's review does indicate that no one should be excluded from a group experience, it is not so clear that it indicates there should be no screening or selection of participants. Gibb does conclude, in discussing the research to date (1970), "What we seem to have are some promising theories, some meager data, and some methodological innovations. We do not as yet have adequate tests of the theories of group growth."²

According to Yalom:

The impressions of individual clinicians regarding the effect of group composition must be evaluated with caution. The lack of a common language describing behavior, the problems of outcome evaluation, the theoretical biases of the therapist, and the limited number of groups that any one clinician may treat, all limit the validity of clinical impressions in this area.³

He does, however, give particular attention to the following clinicians:

¹Carl Rogers, On Encounter Groups (New York: Harper and Row, 1970) p. 119.

²Jack R. Gibb, "The Effects of Human Relations Training," in Handbook of Psychotherapy, eds. Allen E. Bergin and Sol L. Garfield (New York: Wiley, 1971), p. 850.

³Yalom, Group Psychotherapy, p. 193.

Whitaker and Lieberman help to clarify the issue by suggesting that the group therapist strive for maximum heterogeneity in the patients' conflict areas and patterns of coping, and at the same time strive for homogeneity of the patients' degree of vulnerability and capacity to tolerate anxiety. For example, they state that a homogeneous group of individuals, all with major conflicts about hostility which were dealt with through denial, could hardly offer therapeutic benefit to its members. However, a group with a wide range of vulnerability, (loosely defined as ego-strength), will, for different reasons, also be retarded; the most vulnerable patient will place limits on the group, which will become highly restrictive to the less vulnerable ones.¹

Yalom relates watching the most effective group he has observed formed homogeneously according to symptom and concludes that homogeneously formed groups can never really be homogeneous because of the significant differences that exist in all individuals. He further states that this supposedly homogeneous group did not remain at a superficial level and did effect very significant change in its members in spite of its over all appearance of "plodding dullness". Yalom emphasizes his belief that group stability, attendance, and cohesiveness are the primary factors that bring about a successful experience. However, he does not equate cohesiveness with in-group comfort or social ease. "Often quite the reverse occurs; only in a cohesive group can a patient experience and tolerate extreme discomfort and discouragement."²

Yalom, who favors homogeneity because of his own personal observation of unusually successful groups so constituted, goes on to say, "Although I have studied many so-called homogeneous groups (e.g., ulcer patients, dermatological patients, obese women, parents of delinquent children) which have remained superficial, I felt that this was the effect, not of homogeneity, but of the set of the therapist and

¹Ibid., pp. 193-94.

²Ibid., p. 197.

the restricted culture which he helped fashion."¹

The Statement of the Problem

This dichotomy in opinion by highly respected theoreticians is reflected in the purpose of this study. Can greater personal growth be achieved by individuals assigned homogeneously according to ego-strength in a group experience?

The Subproblem

A subproblem of this study is to determine whether leader orientation produces differences in participants' growth in ego-strength.

Definition of Terms

Ego may be defined as the individual as a whole in his capacity to think, feel and act: the self. Cox says, in speaking of adult psychological maturity:

...(it does) not bring, even in these years of greatest emotional fulfillment, exemption from conflict and pain. The heightened awareness that their well-developed intellect and emotional comprehension bring, their openness to sensory impressions and intuitions, their essentially object-oriented approach in human relationships, and their sensitive involvement in the social issues of their time and place make them vulnerable. Their emotional health lies in their assimilation of these enriching experiences and their use of them to reach still higher levels of personality organization.²

Discussing the limits set genetically, the limits set by stage of physical and cognitive growth, and the limits set by the input from the environment, she goes on to say:

The level of actual achieved maturity is, however, better

¹Ibid.

²Rachel Dunaway Cox, "The Concept of Psychological Maturity," in vol. 1 of American Handbook of Psychiatry: The Foundations of Psychiatry, ed. Silvano Arieti, 3 vols. (New York: Basic Books, Inc., 1974), p. 226.

conceived as the outcome of the ways in which these contributing components are marshaled in the service of the needs and purposes of the total organism. The synthesizing of resources, the selective responding, the directing of energy, and the harmonizing of many levels of thought and action in their totality are known as integration....This entity (the tendency or entity that makes integration possible and is thought to have a genetic core), which becomes clearer cut and more individualized as experiences and the memories of them accumulate, is referred by some theorists as the self. Others call it the ego.¹

Ego-strength: Gottesman, who in 1959 attempted to add to the body of construct validation for Barron's Ego-Strength Scale, indicated that Barron's item content involved the following conceptualization of ego-strength:

...physiological stability and health, a strong sense of reality, feelings of personal adequacy and vitality, permissive morality, lack of ethnic prejudice, emotional outgoingness and spontaneity, and intelligence.²

It may also be defined as:

...the effectiveness with which the ego discharges its various functions. A strong ego will not only mediate between id, superego, and reality and integrate these various functions, but further it will do so with enough flexibility so that energy will remain for creativity and other needs. This is in contrast to the rigid personality in which ego functions are maintained, but only at the cost of impoverishment of the personality.³

Homogeneous may be defined as follows: of the same kind, nature, or character; similar⁴ according to some variable. In this study the variable is ego-strength.

¹Ibid., p. 227.

²I. I. Gottesman, "More Construct Validation of the Ego-Strength Scale," Journal of Consulting Psychology 23 (August 1959): p. 343.

³Hinsie and Campbell's Psychiatric Dictionary, 4th ed. (1970), p. 256.

⁴The World Book Dictionary, 1974 ed., vol. 1, p. 1004.

Heterogeneous is defined: different in kind, not at all similar; unlike; varied¹ according to some variable. In this study the variable is ego-strength.

Task-oriented is defined as understood in a discussion of the T-Group trainer by Rory O'Day. He indicates the T-Groups (sensitivity training groups, one type of which is self-analytic), "refer to all types of experiential group situations that are designed to achieve educational, remedial, or therapeutic aims by encouraging participants to discuss their performances and perceptions in the immediate context of the group."²

He distinguishes between several types of T-Groups or self-analytic groups. One type he refers to as a learning group. This group has been developed largely in educational settings, and its participants are largely college students.

The leader-teachers of these groups are concerned primarily with teaching the members, through a direct experience, about the complexity of interpersonal relationships. These leaders are not much involved in trying to change the behavior or attitudes of the members in any particular direction except in so far as they want the members to examine group process. They do not provide a therapeutic experience that promises to alleviate the personal sufferings of the members....the group experience is usually part of a course on group and interpersonal relationships. (Bales, 1970; Mann, 1967; Mills, 1964; Slater, 1966)

In this study, task-oriented may be defined as Rory O'Day has defined learning group. The specific style of the task-oriented groups'

¹Ibid., p. 985.

²Rory O'Day, "The T-Group Trainer, A Study of Conflict in the Exercise of Authority," in Analysis of Groups, eds. Graham S. Gibbard, John J. Hartman, and Richard D. Mann (San Francisco: Jossey-Bass Publishers, 1974), p. 387.

³Ibid., pp. 387-88.

teacher-leader is discussed in Chapter III.

Therapy-oriented groups are primarily concerned with the intra-personal growth and the interpersonal growth of each participant. While this type of group also observes group process and group dynamics in order to achieve its main goals, this focus, unlike that in "learning group" referred to above, is secondary. The particular style of the therapy-oriented leaders is discussed in Chapter III.

Independent Variable: The primary independent variable is selection to groups on the basis of ego-strength as measured by Barron's Ego-Strength Scale. The groups were formed homogeneously on the basis of high ego-strength and low ego-strength. The heterogeneous groups were composed of a variety of levels of ego-strength.

The secondary independent variable is trainer orientation; therefore, task and therapy.

Dependent Variable: The dependent variable is change scores in ego-strength as measured by Barron's Ego-Strength Scale and change scores in primary personality factors as measured by Cattell's Sixteen Personality Factor Questionnaire.

Abbreviations

The following abbreviations will be used. H-Es will be used to abbreviate high ego-strength as measured by Barron's scale. L-Es will be used to abbreviate low ego-strength as measured by Barron's scale. PF will be used to abbreviate personality factors. Ss will be used to abbreviate subjects.

The Hypotheses

1. There is no significant difference between homogeneous and heterogeneous Es change scores.

2. There is no significant difference between task-oriented groups' and therapy-oriented groups' change scores.

3. There is no significant difference between low Es and high Es change scores.

4. There is no significant difference in the change scores of the primary personality factors between homogeneous and heterogeneous groups.

The Limitations of the Study

1. The population is composed of doctoral and master's level graduate students at Loyola University of Chicago. It is select, and, therefore, results may not be generalizable to all populations.

2. Pre-testing may influence post-testing.

3. Growth may be a result of natural developmental patterns or outside influences such as involvement in other therapeutic experience. Past data have indicated that most are not in other therapeutic experiences.

4. One course, Individual Appraisal, in which the groups occur is required and may present educational resistances not encountered in general therapeutic experiences.

In spite of these limitations, it is hoped that the results of the study will provide an indication of the desirability or lack of desirability of grouping homogeneously according to ego-strength to promote the greater growth outcome for individual participants in group experience.

Assumptions

It is assumed in this study that the method of group will continue to be used widely and with increasing frequency for experiential

learning purposes and for personal growth as well as for therapeutic purposes in growth centers, communities, and in institutions of all kinds. This method will be used by teacher-leaders and private practitioners of all disciplines.

It is further assumed that any technique or method employed to facilitate learning in human beings requires serious scientific exploration to validate its beneficial usefulness or to discover any potential harmful consequences from its employment.

It is also assumed that, given beneficent properties associated with group method, its use can be continuously improved when variables associated with that use are examined under carefully controlled scientific scrutiny and submitted to appropriate statistical analysis.

Rationale

The importance of clearer understanding, validated by research, of what occurs in group experiences and what variables affect what occurs seems self-evident. Of primary concern is the question of group composition.

In discussions of composition by theoreticians, one finds a sharp difference in opinion exists regarding whether groups should be homogeneously or heterogeneously formed. There is little research to support either position. Research that has been done has produced conflicting results. There is some modest support, however, for homogeneous grouping according to some variables. A strong need exists for the investigation of additional variables in tightly controlled experiments. In practice, group leaders generally form groups heterogeneously according to availability of clients. In view of this expediency, it would appear more serious study of composition is needed.

This experimental study addresses itself to the variable of ego-strength in group composition.

The following chapters will deal with a review of theoretical postures and relevant research, methodology employed in the experimental study, results, conclusions, and recommendations.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

General Theories and Positions with Research Support

According to Yalom, two theoretical approaches underlying heterogeneous composition are the "social microcosm theory" and the "dissonance theory." The group cohesiveness theory underlies the homogeneous approach.

The social microcosm theory sees the group as a miniature social universe. As such, it should be heterogeneous to maximize learning.

It should resemble the real social universe by being composed of individuals of different sexes, professions, ages, socio-economic and educational levels: in other words, it should be a demographic heterodox.

The dissonance theory, for other reasons, requires heterogeneous composition.

Learning or change is likely to occur when the individual, in a state of dissonance, acts to reduce that dissonance. Dissonance creates a state of psychological discomfort and propels the individual to attempt to achieve a more consonant state. If individuals find themselves in a group in which membership has many desirable features (for example, hopes of alleviation of suffering, attraction toward the leader and other members) but at the same time makes tension-producing demands (for example, self-disclosure or interpersonal confrontation), then they will experience a state of cognitive imbalance, or to use Newcomb's term, "asymmetry."

Feeling states in therapy groups will not differ markedly from feeling states in any experienced social group. Lack of fulfillment of interpersonal needs and undesirable effects resulting from an individual's habitual style motivate him to look for ways to reduce his own

discomfort when he values a group.

For example, he may leave the group or, preferably, he may begin to experiment with new forms of behavior. To maximize these developments, the heterogeneous argument suggests that the patient be exposed to other individuals in the group who will not fulfill his interpersonal needs (and thus reinforce his neurotic position) but will frustrate him, challenge him, make him aware of different conflict areas, and who will also demonstrate alternative interpersonal modes. Therefore, it is argued, members with varying interpersonal styles and conflicts should be included in a group. If the frustration and challenge is too great, however, and the staying forces (the attraction to the group) too small, no real asymmetry or dissonance occurs; the individual does not change but instead physically or psychologically leaves the group....If the challenge is too small, however, no learning occurs either; members collude, and exploration will be inhibited. The dissonance theory thus argues for a broad personality heterodox.

While the theoretical arguments supporting dissonance seem to be valid and logical, most theorists recognize the importance of cohesiveness in successful groups, and some feel it is the most significant single variable.

The cohesiveness theory, underlying the homogeneous approach to group composition, posits, quite simply that attraction to the group is the critical intervening variable to outcome and that composition should proceed along the lines of assembling a cohesive, compatible group.

...there is no group therapy research support for the dissonance model. There is great clinical consensus...that group therapy patients should be exposed to a variety of conflict areas, coping methods, and conflicting interpersonal styles, and that conflict in general is essential to the therapeutic process; however, there is no evidence that deliberately heterogeneously composed groups facilitate therapy and, as cited above, there is some modest evidence to the contrary.

Yalom discusses the modest research results which seem to support cohesiveness as an important factor in group composition.

Interpersonally compatible therapy groups (homogeneous for FIRO interchange compatibility) will develop greater cohesiveness, members of cohesive groups have better attendance, are more able to express and tolerate hostility, are more apt to attempt to influence others, and are in turn themselves more influenceable; members with greater attraction to their

group have better therapeutic outcome; patients who are less compatible with the other members tend to drop out of the therapy group as do any two members with marked mutual incompatibility; members with the greatest interpersonal compatibility become the most popular group members, and group popularity is highly correlated with successful outcome.

He deals systematically with reasoned objections to the cohesiveness concept and proposes that, in view of what evidence is available, cohesiveness should be the "primary guideline" in group composition. He argues that therapist concerns that a homogeneous group will be unproductive, constricted, or without conflict have no basis in reality.

First, there are few individuals whose pathology is indeed monolithic, few individuals who, despite their chief conflict area, do not also encounter conflicts in intimacy or authority, for example. Secondly, the group developmental process may demand certain role assumptions. For example, the laws of group development demand that the group deal with issues of control, authority, and the hierarchy of dominance....If certain roles are not filled in the group, most leaders, consciously or unconsciously alter their behavior to fill the void.

Yalom charges the therapist directly with responsibility for failure of a group to generate sufficient dissonance for growth.

...no therapy group with proper leadership can be too comfortable or fail to provide dissonance for its members because the members must invariably clash with the group task. To develop trust, to disclose oneself, to develop intimacy, to examine oneself, to confront others, are all discordant tasks to individuals who have chronically encountered problems in interpersonal relationships....It is my impression that the homogeneous group of individuals placed together because of a common symptom or problem, which remains on a shallow, restricted level is entirely an iatrogenic phenomenon--a self-fulfilling prophecy on the part of the therapist.

On the basis of our present state of knowledge, therefore, I propose that cohesiveness be our primary guideline in the composition of therapy groups.

Yalom goes on to state that cohesiveness does not conflict with demographic heterogeneity, but it does set limits for its degree. "...too

extreme a variation breeds deviancy and undermines cohesiveness. The available data on group composition do not permit more precise clinical guidelines to be formulated. Perhaps in no area of group therapy is there a greater need for clinical research."¹

In Gibb's review of the literature, 1970, mention is made of Powdermaker's and Frank's suggestion that patients be matched to groups on the basis of compatible needs. Yalom's study in 1966 indicated that highly compatible groups "were significantly more cohesive than less compatible groups, and less compatible group members tended to report less satisfaction and to terminate prematurely." Interpersonal compatibility was measured by the FIRO-B.²

Furst compiled supposed advantages of homogeneous and heterogeneous groups from a group of writers. Those who favor homogeneous groups list:

1. more rapid, mutual identification
2. more rapid development of insight
3. shortened duration of psychotherapy
4. more regular attendance
5. decreased resistance and destructive behavior
6. less frequent development of clique and subgroups
7. more rapid symptom removal

Those who favored heterogeneous groups list:

1. therapy is deeper
2. reality testing is more thorough
3. intragroup transferences are more readily formed
4. groups are more easily assembled³

¹Yalom, Group Psychotherapy, pp. 193-204.

²Gibb, "Human Relations Training," p. 854.

³W. Furst, "Homogeneous vrs. Heterogeneous Groups", as cited in Goldstein, Heller, and Sechrest, Psychotherapy and Behavior Change, pp. 323-29.

Wolf and Schwartz, perhaps the most ardent champions of the heterogeneity viewpoint, comment:

One aim of psychotherapy is to confront the patient with alternatives to the compulsion which leaves him no choice. When the therapist limits the patient to others similarly compelled blindly to pursue a course, the reinforced, unhealthy custom tends to prevail. Where the patient is witness to many optimal ways of being...the wholesome exercise of some discrimination is enhanced. The therapists' preferences for the homogeneous or heterogeneous medium is one indication of his values. Treating people as if they were identical is sectarian. Differentiating them is humanitarian. Homogeneity sees disagreement as irreconcilable. Heterogeneity sees disagreement as a basis for fruitful exchange. Homogeneity breeds egocentricity, the inability to tolerate complementarity. The heterogeneous group is a practice-ground that helps the patient become secure with the stranger.¹

Kaplan and Sadock see groups composed by symptom as homogeneous and feel that although heterogeneous groups began because of expediency by private practitioners; therefore, grouping on the population available rather than as practitioners would have preferred, heterogeneity has come to be valued in its own right. The balancing of persons with diversely structured personalities facilitates the development of therapeutic interchanges, provided their socioeconomic backgrounds are reasonably compatible.²

Gazda and Peters indicate as a result of their 1973 analysis of the research that there continues to be a lack of research dealing with group composition which is needed for "greatest effectiveness." They go on to say that additional information is needed about the level of counselor functioning in order to determine to what extent the results netted with counselees is a result of counselor functioning or

¹Wolf and Schwartz, Groups, cited Ibid., p. 234.

²Harold J. Kaplan and Benjamin J. Sadock, The Evolution of Group Therapy (New York: Jason-Aronson, Inc., 1972), p. 53.

technique. Most studies disregard mention of this variable.

Regarding composition, they find counselors and therapists opt for heterogeneity, and human relations trainers for homogeneity by organizations.¹

Marram², and Roether and Peters³ indicate that cohesion is a highly-valued group property, but that at times cohesion and coalition formation create treatment problems.

Wolf discusses the issue in detail:

The heterogeneous group is considered by most therapists to be preferable to the homogeneous groups for achieving maximum interaction and maximum benefits from treatment (Wolf and Schwartz, 1962). The heterogeneous group reflects in part a microcosmic society and also tends projectively to reproduce the original family which since it ushered in the patient's neurosis, would seem to be the logical agency for checking it. Even though some patients and therapists find the dissimilar character structures in a heterogeneous group disturbing, in the long run most agree the battle is best won where it was apparently lost.

Wolf, with Yalom, feels there is no such thing as "absolute" homogeneity or heterogeneity. In a homogeneously constituted group, there will be heterogeneity that is the result of the uniqueness of individuals; in a heterogeneously constituted group, there will be homogeneity that is the result of general similarities in attitudes and values. It is his observation that group members seem to seek homogeneity initially in a group experience, but once they establish personal comfort and safety in "sameness", they seek diversity and heterogeneity in their

¹G. M. Gazda and R. W. Peters, "Analysis of Research in Group Procedures," Educational Technology 13 (January 1973): 68-75.

²G. Marram, "Coalition Attempts in Group Therapy: Indicators of Inclusion and Group Cohesion Problems," cited in Lubin and Lubin, p. 476.

³H. A. Roether and J. J. Peters, "Cohesiveness and Hostility in Group Psychotherapy," as cited Ibid.

struggles for "individuality." In the end, he indicates that group composition on this issue is the therapist's option. He believes:

The patient who emerges from treatment in a heterogeneous group is aware of whatever psychopathology may still exist within him and of the necessity to continue his working through of that pathology, but he still will be less self-involved than one who has been a member of a homogeneous group, where his similarity to others may have tended to entrench rather than free him of his neurotic traits....The heterogeneously analyzed patient has learned to be less provincial, to look for new horizons, new contacts, to evaluate people for what they have to contribute rather than because they happen to agree with him or measure up to standards he has set for them. He has learned at least to some degree to live and let live.

Wolf draws a conclusion from his discussion directly opposite the conclusion drawn by Yalom which was stated earlier in this chapter.

...it can be stated that the heterogeneous group is in itself structurally reparative and the homogeneous group constitutionally nonreparative. In the heterogeneous group the patient is stirred to change by stimulation and provocation.... The nebulous and conflicting needs of different members challenge him to try harder to understand, to play a more active role, to give up some of his most cherished dogmas, superstitions and longings. The homogeneous group, on the other hand, will not welcome individual differences, will be inclined to make a scapegoat of the deviant, and will tend to entrench resistance to change by providing a false sense of belonging as the reward for staying the same.¹

Bradford, Gibb, and Benne, who have distinguished themselves in Human Relations Training, make the following observations.

In a specialized laboratory, where the members may come from the same organization, it means including in the same T-Group individuals with varying job roles and from different levels of responsibility and status. This principle is based on the assumption that a varied composition multiplies learning opportunities in the T-Group and that differences such as occupational choice are likely to reflect differences in personality and experience, and hence, behavior in a group.

¹Alexander Wolf, "Psychoanalysis in Groups," in Basic Approaches to Group Psychotherapy and Group Counseling, ed. George M. Gazda, (Springfield, Illinois: Charles C. Thomas, Pub., 1970), pp. 84-85.

Another view sees value in homogeneous groupings based on similar back-home roles or similar personality orientations. Here, the assumption is that homogeneity may facilitate communication and the transfer of laboratory learnings to the back-home situation.

Bradford, Gibb, and Benne, like Yalom, call for additional research on group composition.

The basic questions for research are, "What is the influence of group composition on other characteristics, such as the course of development, the prevailing atmosphere and level of anxiety, the subgroup structure, and member satisfaction and learning?" and, "In what ways are the various principles of group composition relevant to specific training goals?"

From their own analysis of the literature and research, they conclude the following:

With reference to dichotomous groups, the available evidence suggests that such groups are likely to be less efficient at problem solving, to display more frustration and anger and a higher level of affect, and to display less perceptual accuracy....Homogeneous groups seem to reinforce and permit expression of the individual tendencies of the members, at least initially. In short-term experimental groups one seems to see only the translation of individual tendencies into the culture of the group. In longer-term groups this initial tendency may yield to development in other directions.

They raise the question of whether or not the issue has been oversimplified. Perhaps composition is strongly associated with other variables such as goals or duration.

...(some) homogeneous groups were seen as offering little challenge for experimentation or change, since the already stable tendencies of the members were reinforced by the culture generated in the group. While by no means conclusive these findings suggest that whether or not one regards a homogeneous culture as advantageous depends on the goals of the group (e.g., problem solving or exploring group process). Further, whether or not a homogeneous group displays development may depend on its duration as well as the social context in which it operates.¹

¹Leland P. Bradford, Jack R. Gibb, and Kenneth D. Benne, T-Group Theory and Laboratory Method (New York: John Wiley and Sons, Inc., 1967), pp. 401-407.

In another work, Jack Gibb has the following to say on composition of training groups for laboratory experience.

Composing the training group of members of the same administrative or work team (Argyris, 1962; Kuriloff and Atkins, 1966) was thought in the early days of sensitivity training to violate the widely-held principles of heterogeneity and "culture island," and perhaps to be dangerous. Recent experience has caused practitioners to prefer team and unit training to work with heterogeneous groups. Research results are not conclusive, but certainly suggest strongly that such "team training" is effective. It is widely believed by professionals to be more effective than heterogeneous training.¹

Harrison, in a quasi-experimental study, found a significant relationship between person-orientation and in-group comfort and stronger interpersonal ties in person-oriented, homogeneous groups than in work-oriented homogeneous groups.²

The greater body of research reported in Gibb seems to support homogeneous grouping according to such factors as warmth, interpersonal compatibility, and work teams. The greater opinion support lies on the side of heterogeneous grouping.

Finally, theoretically, there is the whole problem to be considered of regression toward the mean, taking Lott's report on research into account. As early as 1936 Sherif demonstrated empirically as follows:

...that group norms could become internalized as individual standards. When Sherif's subjects were first asked to make their own judgments of any ambiguous stimulus...they quickly structured the situation by creating individual norms for

¹Gibb, "Human Relations Training," p. 854.

²R. Harrison, "Group Composition Models for Laboratory Design," Journal of Applied Behavioral Science, 1 (January 1965): 409-32.

themselves. When these same subjects moved into a group context and heard other subjects giving their judgments verbally, a new group norm or judgment emerged which was a rough average of the norms of the individuals present. A final individual phase of the experiment revealed that the norm adopted in the group context was the one that persisted. In other words, once the individuals had changed their personal standards, in a group context, the group-based standard became their subsequent individual one.¹

W. C. Bonney deals with the important issue of group pressures to conform and the impelling, real force of a group on an individual. Supporting his position with Sherif's research on individual adoption of group norms, Bonney says that once a group has established norms it may allow some departure from them. However, an individual "will be punished through some form of rejection or reprimand if his violation of a group norm exceeds the group's tolerance." He continues with the conclusion that under some conditions an individual will be more responsive to group norms than "to his own internal needs or the influence of the counselor." Bonney explains the phenomenon as follows:

The counseling group sets out to deal with emotion laden topics in a manner that is generally outside the social experience of participants. The group becomes highly susceptible to suggestions that promise a reduction of the anxiety associated with the basically incongruous situation.

Bonney indicates little difference in these factors exist between therapy and task-oriented groups.²

Relevant Research

Little relevant research can be found in professional journals regarding group composition. The complexity of the problems that interfere

¹Albert J. Lott, "Social Psychology", in Handbook of General Psychology, ed. Benjamin B. Wolman, (New Jersey: Prentice-Hall, 1973), p. 924.

²W. C. Bonney, "Pressures Toward Conformity in Group Counseling," Personnel and Guidance Journal, 43 (1965): 970-73.

with the study of composition make such undertakings impractical or largely impossible in most settings. Interestingly enough, the past several years has seen the increased reporting in journals of results of dissertation studies, largely because the answers to long-standing problems are not to be found elsewhere. Though the studies themselves are not published, some are at least referenced. The results of dissertation studies have limited generalizability because they deal with select populations. However, they do provide indices. There is an increasing use of the experimental study and an increasingly sophisticated statistical analysis of data emerging in dissertation studies which has had the sum total effect of increasing their value and usefulness to the profession as a whole.

Most of the research from other settings has been reported in the theoretical section as it was used by theoreticians to support their positions. Of those that were not reported, the following occurred.

In an informal experiment at N.T.L. (now the NTL Institute) at Bethel, Maine, (Stock and Luft, 1962) homogeneous groups were arranged on the basis of need for structure by individual members. The high-structure group members proceeded in a more direct and open manner, were more task oriented and less process oriented, seemed to move more quickly toward surface communication and surface relationships, and showed greater deference to persons of power and authority. The low-structure group members were less concerned with task and more with process, were more supportive, and were more interpretative of group and member feelings. One interesting observation concerned the lack felt by each group for qualities found in the other group. In other words, the screening out of heterogeneous elements deprived the groups of the necessary balance between work and group maintenance roles.¹

¹Joseph Luft, Group Processes (California: National Press Books, 1970), p. 31.

With reference to the same study, Gibb notes:

There was some feeling among staff that the homogeneous low-structure group did not contribute greatly to the learning of its members but that the homogeneous high-structure group deserved further study as a potentially useful experience for this type of participant. It was recognized that the laboratory culture as a whole supports values associated with low structure--for example, personal feedback and the exploration of group process.¹

D'Augelli grouped members homogeneously according to levels of interpersonal skills, high or low, during a behavioral assessment procedure. Ratings were obtained from group members on the behavioral interpersonal relating of others and group cohesiveness. He found that members of the highly skilled groups were seen as more "empathically understanding, more honest and open, more accepting, and as discussing more personally meaningful topics. Highly skilled groups were seen as more cohesive. A behavioral approach to group composition has a powerful effect on group members' perceptions of each other and of their group experience." As a result of his study, he concludes:

...a variety of behavioral techniques might be employed (e.g., assertiveness training, systematic desensitization, behavior rehearsal, etc.) to promote the acquisition of skilled interpersonal behavior. A somewhat less systematic approach might be the use of heterogeneous groups, although a recent study (D'Augelli, 1970) found no difference in outcome between homogeneous and heterogeneous groups formed by means of behavioral ratings of interpersonal skills. Simply assigning clients to one kind of treatment without considering their interpersonal skills is inefficient and less effective. The individual differences among participants in various group procedures should be taken into account. This study suggests that this can be done by assessing the current level of interpersonal skills of prospective group members.²

¹Bradford, Gibb, and Benne, T-Group Theory, pp. 403-404.

²A. R. D'Augelli, "Group Composition Using Interpersonal Skills," Journal of Counseling Psychology 20(November 1973): 531-34.

Hill and Stock report a descriptive analytic study that suggested that group differences might be related to group composition. Groups were administered a Q-sort which was factor analyzed.

In the first group most of the members shared a certain way of looking at themselves as members. The suggestion is that in this group there was enough of a common approach to group interaction that the members could struggle through toward an effective way of dealing with one another. The second group was made up of incompatible, mutually opposed subtypes. Of two main subtypes, the first preferred an impersonal, structured atmosphere while the second showed a strong desire for intimate relationships and direct, aggressive outlets. Both subtypes wished to gain control of the group. A third subtype was essentially withdrawn. The trainer...belonged to the first subtype. It is possible that his own position relative to the group made it difficult for him to help the group to resolve its differences.¹

Ida Gradolph studied group composition comparing the behavior of three groups determined by the results of a sentence-completion test. The groups were differentiated into "work-pairing" groups whose interest was in maintaining friendly relationships and in working on the task, "flight" members who had a tendency to want to withdraw, and combinations of the two types. Each group received the same tasks; "making a group decision and telling a story to a TAT picture." Observer ratings indicated that work-pairing groups were more involved, more committed, and more interested in talking about their experience; flight groups were less involved and less committed; mixed groups were more frustrated and angry and could not complete the task. They conclude, "This study suggests that groups which are homogeneously composed are likely to behave in ways that are direct expressions of the

¹W. F. Hill and D. Stock, "Inter-Subgroup Dynamics as a Factor in Group Growth", cited in Bradford, Gibb, and Benne, T-Group Theory, pp. 402-403.

emotional orientations of the members. Groups composed of two quite different types find it more difficult to find a common way of approaching their tasks."¹

Conversely, a study done at Bethel, Maine, by Lieberman in 1958 grouping members on the basis of a sentence-completion test according to clear-cut, primary tendencies to express five kinds of affect; flight, fight, pairing, dependency, and counterdependency, resulted in the suggestion that "a variety of kinds of affect in certain proportions is essential to group functioning and that when certain expressions are missing an imbalance is created with which the group members or trainer deal by modifying their habitual behavior."²

In their analysis of the studies that have just been discussed, Bradford, Gibb, and Benne have the following to say:

Taken together, these studies suggest that group composition (based on certain personality variables) is a potent factor which finds rather direct expression in the character of the group interaction. It is as if the characteristics of the members can become the standards of the group and find uncontested expression in the group interaction. A question arises as to which personality variables are most relevant to group functioning.

T-Group composition, particularly at NTL, may be a result of built-in variables due to the nature of NTL screening.

T-Group members -- because of self-selection as well as the standards of the National Training Laboratories--are likely to be homogeneous to begin with in regard to intelligence, job competency, and emotional stability. The studies which have been conducted thus far have focused on what might be

¹Ida Gradolph, "The Task-Approach of Groups of Single-Type and Mixed-Type Valency Compositions," cited in Bradford, Gibb, and Benne, p. 403.

²M. A. Lieberman, "The Relationship of Group Climate to Individual Change," *Ibid.*, pp. 403-404.

called "affective orientation" or preferences for expressing certain kinds of affect or functioning in certain cognitive-emotional interpersonal settings. A wide variety of other bases for composing groups is theoretically possible. Of particular interest to NTL is composition based on back-home job role or family groups versus heterogeneous groups. These are yet to be explored via research.¹

Unpublished Works

When homogeneous/heterogeneous composition factors are studied, the product of cohesiveness is frequently the factor of scrutiny. Anderson found that "group process variables such as cohesiveness are a product of an extensive set of variables whose complicated interrelationships are just beginning to become understood." In analyzing the results of his experimental study, he determined that success-failure and participation opportunity are primary antecedents of cohesion. He also concluded that "intrinsic rewards and pay conditions" were "secondary determinants of cohesion since they only had effects in interaction with the other variables examined in the study."²

Hovey approached the same study of cohesiveness through the process variables of agreement, disagreement, friendliness, solidarity, and spread of participation. He used the MMTI, Myers-Briggs Type Indicator, a Jungian personality typology, as his measure. He tested the hypotheses that "no significant differences existed among homogeneous, heterogeneous, and complementary groups on measures of group cohesiveness, agreement, disagreement, friendliness, solidarity and spread of

¹Bradford, Gibb, and Benne, T-Group Theory, pp. 405-406

²Alonzo B. Anderson, "Toward a More Complex Model of Group Cohesion; The Interaction Effects of Success, Failure, Participation Opportunity, Intrinsic Interest and Pay Condition," (Doctoral Dissertation, Michigan State University, 1974).

participation." He hoped that the "results of the study would aid not only in understanding of the specific variables examined, but would contribute to the building of a theoretical explanation of group functioning based on Jungian personality typology." He concluded that there were no significant differences due to group composition.¹

Kimball studied groups based on the factor Internal versus External Control (I-E Scale). Of the four groups of six members each, the members of two groups

...were given written instructions outlining the purposes, goals, methods and rules of group counseling. They were also asked to sign a written contract specifically detailing the rules under which the groups would operate. The other two groups functioned as non-treatment controls. The hypotheses were that treatment groups would attain higher levels of group cohesion; that the members' tested locus of reinforcement would interact significantly with treatment level on measures of cohesion; and that clients in treatment groups would report greater satisfaction with their groups.

The hypotheses were rejected.²

Schumer investigated the general effects of cohesion and leadership in small groups as they related to group productivity. His results indicated at the .05 level that in confronting a group with a relatively complex and long-term task, "the quality and quantity of the groups' productivity depend upon the emergence of an effective leader or leaders who assume most of the responsibility and not necessarily

¹Frances E. Hovey, "Group Composition, Group Cohesiveness, and Several Process Variables," (Doctoral Dissertation, Temple University, 1974).

²F. E. Kimball, "Effects of Some Pretherapy Manipulations on Measures of Group Cohesion," (Doctoral Dissertation, University of Maryland, 1973).

upon the extent to which the group is cohesive."¹

Weiss studied the relationship between group cohesiveness and level of therapeutic interaction in the milieu of marathon groups. He used the Personal Orientation Inventory to measure self-realization and the Hill Interaction Matrix, Form B, to measure interpersonal style. The study was experimental. He found that the marathon experience did not result in appreciable therapeutic gain for the majority of participants; cohesiveness developed in a linear fashion in all of the groups; cohesiveness was a moderate predictor of individual therapeutic outcome as measured by a group orientation questionnaire; and the two measures of cohesiveness were significantly correlated.²

Walker studied therapeutic outcome based on readiness levels as determined by rating of client readiness on a scale developed by the investigator called the "Group Counseling Readiness Scale" and by an assessment procedure of clinical judgment of doctoral level counselors in training. He concluded there was no significant difference in process levels of subjects having scores above the median on the GCRS and subjects judged by a counselor to be more ready to engage in a group experience. He concluded that higher scoring individuals on the GCRS made greater process movement than persons counselors had rated more ready to take part in a group experience.³

¹Harry Schumer, "Cohesion and Leadership in Small Groups as Related to Group Productivity," (Doctoral Dissertation, The Ohio State University, 1961).

²J. Weiss, "The Development of Cohesiveness in Marathon With Groups," (Doctoral Dissertation, University of Maryland, 1971).

³Arthur D. Walker, "A Comparison of Two Methods of Selecting Applicants for a Group Experience," (Doctoral Dissertation, University of Illinois at Urbana-Champaign, 1971).

Steele investigated the effect of dogmatism on group task-performance and on perception of member importance. He determined that differences did not exist among performances of the three levels, high, low, and mid-dogmatic individuals, homogeneously grouped according to degree of dogmatism. The stability of rankings from initial-ranking to post-ranking was different from zero in only three groups: one high and both mid-dogmatic groups. Agreement among post-rankings toward task completion was different from zero in all groups. Self-rankings of importance did not differ among levels. Observations indicated that the mid-dogmatic groups performed best on the group task, were the most stable in rankings of group members across time, exhibited the least agreement among rankings of group members, exhibited the lowest self-concept concerning importance toward completion of the group task.¹

Schumacher studied group composition on the effectiveness of group counseling with second, third, fourth, and fifth grade male children.

Twelve treatment groups (four per grade level) and four control groups (one per grade level) were established. Treatment consisted of group counseling with control groups receiving no special treatment. The treatment, group counseling, was applied over a two month period and each counseled group received nine, 30 minute sessions. The study revealed that group composition is a factor in group counseling outcomes with behavior problem boys. Specifically, disruptive behavior of boys in a high heterogeneous counseling group decreased following group counseling. Changes in children counseled in medium and low heterogeneous groups were insignificant when compared to a control group.²

¹Galen H. Steele, "A Study of the Effects of Grouping by Degree of Dogmatism on Group Task-Performance and on Perception of Member Importance," (Doctoral Dissertation, The University of Toledo, 1972).

²R. R. Schumacher, "The Influence of Differential Group Composition on the Effectiveness of Group Counseling with Second, Third, Fourth, and Fifth Grade Male Children," (Doctoral Dissertation, University of Virginia, 1974).



Two studies dealt with homogeneity/heterogeneity results on the factor of sex. Eskilson found in a study of sex composition and leadership:

...both sexes concentrated more on leading when with a sexually homogeneous group....Groups in which all the members were one sex were able to concentrate on the task at hand, while mixed-sex groups...had to deal with inter-sex messages. Female leaders performed least leader activity when leading...males. In this case the hidden agenda seems to have been the validation of the norms of female subordination and of male task supremacy. Almost the mirror agenda seems to have been called forth when a single male had a female partner and a female leader. In this circumstance the male made a great number of requests for female leadership. The last striking pattern occurred when a male was leader of a mixed-sex group. In this composition, the male follower took every opportunity to challenge the leader. This is in sharp contrast to the cooperative demeanor of male followers in all-male groups, and is construed as an effort to impress the female fellow follower.¹

In a study using measures of self-actualization and verbal behavior in females, Burr found that the only significant difference in behavior of women in an all-female group and behavior of women in a mixed-sex group was that women self-disclosed significantly more in an all female group. Hypotheses that women in all female groups would change more significantly in inner directedness or in feminine values were rejected.²

Beckner predicted that in newly formed groups with formal, non-peer leaders, followers would show greater attraction-to-group (a-t-g) when the leader complements their control needs and the members of the

¹Arlene Eskilson, "Sex Composition and Leadership in Small Groups," (Doctoral Dissertation, University of Illinois at Chicago Circle, 1974).

²R. L. Burr, "The Effects of Same-Sex and Mixed-Sex Growth Groups on Measures of Self-Actualization and Verbal Behavior of Females," (Doctoral Dissertation, The University of Tennessee, 1974).

group are homogeneous with respect to these control needs, than when the leader fails to complement their control needs and the members of the group are heterogeneous with respect to these needs. His study upheld his hypothesis at significant levels. He also demonstrated that homogeneously composed groups clearly demonstrated more attraction (a-t-g) than heterogeneously composed groups at significant levels.¹

Childers used research questions obtained from a census of the American Group Psychotherapy Association to determine what criteria therapists use in selecting patients for group therapy and any relationship that might exist between those criteria and the theoretical orientations, the professional factors, the personal factors, and group-related structural factors of the therapists surveyed. He found there was a high preference for heterogeneous group composition which was related to professional factors such as currently working with groups, not currently working with groups but had worked with adult groups in the past, currently working with groups in private practice, currently working with adult groups, and number of years of experience as group therapy consultants. Structurally related factors were type of group, treatment aims for the group, and experience working with the type of group. He concludes that there is a great deal of "untapped experience and acquired knowledge that existed in the population that was under study. Further study of such experience could provide needed knowledge about practice and could be used in development of practice

¹B. L. Backner, "Attraction-to-Group, as a Function of Style of Leadership, Follower Personality, and Group Composition," (Doctoral Dissertation, The University of Buffalo, 1961).

theory."¹

Powers found in an experimental study that particular homogeneous groupings matched with particular trainer orientations and behavioral styles are more effective "in providing a laboratory learning climate than other matchings." The variable on which he grouped was high desire to give (a resource orientation) versus high desire to receive (a need orientation), and measured by the FIRO-F.²

Maher studied natural groups to determine whether homogeneity in factors of age and values were related to greater satisfaction with small groups of women. While none of her findings were statistically significant, she did find some positive relationships. There was a tendency toward greater satisfaction in groups who agreed on the importance of various daily activities; homogeneity in age and member satisfaction were positively related for those under thirty-five and negatively related for those over thirty-five; a positive association between age and values which were homogeneous in small groups (four or five), but no association for larger groups. She further concluded as a result of her study:

...group homogeneity or heterogeneity will have an effect upon individual member satisfaction only if group performance and/or group climate are influenced by normative or behavioral patterns which emerge from within group. To the extent that behavior and norms are determined by considerations

¹Fredrick Woodrow Childers, "Criteria for Selection of Members for Therapeutic Groups," (Doctoral Dissertation, University of Southern California, 1974).

²James Richard Powers, "Trainer Orientation and Group Composition in Laboratory Training," (Doctoral Dissertation, Case Institute of Technology, 1965).

arising from outside the small group, the compositional characteristics of such groups become more or less irrelevant.¹

Four studies are similar to the study presently under consideration. Ferriolo grouped participants homogeneously and heterogeneously according to the variables of group experience and group inexperience. Outcome was measured by the Personal Orientation Inventory and the Marlowe Crowne Social Desirability Scale. He also examined differences between peer evaluations, self-evaluations, and rater scores. He found:

...in heterogeneous groups, group-naive subjects received scores significantly lower than group-wise subjects on peer evaluations (at the .05 level). In heterogeneous groups, group-wise subjects tended to rate others lower than group-naive subjects in those groups. Group-naive subjects in heterogeneous groups tended to receive lower scores on peer and self ratings than group-naive subjects in homogeneous groups. No differences were found among group-wise subjects, but in heterogeneous groups, group-wise subjects tended to give lower ratings than did group-wise subjects in homogeneous groups.²

He concluded that although group-naive subjects seemed to do as well as group-wise subjects on objective measurements, "in heterogeneous groups, group-naive subjects may be perceived as group deviates, receive negative feedback and evaluations, and subsequently may themselves feel inadequate in the new and unfamiliar group situation."³

Westrate sought to determine whether using various personality

¹Ellen L. Maher, "The Effect of Homogeneity in Age and Values Upon Satisfaction in Small Groups of Women," (Doctoral Dissertation, University of Notre Dame, 1973).

²Michael Francis Ferriolo, "The Effect of Homogeneity and Heterogeneity, in Terms of Group Experience, on Success in Group Among Counseling Students," (Doctoral Dissertation, University of Southern California, 1973).

³Ibid., Ferriolo.

types as determined by the Eysenck Personality Inventory and classified Introvert-Neurotic, Extrovert, Extrovert-Neurotic, Neurotic, Stable, or no apparent pattern in order to determine group composition would result in significant difference in outcome after a group experience. He concluded that "treatment had a stronger impact on Extrovert T-groups, indicating the probable importance of forming T-groups according to this personality factor."¹

Hornsby, grouping homogeneously and heterogeneously according to the affection dimension of the FIRO-B, found no significant differences as measured by the Index of Responding at the .05 level of significance in simple or main effects. However, he concluded that "Even though group composition main effects were not significant, an F value of 2.136 is sufficient to encourage further investigation of the group composition variable."²

Peters grouped homogeneously and heterogeneously on the basis of psychological adjustment. His results indicated:

...there was a statistically significant difference between the treatment groups and the quasi-control group, $p=.05$. No statistically significant difference was found between the heterogeneously composed groups.³

A control group received pre and post-tests, but no treatment. Treatment groups were one heterogeneously composed group, one high-adjusted

¹Ronald Martin Westrate, "T-Group Composition Using a Personality Criterion and Related Considerations to Validate the Outcome of Human Relations Training," (Doctoral Dissertation, Purdue University, 1973).

²James Larry Hornsby, "The Effects of Group Composition on Systematic Human Relations Training," (Doctoral Dissertation, University of Georgia, 1973).

³Roger William Peters, "The Facilitation of Change in Group Counseling by Group Composition," (Doctoral Dissertation, University of Georgia, 1972).

homogeneously composed group, one medium-adjusted homogeneously composed group, and one low-adjusted homogeneously composed group.

In a study of group pressure on tolerant and prejudiced individuals, Rast found, "Tolerant subjects were less influenced by group pressures than were the prejudiced (racially) subjects. The tolerant subjects appeared to perceive more accurately and respond correctly more often than prejudiced subjects."¹ (It will be noted in Chapter III, in the section describing the instruments used in this study, that ego-strength, as measured by Barron's scale, and tolerance have a high, positive correlation.)

Summary

The literature dealing directly with the composition of groups is rich in theory and opinion. Some modest research efforts indicate that homogeneous grouping according to some variables is associated with greater personal growth outcome for participants. However, the research is inconclusive, and, at times, conflicting. Additional variables require investigation; more tightly controlled experimental studies are needed; and repetition of studies showing some indication of significant findings are required. It is hoped that this study will give an indice of whether groups should be composed homogeneously or heterogeneously according to the variable of ego-strength.

¹Robert Rast, "The Effects of Group Pressure on the Modification and Distortion of Judgments in Tolerant and Prejudiced Individuals," (Doctoral Dissertation, The American University, 1963).

CHAPTER III

METHODOLOGY

The literature review shows that research in the area of group composition is needed. Results of research to this date are modest and sometimes conflicting. Only a small number of variables related to group composition have been observed, and an even smaller number have been subjected to experimental controls. This study directs its attention to the variable of the ego-strength of the participants as measured by Barron's Ego-Strength Scale. Specifically, it considers the question of whether greater personal therapeutic outcome can be realized by participants when they are selected to homogeneous groups according to ego-strength, or when they participate in groups heterogeneously constituted on this variable. The other question to which the study directs itself is the question of group goals and the effects of homogeneously/heterogeneously composed groups according to the variable of ego-strength, when the goal is task-oriented compared to the effects when the goal is therapy-oriented.

The study is designed to examine both main and simple effects. This chapter describes the methodology employed in the study including a description of the population, of the instruments used, of the groups, of the group leaders, of how the study was conducted, and of the statistical model employed to determine the results.

Description of the Population

The population was drawn from graduate students in Education at Loyola University of Chicago. They self-selected participation in the experimental study by enrolling in two courses through which the experiment was conducted; however, they were not informed that they were being studied until post-data had been collected.

One of the courses, through which the study was conducted, was Group Dynamics in which the primary concern of the teacher-leader was the learning problem of understanding groups. The course was conducted as an experiential training laboratory with the teacher acting as trainer.

The other course, consisting of two sections, was Individual Appraisal, required for graduate students in counseling, and drawing from both master's and doctoral levels. The primary concern of the teacher was increased self-understanding and personal growth for each student participant. To this end, each section was time divided into two parts. One part was a didactic hour and ten minutes weekly during which participants self-administered, scored, and interpreted objective tests of intelligence, vocational inventories, achievement, personality and conflict diagnosis. The second part was a group experience consisting of one hour and ten minutes weekly with therapeutic outcome as its goal. Student task was to collate the data they gathered about themselves in both class parts into a paper about themselves consisting of three sections: one section dealt subjectively with self-perceptions and goals as understood in relation to Maslow's hierarchy of needs; the second section dealt with the objective data they gathered; the third section was a synthesis of the first two.

Student participants in both courses varied in age, ranging from twenty-one to forty-five. Thirteen participants were twenty-one to twenty-five; eighteen participants were twenty-six to thirty; nine participants were thirty-one to thirty-five; nine participants were thirty-six to forty; and one participant was forty-five. There were sixteen males and thirty-four females for a total of fifty participants. Socio-economic background, ethnic origin, and race were varied and representative of a large urban area.

Description and Support of Instruments

Prior research has shown little correlation between measures of ego-strength. Rather it appears that the result of such measurement is more a function of the instrument than any agreement between instruments on what is being measured, limiting ones ability to predict from one instrument to another.

Barron's Ego-Strength Scale: Several studies have addressed themselves to the nature of Barron's Ego-Strength Scale. In this study Barron's Es scale was used to measure ego-strength and to differentiate high and low Es groups for purposes of experimental control.

Barron, drawing his items from the MMPI, originally designed his scale to predict "the response of psychoneurotic patients to psychotherapy." Consideration of the scale content and its correlates was discussed by Barron as follows:

...(the content and correlates) suggests that a somewhat broader psychological interpretation be placed upon it, making it useful as an assessment device in any situation where some estimate of adaptability and personal resourcefulness is wanted. It appears to measure the various aspects of effective personal functioning which are generally subsumed under

the term ego-strength.¹

Barron gives the results of a study in which independent ratings of psychiatrists, who achieved interrater reliability of $r=.91$, on the degree of improvement of thirty-three patients who were being dismissed from the hospital, were obtained. Seventeen were judged clearly improved; sixteen were judged unimproved. Barron's Es scale differentiated the population at significant levels.

In a second study of the instrument, one clinic sample and two nonclinic samples were studied. The former consisted of seventy-seven women and fifty men seen for diagnostic studies at Langley Porter Clinic. The latter consisted of a sample of one hundred sixty male Air Force officers and forty male graduate students. Adjective descriptions were obtained for each by objective and skilled observers of high and low scorers. The results showed the following adjectives checked more frequently about high-scorers; alert, adventurous, determined, independent, initiative, outspoken, persistent, reliable, resourceful, responsible.

For low scorers, the following were checked; affected, dependent, effeminate, mannerly, mild. High scorers were seen as more adequate physically, more at ease socially, and somewhat broader culturally. Low scorers were seen as effeminate, submissive, inclined to turn inwards rather than to be emotionally outgoing.²

Negatively related to scores on the Es scale are lack of

¹Frank Barron, "Ego-Strength Scale Which Predicts Response to Psychotherapy," Journal of Consulting Psychology 17 (October 1953): 327.

²Ibid., pp. 329-30.

differentiation of the ego; a narrow range of experience, emotionally and intellectually; rigidity and constriction; and stereotyped thinking. Positively related are tolerance and intelligence, the latter as measured by Wechsler-Bellevue IQ ($r=.44$), Miller's Analogies ($r=.39$), and Intellectual Efficiency Scale ($r=.52$).¹

Barron says that the scale's "correlates with personality variables in normal samples are similar to the pattern of relationships seen in clinic samples, and in general it seems to be measuring constructive forces in the personality." He indicates that the scale is useful as a research instrument in that it should give some assessment of the role of "patient variables" in the "complex outcome which is involved in response to psychotherapy. It may also be of some value in assessing the kind of change that occurs in therapy." He continues:

One may ask...whether there is actually an enhancement of ego-strength as a consequence of therapy, and get an answer by comparing pretherapy with posttherapy scores on the scale.²

Kleinmuntz, in an effort to show construct validity for the Es scale, found in using MMPI records for two groups of college students and rescored for Es and K that both scales "tend to broadly discriminate between adjusted and maladjusted college students."³

Herron, Guido, and Kantor compared nine ego-strength measures using forty college students as their population. Of those with which this study is concerned, the following correlation was found: 16 PF,

¹Ibid., p. 333.

²Ibid.

³B. Kleinmuntz, "Extension of the Construct Validity of the Ego-strength Scale," Journal of Consulting Psychology 24 (October 1960): 463.

Factor C, ego-strength: Barron's Es Scale $r=(-.06)$.¹

In another study, Tamkin attempted to find a correlation between the Rorschach F+%, Pascal and Suttell's Bender-Gestalt Z-score, and Barron's Es. Each intends to measure ego-strength. He found they did not differentiate between psychotic and neurotic groups, and they did not correlate significantly with one another.²

Corotto and Carnutt repeated Tamkin's study in 1962 with a normal population and found no correlation between the instruments.³

Tamkin and Klett repeated Tamkin's earlier study with a much larger population in the same institution. They found correlations significant at a somewhat higher statistical level. In addition, they added evidence to the significant correlation between Barron's Es and intelligence ($r=.32$). They concluded, "...the additional corroboration is suggestive of construct validity for Barron's scale as a measure of ego-strength; the confirmation of the scale's inability to separate diagnostic groups...of differential levels of ego-strength...suggests caution in the application of the Es scale to hospitalized psychiatric patients."⁴

¹W. G. Herron, S. M. Guido, and R. E. Kantor, "Relationships Among Ego-Strength Measures," Journal of Clinical Psychology 21 (1965): 403-404.

²A. S. Tamkin, "An Evaluation of the Construct Validity of Barron's Ego-Strength Scale," Journal of Clinical Psychology 13 (1957): 156-58.

³L. V. Corotto and R. H. Carnutt, "Ego-Strength: a Function of the Measuring Instrument," Journal of Projective Techniques 26 (1962): 228-30.

⁴A. S. Tamkin and C. J. Klett, "Barron's Ego-Strength Scale: A Replication of an Evaluation of Its Construct Validity," Journal of Consulting Psychology 21 (October 1957): 412.

Gottesman's study indicated that the Es scale broadly discriminated between psychiatric and nonpsychiatric adults and adolescents.¹

In 1955, Wirt correlated the Es scale with independent ratings by two psychiatrists of patients being discharged from the hospital. The psychiatrists rated the patients unimproved, improved, greatly improved. The greatly improved and the unimproved group were differentiated through Es scores significantly at the .05 level.²

Fiske, Cartwright, and Kirtner in 1964 found that the Es scale did not predict therapeutic outcome in individual psychotherapy. The study included ninety-three subjects.³

Summary: Apparently the Es scale does not do what it was designed to do, that is, predict therapeutic outcome, but it does seem to measure therapeutic movement. In this study, it is being used to differentiate populations into high and low ego-strength groups and to measure therapeutic movement.

Cattell's Sixteen Personality Factor Questionnaire: The 16 PF is designed to measure sixteen personality factors that were derived from factorial analysis and are considered by Cattell to be basic source traits. It includes a second-order factor, a measure of anxiety that is loaded by the following factors: ego-strength (C-); shy, threat-sensitive (H-); suspicious (L+); guilt prone, apprehensive (O+); low

¹I. I. Gottesman, "More Construct Validation of the Ego-Strength Scale," Journal of Consulting Psychology 23 (1959): 342-46.

²R. D. Wirt, "Further Validation of the Ego-Strength Scale," Journal of Consulting Psychology 19 (1955): 444.

³D. W. Fiske, D. S. Cartwright, and W. L. Kirtner, "Are Psychotherapeutic Changes Predictable?" Journal of Abnormal and Social Psychology 69 (1964): 418-26.

integration (Q_3^-); and tense, frustrated, driven (Q_4^+). The primary anxiety factor loadings are C, O, and Q_4^+ or ego-strength, guilt proneness, and tension. For high anxiety, C-, O+, and Q_4^+ would be the pattern.

Factor C on the 16 PF is one of dynamic integration and maturity as opposed to uncontrolled, disorganized, general emotionality."¹ It is characteristically low in all kinds of clinical disorders. A low C score is one of the loads to the Adjustment versus Anxiety second order factor.

Discussion: Barron drew his scale from the MMPI. Both the MMPI and the 16 PF attempt to measure ego-strength. The MMPI attempts through Barron's scale, and the 16 PF through Factor C.

Those correlations between Barron's and Factor C that have been reported are low, so that each seems to draw on different factors. However, both measures are associated with positive therapeutic outcome. It will be noted in Chapter IV that the correlation between Q_4 , an anxiety factor -- specifically, tension (frustrated, driven, overwrought), and Barron's Es is a $-.39$ for the low ego-strength group, a $+.45$ for the high ego-strength group, and a $-.6$ for the total population. Reduction of anxiety is an indicator of positive therapeutic outcome. This study shows a high-negative correlation between the 16 PF anxiety factor and low ego-strength as measured by the Es scale. There is, on the other hand, a significant positive correlation between high ego-strength and low anxiety.

¹Raymond B. Cattell, H. W. Eber, and M. M. Tatsuoka, Handbook for the Sixteen Personality Factor Questionnaire (16 PF) (Illinois: Institute for Personality and Ability Testing, 1970), p. 83.

The pre-test data in Chapter IV shows that Barron's Es has differentiated the population of this study meaningfully according to the 16 PF anxiety measure. It will be noted that high ego-strength groups are high in C (ego-strength), low in O (guilt proneness), and low in Q₄ (tension), or C+, O-, and Q₄-. Low ego-strength groups are low in C, high in O, and high in Q₄, or C-, O+, and Q₄+. If therapeutic progress is made, it would be expected that the anxiety factors in the 16 PF would decline, and it would be expected that the Barron's Es would increase.

A description of the Barron's Ego-Strength Scale as well as the scale itself will be found in Appendix B of this study. A description of the basic source traits of the 16 PF will be found in Appendix C of this study.

In this study, the 16 PF is used supportively with the Es scale of Barron. It is also hoped that it will show the direction in which change (if any) is occurring in basic, personality, source traits as a result of the group experience.

Description of Groups

Two sample populations of groups were selected for a repeated, experimental design. Participants ranged in age from twenty-one to forty-five with the mean age of 29.4 and a standard deviation of 5.67. There were sixteen men and thirty-four women involved in the study for a total of fifty subjects. The ethnic origin, race and socio-economic status of participants varied and were representative for a large, urban area, private university. One sample of four groups participated in a task-oriented, experiential laboratory, and one sample of four groups participated in a semi-structured experience, the goal of which was

therapeutic.

In size, six groups of the eight had six participants, and two groups had seven for a total population of fifty. Hinkley and Hermann suggest that "The size of the group in...therapy has been found to be an important point. Our groups are now made up of from six to eight patients. These numbers appear the most satisfactory for therapeutic movement...." They list the following reasons for this size.

1. A smaller group tends to slow down from lack of the stimuli that more people furnish....
2. Too large a number...renders mutual participation slow by sheer lack of time for each member....tends to lower mobility and to slacken the entire group even to the point of separation or a loss of the sense of belonging.
3. Either extreme in the size of the group...puts an increasing stress on the therapist until he realizes that he is attempting to treat individuals in a group or that there is no movement and the group is breaking up.¹

Kaplan and Sadock indicate six, seven, or eight members are regarded as an ideal number by some practitioners. They further state, "Even though depth of treatment is primarily a function of the therapist's technique, it is not possible to work effectively for characterological change in groups that are too large for member-to-member interaction."²

Alexander Wolf states:

Some therapists feel that any group number fewer than four or more than eight mitigates against therapy. Most others have found through clinical experience that eight to ten members comprise the preferred therapeutic group....Actually, there is no set size or set number. Clinical experience seems to indicate that between eight and ten will keep interaction going and will provide the necessary fodder for multiple transference formation. But this is not to say that a group cannot

¹Robert G. Hinkley and Lydia Hermann, Group Treatment in Psychotherapy (Minnesota: University of Minnesota Press, 1951), pp. 95-96.

²Kaplan and Sadock, Group Therapy, p. 52.

have fewer or more participants. The safest thing to say is that the size of the group must be left to the judgment of the individual therapist. He will know in a short time how large a group he can work with best and what the make-up of that group should be.¹

Finally, studies by Porter and Lawler show a negative correlation between group size and satisfaction with group membership in organizations.² Indik suggests this is due to "a) more difficulty in achieving adequate communication among members, b) a higher degree of task specialization, c) greater reliance upon impersonal forms of control, and d) more severe problems of coordination that tend to be handled by inflexible, bureaucratic rules and regulations."³

The groups in this study met for sixteen weeks. The four therapy-oriented groups met for approximately nineteen hours in group experience and nineteen hours in didactic experience. The task-oriented groups met for a total of approximately thirty-six hours of combined experiential task and group participation.

Gazda and Peters indicate in their analysis of the research in group procedures:

The typical treatment can be described as consisting of thirteen sessions of one hour each week for a period of thirteen. The decrease of three in the number of sessions and four in the number of weeks over which the treatment was conducted since the 1970 report (Gazda, 1971) appears to be the result of the greater use of marathons and behavior modification

¹Wolf, "Groups", pp. 85-87.

²L. W. Porter and E. E. Lawler, "Properties of Organization Structures in Relation to Job Attitudes and Job Behavior," cited by D. Cartwright and A. Zander, Group Dynamics, Research and Theory (New York: Harper and Row, Pub., 1968), pp. 102-103.

³B. P. Indik, "Organization Size and Member Participation," cited by Cartwright and Zander, *Ibid.*, p. 103.

approaches.¹

Description of Leader Orientation

The teacher-leader (a Ph.D.) of the task-oriented groups used an NTL style. She used exercises and interventions based on an experiential learning model to tie in cognition, affect, and personal reactions as part of the learning process. She focused on participants developing observation skills to determine what the groups needed as well as supporting their full participation as group members. She was not involved in the group process itself except as trainer.

The therapy-oriented groups had two leaders, both trained in the Egan model. They were doctoral students in guidance and counseling. They were both professionally experienced group facilitators.

According to Egan, his model has two training phases and is designed to develop skills of communication for interpersonal relationships. They are a skills-building phase and the utilization of those skills in a contractual group experience. The skills that are concentrated on in Phase I are:

...the kinds of skills essential to high-level interpersonal living: attending both physically and psychologically when listening to others; communicating accurate empathy and respect, communicating with concreteness and genuineness, relating to immediacy (the ability to deal with what is happening here and now in a relationship), making confrontations (especially confrontation which is composed of high degrees of accurate empathy and respect), exploring one's self (both self-initiated, self-exploration and self-exploration as a response to empathic understanding and responsible confrontation), and offering directional self-disclosure (that is, self-disclosure that is neither secret dropping nor exhibitionism, but self-translation at the service of relationship

¹Gazda and Peters, "Research in Group", p. 68.

building.)¹

Egan describes the leader in this model as a trainer rather than a facilitator who himself possesses the skills he is attempting to teach. "He depends on skills rather than techniques,"² although exercises and structured experiences may be used to the degree they teach skills. He is active and involved in the group process.

In Phase II, the contractual phase, the skills participants have learned in Phase I are utilized to develop closeness with one another.

Description of How the Study Was Conducted

Each S was administered the Barron's Es scale and the 16 PF in a preliminary test situation. Scores were ranked for each sample and the Ss divided into two groups in the task-oriented sample. The therapy oriented sample division into two groups occurred through section selection of participants. One group in each sample was designated heads and another group in each sample was designated tails. The face of the coin after it was flipped determined the homogeneous groups. Those groups designated tails were the homogeneous. Group scores were ranked, and the median raw score, 45, was used as the cut-off for high and low ego-strength for therapy-oriented groups. The median score of 46 was used as the cut-off for task-oriented groups. The scores in the heterogeneous groups were ranked and sorted into two piles to comprise two groups.

It was found that five participants were enrolled in both courses; therefore, they received both task and therapy treatment

¹Gerard Egan, "A Two-Phase Approach to Human Relations Training," in The 1973 Annual Handbook for Group Facilitators, John E. Jones and J. William Pfeiffer (LaJolla, California: University Associates Pub., 1973), pp. 227-28.

²Ibid., p. 230.

levels. They were selected to groups in the therapy-oriented treatment according to the experimental design. Four were in heterogeneous groups, and one was in a homogeneous, low Es group.

A check of the groups in the task-oriented treatment showed three of the five had fallen into unlike groups when selected according to the experimental design. Two were selected to homogeneous groups who were in heterogeneous groups in the therapy-oriented treatment. One was selected to a heterogeneous group who was homogeneously selected in the therapy treatment level. Two had been selected to like groups in both treatment levels, both heterogeneous.

The three who had been selected to unlike groups in the task-oriented treatment level were assigned to like groups to control against contamination. Members of the like groups to which the three were assigned were selected as replacements to the groups from which they were drawn according to duplicate scores. In other words, a participant with a score of 45 was drawn from a heterogeneous group into which the repeating participant with a score of 45 was being assigned, and the two were switched. This allowed control of contamination.

In the task-oriented groups there was one teacher-leader for all four groups who made interventions in group dynamics using exercises, confrontation, and focusing on group process.

In the therapy-oriented groups there were two leaders who were randomly assigned to one homogeneous group and one heterogeneous group to control for trainer variability.

Statistical Model

The model used for statistical treatment of data was a completely randomized factorial design with nested treatment.

The level of significance was set at .05.

An analysis of variance was used for over-all significance tests.

Barron's Es scores were transformed to be comparable to 16 PF scores so sten tables could be used for conversions.

Correlations were run on the pre-test Barron's Ego-strength scores and each factor of the 16 PF for each participant, and means for total population as well as like groups were calculated for both pre and post-test data.

Difference scores were computed on both instruments and used for post-test calculations.

Chapter IV presents the treatment of pre and post-test data. It also presents the results of the study and a discussion of the results. A discussion of statistical power is included. The power of the statistic to detect significant differences when the population numbers fifty in order that the null hypotheses will be rejected when they are false was computed.

CHAPTER IV

RESULTS, CONCLUSIONS, RECOMMENDATIONS

Introduction

Little research has accumulated regarding the question of how groups should be composed and what criteria should be used to select participants to group experience. Theoreticians are sharply divided in their opinion of whether groups should be homogeneous to insure cohesiveness or heterogeneous to insure dissonance. In practice, heterogeneity is the preferred method of selection since group leaders must compose groups on available populations. Expediency usually precludes consideration of homogeneous selection, except occasionally as it relates to symptom. The literature shows some modest research support for homogeneous grouping according to some variables. However, other research results in conflicting indices, favoring heterogeneity. Few variables have been submitted to controlled scrutiny.

Purpose of the Study

It has been the intent of this study to observe through controlled experimentation how ego-strength is affected in a group process when participants are assigned homogeneously and heterogeneously according to this factor. A subproblem considered was whether differences in goal-orientation of the leaders produced differences in participants' growth in ego-strength. Therefore, task-oriented groups were dealt with as one treatment level, therapy-oriented groups as another, and they were controlled experimentally. The primary concern of the study was

the primary treatment, placement in homogeneous and heterogeneous groups, according to the variable of ego-strength as measured by Barron's Ego-Strength Scale.

Population and Groups

There were eight groups. Six of the groups had six participants. Two of the groups had seven participants. The total population numbered fifty. Four groups, two homogeneous and two heterogeneous, were task-oriented. The other four, two homogeneous and two heterogeneous, were therapy-oriented. (See Chapter III for a description of leader style.) Of the two homogeneous groups in both task and therapy-treatment levels, one was composed of high ego-strength participants, and one was composed of low ego-strength participants. The median score of the samples was used as the cut-off to designate high and low ego-strength.

Hypotheses

1. There is no significant difference between homogeneous and heterogeneous Es change scores.
2. There is no significant difference between task-oriented groups' and therapy-oriented groups' change scores.
3. There is no significant difference between low Es and high Es change scores.
4. There is no significant difference in the change scores of the primary personality factors between homogeneous and heterogeneous groups.

The hypotheses will be discussed in order of the priorities of the study. First, the main effects of differences in homogeneous and heterogeneous groups will be discussed as they are observed in ego-

strength change scores. Secondly, a comparison of any differences in ego-strength change scores between task-oriented and therapy-oriented treatment levels will be made.

Thirdly, a comparison of nested effects, showing any differences between homogeneous low Es and homogeneous high Es groups, will be made.

Finally, a comparison of any changes in the primary personality factors that are significant between homogeneous and heterogeneous groups will be made.

Difficulties of the Study

Two difficulties occurred in the study. The first occurred when it was found that five participants were involved in both task and therapy treatment levels. Three of the five had fallen into "unlike" groups in the task-treatment level when they were selected according to the experimental design. To guard against contamination in the study, the three were reassigned to "like" groups in the task treatment level to maintain consistency in placement with the therapy treatment level. Participants with duplicate scores were drawn from the groups to which repeaters were being assigned, and the two were switched.

The second difficulty arose when one participant dropped out of the therapy-treatment level from a heterogeneous group of six. An interview with the participant and the trainer produced no evidence that the premature termination was a result of deviancy. Rather it seemed likely that his initial expectation of work-load required for the course had been unrealistic. He dropped the course, having attended five sessions, favoring enrollment the following semester in order that he could fulfill the expectations more fully. There seemed to be no indication of deviancy, scapegoating, or dissatisfaction with the experience.

Post-test scores for one participant in the other heterogeneous therapy group were not secured. This group had seven participants, but data for the post-test was only available for six.

The post-test data was treated as though there were five and six participants respectively in the groups while the pre-test data indicates six and seven.

Control for Trainer Variability

Trainer variability was controlled in two ways. An experimental control was used for variability between the task-oriented trainer and the therapy-oriented trainers through the use of a randomized factorial design with two levels of homogeneity (factor C) nested in homogeneity/heterogeneity (factor B). Trainer goal-orientation was designated a treatment in the study (factor A). Both therapy-oriented trainers were educated and experienced in the Egan-model (see Chapter III). To control for individual variation between these two trainers, each of the two was randomly assigned a homogeneous therapy-oriented group and a heterogeneous therapy-oriented group for a total of two groups each. There was only one trainer for the four task-oriented groups who worked with two homogeneous and two heterogeneous groups.

Power

Statistical power may be defined as the probability that the statistic used will detect significant differences with a specified population so that the null hypotheses will be rejected when they are false.

The power of a research methodology is similarly defined by Kirk as "the probability of rejecting the null hypothesis when the alternative hypothesis is true. Power is equal to $1 - (\text{probability of$

committing a type II error)."¹

There is an inverse relationship between the power of a test and the risk of failing to reject a false hypothesis. In this study, the risk of failing to reject a false hypothesis (a type I error) is .05, the level of significance at which the study has been set.

In view of the population size of fifty which was available for the experiment, it was decided to determine the power of the statistic to detect significant differences. Two calculations were made.

The first computation determined power to detect significant differences between groups on the trainer-orientation variable. This computation applies to hypothesis two of the study.

$$\phi = \sqrt{\frac{\sum \beta_j^2 / k}{\sigma_e^2 / n}}$$

$$= 1.73$$

Using Pearson and Hartley's Power tables as given in Kirk,

$$= .5 \text{ for an alpha equal to } .05$$

The probability of rejecting a false null hypothesis on this variable is .5 at the .05 level of significance.² Therefore, we may conclude that 50% of the time, hypothesis two will be rejected when it is false at the .05 level.

The second computation determined the power to detect significance between groups on the homogeneity/heterogeneity factor. It yielded

¹Roger E. Kirk, Experimental Design Procedures for the Behavioral Sciences (California: Brooks/Cole Publishers, Co., 1968), p. 9.

²Ibid., p. 107.

the following results.

$$\phi = \sqrt{\frac{\sum \beta j^2/k}{\sigma_z^2 / n}}$$

$$= 3.84$$

Using Pearson's and Hartley's Power Tables in Kirk,

power = .98 for an alpha equal to .05

The probability of rejecting a false null hypothesis on this variable is .98 at the .05 level of significance.

Pre-test Data Ego-Strength (Barron's Es scale)

For purposes of analysis, task groups were designated a_1 , and therapy groups were designated a_2 ; homogeneous groups were designated b_1 and heterogeneous groups were designated b_2 ; high ego-strength nested in b_1 was designated c_1 , and low ego-strength nested in b_1 was designated c_2 . The groups were designated as follows:

| | |
|---------------|------------------------------|
| $a_1c_1(b_1)$ | -- task, HEs, homogeneous |
| $a_1c_2(b_1)$ | -- task, LEs, homogeneous |
| a_1b_{21} | -- task, heterogeneous |
| a_1b_{22} | -- task, heterogeneous |
| $a_2c_1(b_1)$ | -- therapy, HEs, homogeneous |
| $a_2c_2(b_1)$ | -- therapy, LEs, homogeneous |
| a_2b_{21} | -- therapy, heterogeneous |
| a_2b_{22} | -- therapy, heterogeneous |

There were a total of eight groups, all receiving treatment. An F_{\max} test showed variance among the groups to be homogeneous.

An analysis of variance was used. It will be noted that the variance between task (a_1) and therapy (a_2) groups resulted in no significance. The ANOVA is represented in table one on page 62. We can conclude that the samples were representative according to the Es

measure.

The analysis of variance between homogeneous and heterogeneous (b_1 and b_2) groups resulted in no significant difference. There is no significant interaction in pre-test data between factors A and B, nor between A and C(b_1). However, there is significance beyond the .001 level in the nested effect of C(b_1). Therefore, groups were formed for the purpose of the experiment according to the specified variable.

The Barron's Es scale raw scores were transformed according to the formula:¹

$$X_n = \left(\frac{S_n}{S_o} \right) X_o + \left(\frac{S_n}{S_o} \right) X_o$$

For this data, Barron's Es scores were made comparable to the 16 PF factor scores in order that correlations could be run and sten-conversion norming tables in the Norm Supplement for the 16 PF could be used. (For a comparison of stens to standard scores, see illustration 1, page 63.)

Norms

It was decided to use the norms for the general population, female, and the general population, male, for Form A of the 16 PF after the following correction formula was applied to each factor for each participant to make the norms valid according to age.

$$Y_{adj.} = Y - b_1(X - X_s) - b_2(X^2 - X_s^2)^2$$

Group means were converted to stens on the Norm Table 25 for

¹Edward S. Minium, Statistical Reasoning in Psychology and Education (New York: John Wiley and Sons, Inc., 1970), p. 115.

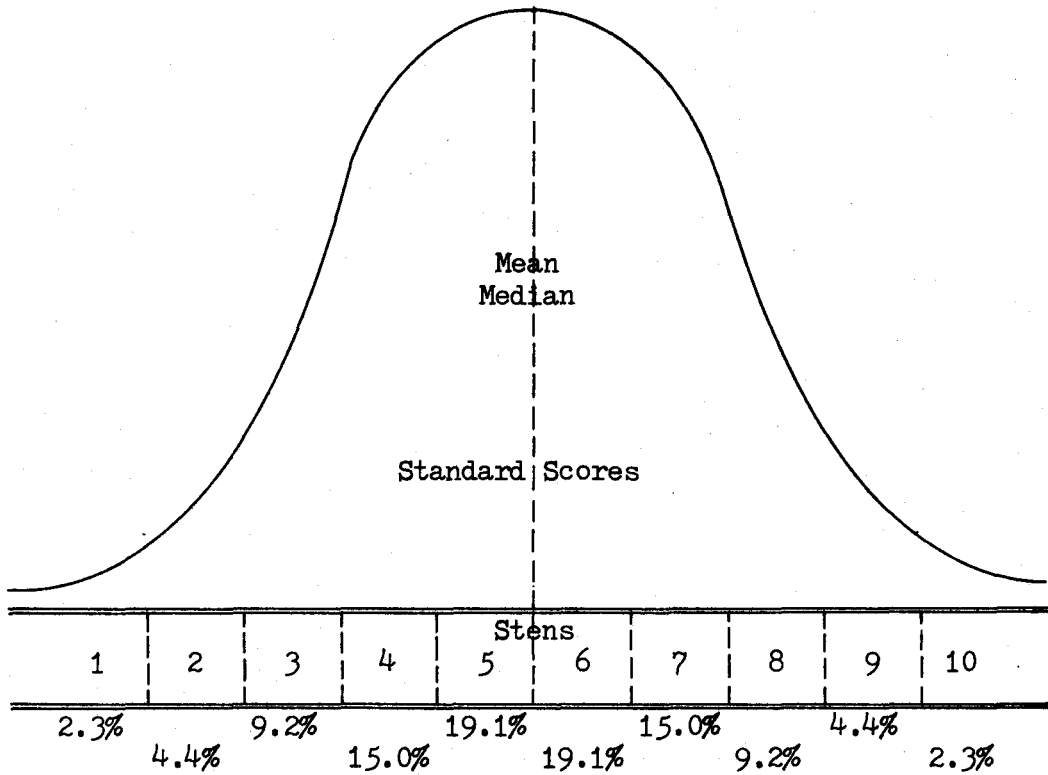
²Norms for the 16 PF, Forms A and B (1967-68 Edition), Tabular Supplement No. 1, (Champaign, Illinois: Institute for Personality and Ability Testing, 1973), p. 34.

TABLE 1

PRE-TEST ANOVA -- BARRON'S EGO-STRENGTH SCALE

| SV | df | SS | MS | F |
|---------------------|---|---------|--------|---------------------|
| A | $(2-1) = 1$ | .25 | .25 | .013 ns |
| B | $(2-1) = 1$ | .09 | .09 | .005 ns |
| AB | $(2-1)(2-1) = 1$ | 17.06 | 17.06 | .888 ns |
| C(b ₁) | $2(2-1) = 2$ | 940.86 | 470.43 | 24.48 $p < .001$ |
| AC(b ₁) | $2(2-1)(2-1) = 2$ | 13.75 | 6.87 | .358 ns |
| w. cell error | $N - pq(r)$ $50 - (2)(2)(2)$ $= 42$ | 806.98 | 19.21 | |
| Total | $N - 1 = 49$ | 1778.99 | | |

ILLUSTRATION 1
STANDARD SCORES AND STENS



(Percentage of population -- adult -- obtaining sten)

General Population, Male and Female: Form A in the supplement.

Primary Personality Factors Pre-test (16 PF)

The 16 PF was used as an independent measure to further substantiate the homogeneity/heterogeneity factor. A composite comparison of "like" groups is shown in graph 1 on page 65. The graph shows pictorially the factors on which the Es scale has differentiated the groups.

As previously noted in Chapter III, the 16 PF has a second-order anxiety factor which has the following load: low emotional stability (C-); shy, timid, threat-sensitive (H-); suspicious, hard to fool (L+); guilt prone, apprehensive, insecure (Q₄+); undisciplined, self-conflict (Q₃-); and tense, driven, frustrated (Q₄+). As the composite comparison in graph 1 shows, the LEs groups give an exact replica of the second-order factor with the exception of Q₃-. The HEs groups show the opposite pattern. They are emotionally stable (C+); venturesome (H+); trusting (L-); self-assured and secure (Q₃+); and relaxed, tranquil, unfrustrated (Q₄-). The heterogeneous groups show a pattern more comparable to the LEs groups although the factors are not as significantly different from the mean sten.

Correlations were run between each of the sixteen factors of the 16 PF and the Es scale. Pearson's Product Moment Correlation was the statistic used according to the formula:¹

$$r_{xy} = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

¹Minium, Statistical Reasoning, p. 138.

The results are shown in table 2 on page 68. Correlations were determined for the total population as well as for homogeneous groups, HEs and LEs, and heterogeneous groups.

Results

A completely randomized factorial design with nested treatment and analysis of variance was used for over-all significance tests.

Hypothesis 1

There is no significant difference between homogeneous and heterogeneous Es change scores. This was designated as factor B in the study. As may be noted in the ANOVA table 3 on page 69, there is no significant difference between homogeneous and heterogeneous groups. Do not reject the hypothesis.

Hypothesis 2

There is no significant difference between task-oriented groups' and therapy-oriented groups' change scores. This treatment was designated as factor A in the study. The analysis of variance yields no significant difference. Do not reject the hypothesis.

Hypothesis 3

There is no significant difference between low Es and high Es change scores. These simple main treatment levels are designated $C(b_1)$ in the analysis. Analysis yields no significant difference. Do not reject the hypothesis.

A repeated measures design for analysis of variance was used to determine differences in the 16 PF. The results of this analysis are found in table 4 on page 70.

Hypothesis 4

There is no significant difference in the change scores of

TABLE 2
 PEARSON PRODUCT MOMENT CORRELATIONS
 BARRON'S Es SCALE AND 16 PF

| 16 PF Factor | High Es | Low Es | Hetero. | Population Composite |
|--------------|---------|--------|---------|----------------------|
| A | -.41 | .19 | .09 | .09 |
| B | -.30 | -.20 | .06 | -.08 |
| C* | -.46 | .42 | -.06 | .45 |
| E | -.004 | .27 | .04 | .188 |
| F | .65 | .00 | -.22 | .26 |
| G | -.02 | .14 | .11 | .10 |
| H* | .17 | .59 | -.21 | .35 |
| I | -.47 | -.30 | -.12 | -.05 |
| L* | .00 | .22 | .06 | -.16 |
| M | -.21 | .42 | -.19 | .03 |
| N | .14 | .45 | -.03 | .17 |
| O* | .22 | -.39 | .09 | -.44 |
| Q1 | .47 | .05 | -.03 | .22 |
| Q2 | -.31 | -.16 | -.18 | -.20 |
| Q3* | -.31 | .38 | .06 | .17 |
| Q4* | .45 | -.39 | -.10 | -.60 |

*second-order anxiety load factor

TABLE 3

POST-TEST ANOVA -- BARRON'S EGO-STRENGTH SCALE

| SV | df | SS | MS | F |
|---------------------|---|--------|-------|-----------------------|
| A | $(2-1) = 1$ | 2.63 | 2.63 | .197 ns |
| B | $(2-1) = 1$ | 34.89 | 34.89 | 2.61 ns |
| AB | $(2-1)(2-1) = 1$ | 38.42 | 38.42 | 2.87 .05 < p < .10 |
| C(b ₁) | $2(2-1) = 2$ | 24.89 | 12.45 | .931 ns |
| AC(b ₁) | $2(2-1)(2-1) = 2$ | 4.51 | 2.26 | .169 ns |
| w. cell error | $\frac{N - pq(r)}{(2)(2)(2)}$ $= 40$ | 535.26 | 13.38 | |
| Total | $N - 1 = 47$ | 640.60 | | |

primary personality factors between homogeneous and heterogeneous groups. The between groups factor A in this analysis yields no significant difference. Do not reject the hypothesis.

Conclusions

As will be noted in table 3, the interaction between A and B was found to be significant at the .10 level. Because this indicates a relationship exists between the dependent and independent variables, a strength of association test was run to determine the degree of the relationship and to decide whether or not a larger number might produce significant results. The formula used according to Kirk:¹

$$\hat{\omega}_x^2 = \frac{SS_x - (p-1)(MS_{w. \text{ cell}})}{SS_{\text{total}} + MS_{w. \text{ cell}}}$$

All positive associations were found to be trivial and did not account for any significant portion of the variability. This indicates that the numbers were sufficiently large for the experiment, and, indeed, may have been large enough to achieve the .10 significance level by chance rather than by design.

The strength of association test further indicates there was little association between the independent variables of task and therapy trainer orientation and homogeneity/heterogeneity with the dependent variable of change scores in ego-strength as measured by Barron's scale.

The analysis of variance on the 16 PF indicated beyond the .001 level of significance a difference in change between factors. The results of pairwise comparisons of change may be found in Appendix A. It will be seen that the second-order anxiety factors for the total

¹Kirk, Experimental Design, p. 198.

TABLE 4

POST-TEST ANOVA -- 16 PF

| SV | df | SS | MS | F |
|----------------------------------|---|---------|--------|----------------------------|
| Between Subjects | $np - 1$ $(6)(8) - 1 = 47$ | 434.54 | 9.25 | |
| A | $p - 1$ $8 - 1 = 7$ | 78.52 | 11.22 | 2/3 1.26 ns |
| subjects within groups | $p(n - 1)$ $8(6-1) = 40$ | 356.02 | 8.90 | |
| Within Subjects | $np(q - 1)$ $(6)(8)(16-1) = 720$ | 7825.13 | 10.87 | |
| B (16 factors) | $q - 1$ $16 - 1 = 15$ | 1672.64 | 111.51 | 5/7 11.76 $p < .001$ |
| AB | $(p - 1)(q - 1)$ $(8-1)(16-1) = 105$ | 463.50 | 4.14 | 6/7 .437 ns |
| B x Subjects within groups | $p(n - 1)(q - 1)$ $8(6-1)(16-1) = 600$ | 5688.99 | 9.48 | |
| Total | $npq - 1 = 767$ | 8259.67 | | |

population accounted for a large percentage of variability in change between factors in only three of the six; trust (L), shy-adventurous (H), and emotional stability (C). The other three factors, guilt proneness (O), integration (Q₃), and anxiety (Q₄), accounted for far less of the variability. It would appear little more than chance was operating.

Further investigation of the data shows the results of change in factors between groups reported in stens in table 5 on page 72. A composite graph of pre and post-test stens is shown in graph 2 on page 73.

Table 5 shows that the low ego-strength groups experienced change of at least one sten in 9 of the 16 factors, including 5 of the 6 second-order anxiety factors which showed a high correlation with the Barron's Es measure.

The HEs groups experienced change in four of the sixteen factors, but none were the six second-order anxiety factors.

The heterogeneous groups experienced change in three of the sixteen factors, two of which were second-order anxiety factors.

This data may indicate that participants work on their own most pressing needs regardless of stated goals for groups or of trainer goal orientation.

T contrasts were run on simple main effects in an effort to determine if there were any trends in the data. The formula used was:¹

$$t = \frac{C_j(\bar{X}) - C_j(\bar{X})}{\sqrt{(2) MS_w. \text{ cell} / n}}$$

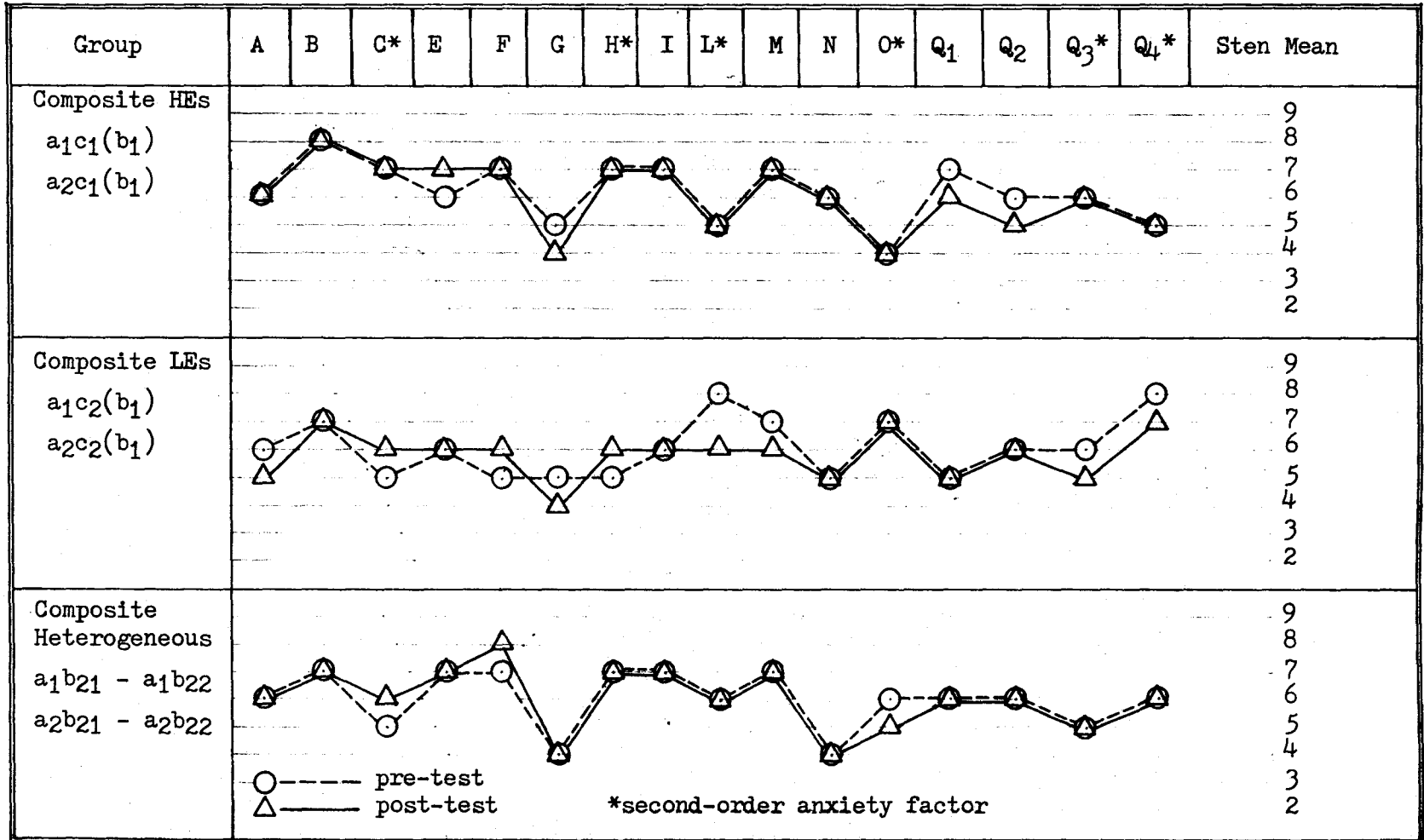
¹Kirk, Experimental Design, p. 113.

TABLE 5
COMPOSITE 16 PF STEN CHANGE

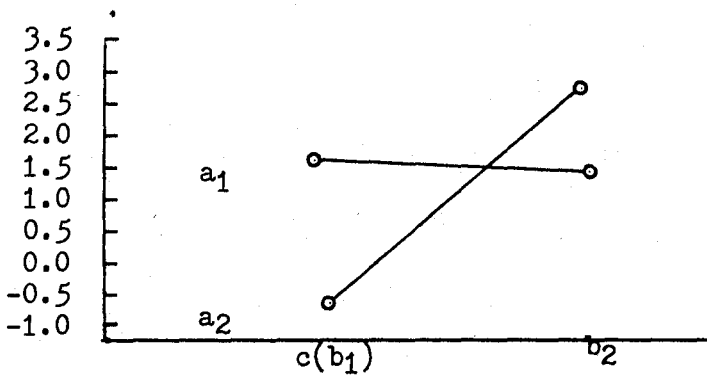
| f a c t o r | GROUPS | | | | | | t o t a l |
|----------------------------|---|------|-----|------|---------|------|-----------------------|
| | LEs | | HEs | | Hetero. | | |
| | pre | post | pre | post | pre | post | |
| A | 6 | 5 | 6 | 6 | 6 | 6 | 1 |
| B | 7 | 7 | 8 | 8 | 7 | 7 | 0 |
| C* | 5 | 6 | 7 | 7 | 5 | 6 | 2* |
| E | 6 | 6 | 6 | 7 | 7 | 7 | 1 |
| F | 5 | 6 | 7 | 7 | 7 | 8 | 2 |
| G | 5 | 4 | 5 | 4 | 4 | 4 | 2 |
| H* | 5 | 6 | 7 | 7 | 7 | 7 | 1* |
| I | 6 | 6 | 7 | 7 | 7 | 7 | 0 |
| L* | 8 | 6 | 5 | 5 | 6 | 6 | 2* |
| M | 7 | 6 | 7 | 7 | 7 | 7 | 1 |
| N | 5 | 5 | 6 | 6 | 4 | 4 | 0 |
| O* | 7 | 7 | 4 | 4 | 6 | 5 | 1* |
| Q ₁ | 5 | 5 | 7 | 6 | 6 | 6 | 1 |
| Q ₂ | 6 | 6 | 6 | 5 | 6 | 6 | 1 |
| Q ₃ * | 6 | 5 | 6 | 6 | 5 | 5 | 1* |
| Q ₄ * | 8 | 7 | 5 | 5 | 6 | 6 | 1* |
| t o t a l | Factors changing 1 \pm sten of the 16 for each like group | | | | | | 13 |
| | 9 | | 4 | | 3 | | |
| t o t a l | *Second-order anxiety factors changing 1 \pm sten of the 6 for each like group | | | | | | 6 |
| | 5 | | 0 | | 2 | | |

GRAPH 2

COMPOSITE COMPARISON OF "LIKE" GROUPS -- 16 PF PRE AND POST



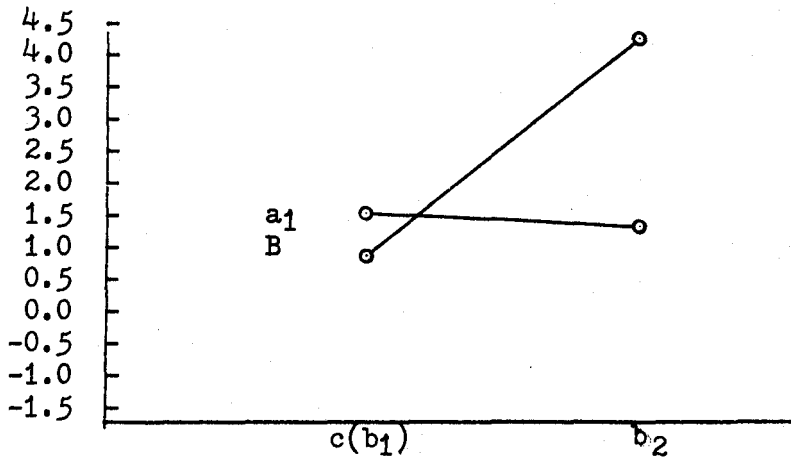
A comparison of therapy-homogeneous groups (a_2b_1) with therapy-heterogeneous groups (a_2b_2) yielded a difference that exceeded the .05 level of significance for a one-tailed t test, indicating that at the therapy treatment level, there was a significant difference in the simple main effect of the homogeneity/heterogeneity factor. Accordingly, the following interaction plots were made on the basis of simple factor means to determine patterns in the data.



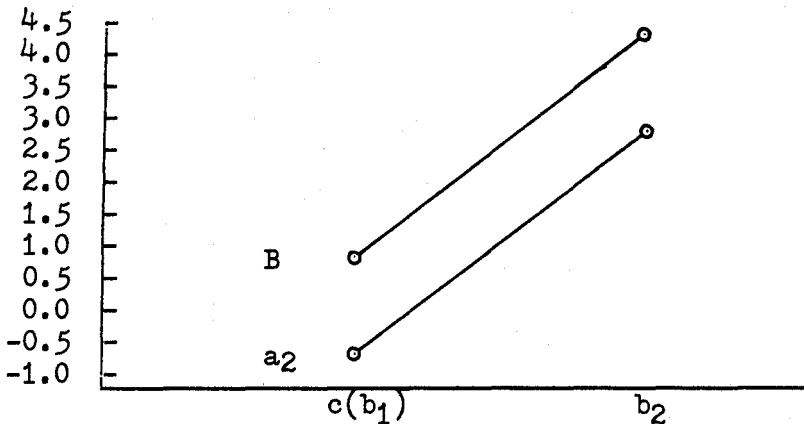
TRAINER PATTERNS
(a)

Interaction results for AB (trainer-orientation (A); homogeneity/heterogeneity (B)) are mixed as indicated by graphs b and c on page 75. Graph a above shows the task-oriented trainer (a_1) varies little across groups with slightly less gains for heterogeneous groups. Therapy-oriented (a_2) trainers show considerably greater gains for heterogeneous, indicating that grouping according to ego-strength for therapeutic goals may not be tenable. However, graphs b and c show contrary indication. There is an interaction between factor B (homogeneity/heterogeneity) and task orientations as is seen in graph b with slightly more gains for homogeneous groups, but there is no interaction between

factor B and therapy orientation as seen in graph c.



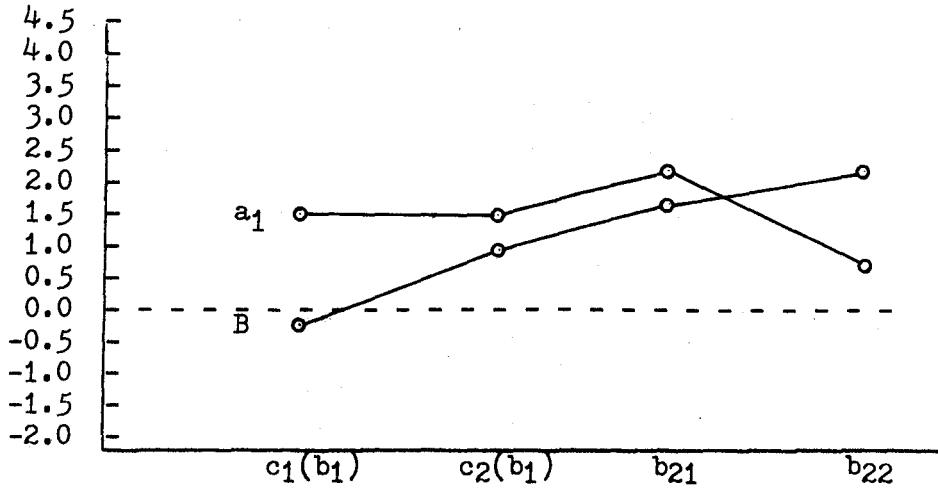
INTERACTION OF TASK TRAINER WITH HOMOGENEITY/HETEROGENEITY
(b)



INTERACTION OF THERAPY TRAINERS WITH HOMOGENEITY/HETEROGENEITY
(c)

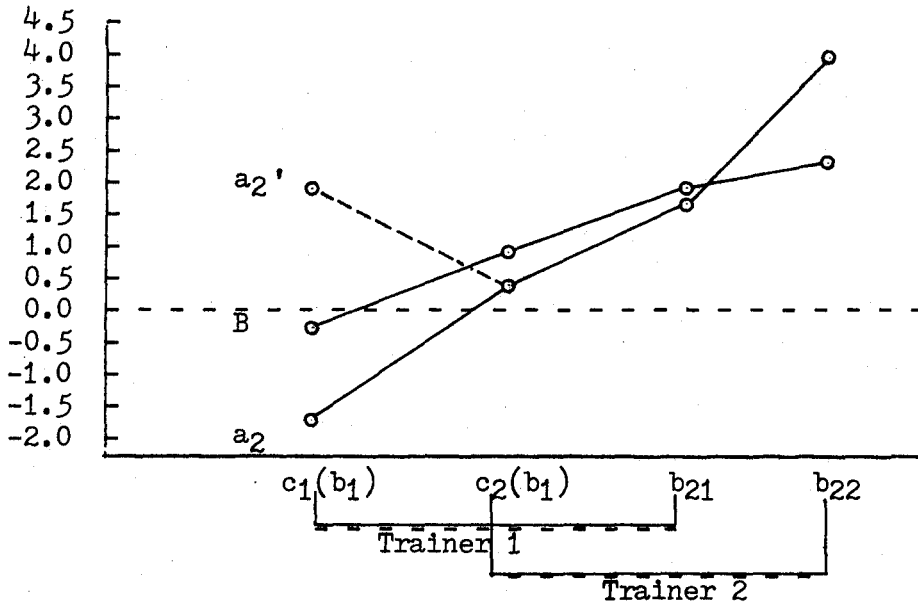
Further exploration seems to indicate more precisely what occurred. Graphs d, e, and f present the simple effects that occurred in the eight groups. The operative variable appears to be trainer variation across groups and between groups. The task-oriented trainer had comparable results with both LEs and HEs homogeneous groups and one heterogeneous group, the latter making slightly more gains. However, this trainer had trivial success with one heterogeneous group in terms of the

goals of the experiment. This result is graphically depicted in graph d.



INTERACTION OF TASK ORIENTATION ACROSS GROUPS
(d)

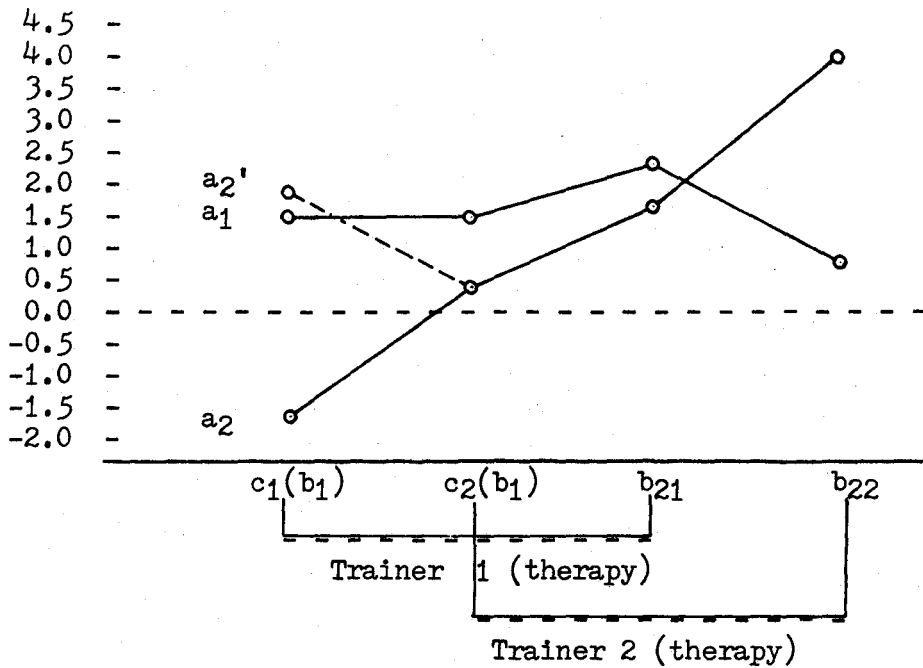
Graph e shows that differences in therapy groups were also associated with trainer variation. Trainer 1 had about the same success



INTERACTION OF THERAPY ORIENTATION ACROSS GROUPS
(e)

with the homogeneous and heterogeneous groups. (The dotted line indicates the distance of change from 0 although the actual score is negative. It will be seen that change is approximately the same for both of Trainer 1's groups.) Trainer 2, however, had trivial success with his homogeneous group, but his heterogeneous group was the most successful of the eight, in terms of experimental goals.

The variation in all three trainers may be seen in graph f.



TRAINER VARIATION PATTERNS
(f)

Discussion

There seems to be evidence that the independent variables of the experiment were not successfully manipulated, and that two variables need to be more tightly controlled if the experiment is repeated. Participant goals is one, and the other is individual trainer variation.

Personal growth goals rather than educational goals should probably be the primary goal of participants for successful manipulation of the independent variables. Also, repeated measures on the same trainer working with at least three group designations; HEs, LEs, and heterogeneous, with a therapy orientation in one experiment followed by the same three group designations with the same trainer using a task-goal orientation would control trainer variation. The same repeated experiment could be duplicated several times with different trainers for the total experiment. It seems clear that insufficient control of participant goals and insufficient control of variation in individual trainers made it impossible to isolate the variables being manipulated.

Perhaps one of Yalom's theories has received some support in the patterns found in the study. He indicated it was his belief that the homogeneous group, which remained shallow was the result of the therapist's failure to generate sufficient dissonance for growth. (p. 18, this study). Apparently, the task-oriented trainer and the therapy-oriented trainer 1 who had equal success with both kinds of groups have sustained his impression. However, this study has produced no real evidence that whether groups are homogeneously or heterogeneously composed is an issue of any importance. Rather it would appear that until contrary evidence is produced, a trainer should know his own limitations and compose his groups according to them. Trainer and participants

should probably share similar goals. For some trainers, this does not seem to matter. At least one trainer was unable to move a homogeneous LEs group, but was highly successful with a heterogeneous group. One trainer was equally successful with two homogeneous groups and one heterogeneous group, but had some difficulty with a heterogeneous. The latter group may have encountered difficulty because of conflict in participants goals. The same is true of the homogeneous group with trivial gains.

Recommendations

Because this experiment was unsuccessful in manipulating the variable of ego-strength in homogeneous and heterogeneous groups, the importance of such research is not diminished. The experiment should be repeated as previously indicated, controlling more tightly for participant goal and for trainer variability.

In addition, there are patterns in this experiment which seem to indicate it is important that a trainer be aware of any limitations relating to group composition he may have in generating conditions conducive to the growth of his participants. He should compose his groups on the homogeneous/heterogeneous factor according to such limitations. There is also some indication that trainers need to be acutely aware of the goals of participants. Both patterns appear to be variables that contribute to group success.

CHAPTER V

SUMMARY

The research on group method regarding composition has not resolved the issue of whether groups should be homogeneously or heterogeneously formed. At one time, homogeneous groups were believed by some professional practitioners to be dangerous. Others have observed that heterogeneous groups appear to lead to some destructive dynamics such as scapegoating, deviancy, and premature drop-out. Few variables have been submitted to experimental scrutiny. Research results are modest and mixed with some support for homogeneity and some support for heterogeneity.

It was the purpose of this experiment to submit to study the variable of ego-strength of participants and how it is affected in homogeneous and heterogeneous groups. A sub-problem of the study was to determine whether trainer goal-orientation, task or therapy, affected the variable of ego-strength significantly in terms of participant outcome.

The population was composed of graduate students, masters and doctoral, at Loyola University of Chicago. They ranged in age from twenty-one to forty-five. There were thirty-four females and sixteen males in the pre-testing. Data was lost for two therapy participants, one male and one female, for the post-testing. The participants were representative in socio-economic status, race, and ethnic origin for a large, urban university.

There were eight groups. Four had a task-oriented trainer, and four had therapy-oriented trainers. The task-oriented trainer led two homogeneous groups, one high ego-strength and one low ego-strength, and two heterogeneous groups. The trainer was a teacher-leader and used an NTL style. There were two therapy-oriented trainers, both using an Egan style. They were doctoral students and experienced trainers.

Trainer variability was controlled in two ways. The variability between task and therapy-oriented trainers was controlled experimentally, and the variability between individual therapy-oriented trainers was controlled by randomly assigning each trainer a homogeneous and a heterogeneous group.

The participants self-selected participation in the experiment by enrolling in two courses. The courses were Group Dynamics, the task-oriented sample, and Individual Appraisal, the therapy-oriented sample. They did not know they were being studied until post-data had been secured.

The median score, as measured by Barron's Ego-Strength Scale, was used as the cut-off for LEs and HEs groups. Heterogeneous groups were composed of diverse levels of ego-strength. Homogeneous and heterogeneous groups were determined by the flip of a coin. The 16 PF was used as an independent measure to further substantiate the homogeneity/heterogeneity factor.

A completely randomized factorial design with nested treatment and analysis of variance was used. Pre-test data showed the samples to be representative and the HEs and LEs groups to be significantly different beyond the .001 level from the total population. A high correlation was found between Barron's Ego-Strength Scale and the second-order

anxiety factor of the 16 PF. The study defined therapeutic success to mean an increase in ego-strength as measured by Barron's and a reduction in the second-order anxiety factor as measured by the 16 PF. The significance level was set at .05.

The following hypotheses were tested.

1. There is no significant difference between homogeneous and heterogeneous Es change scores.
2. There is no significant difference between task-oriented groups' and therapy-oriented groups' change scores.
3. There is no significant difference between low Es and high Es change scores.
4. There is no significant difference in the change scores of the primary personality factors between homogeneous and heterogeneous groups.

None of the hypotheses was rejected.

Because a .10 level of significance was achieved on the interaction of the factor of trainer goal-orientation and the factor of homogeneity/heterogeneity, a strength of association test was run. Results, though positive, were trivial. It showed little relationship between the independent variables and the dependent variables of the study, but indicated total number of subjects was probably sufficient.

A t contrast on the simple main effects between therapy homogeneous and heterogeneous groups was found to be significant beyond the .05 level. Graphs on means for patterns indicated that much of the variability might be due to individual trainer variation. One therapy trainer had trivial success with a homogeneous group, but led the most successful group of the eight in terms of the experiment in his

heterogeneous group. The task-oriented trainer had approximately equal success with both homogeneous and one heterogeneous group, but had only trivial success with a heterogeneous group. The other therapy trainer had equal success with his homogeneous and heterogeneous groups. Clearly, individual trainer variability was not successfully controlled.

The difference in factor change on the 16 PF (but not in factors between groups) was found to be significant beyond the .001 level. Further exploration revealed that of the six second-order anxiety factors, only three changed appreciably. Of the three, only one was a principle anxiety factor, C -- emotional stability. It appears that little more than chance was operating for the total population on these six factors. However, of the like groups LEs groups experienced change of one or more stens in five of the six anxiety factors. Only O, guilt proneness, did not change. HEs groups experienced sten change in none of the six. Heterogeneous groups experienced sten change in two of the six, C -- emotional stability and O -- guilt proneness. This may indicate that participants' goals may be their most pressing need during a group experience regardless of trainer goal.

In view of the patterns, it appears that trainers should be aware of any limitations they may have regarding working with homogeneous or heterogeneous groups, and trainers should be acutely aware of participants' goals.

The lack of success of the experiment seems due to insufficient control of individual trainer variability and participants' goals. It does not diminish the importance of the study. It is recommended that the experiment be repeated, and the following suggestions are made.

One trainer should lead at least three groups, HEs, LEs, and

heterogeneous, with a goal orientation of therapy. This experiment should be repeated with the same trainer and the same group designations, with a goal orientation of task. Participants' goals should be personal growth. The experiment should be repeated with three or four trainers for one total experiment in a repeated experiments design.

REFERENCES

Books

- Berelson, Bernard, and Steiner, Gary A. Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace and World, 1964.
- Bradford, Leland P.; Gibb, Jack R.; and Benne, Kenneth D. T-Group Theory and Laboratory Method. New York: John Wiley and Sons, Inc., 1967.
- Cartwright, D., and Zander, A. Group Dynamics, Research and Theory. New York: Harper and Row, 1968.
- Cattell, Raymond B.; Eber, H. W.; and Tatsuoka, M. M. Handbook for the Sixteen Personality Factor Questionnaire (16 PF). Illinois: Institute for Personality and Ability Testing, 1970.
- Cox, Rachel Dunaway. "The Concept of Psychological Maturity." In vol. 1 of American Handbook of Psychiatry: The Foundations of Psychiatry, edited by Silvano Arieti. New York: Basic Books, Inc., 1974.
- Egan, Gerard. "A Two-Phase Approach to Human Relations Training." In The 1973 Annual Handbook for Group Facilitators, edited by John E. Jones and J. William Pfeiffer. California: University Associates Publishers, 1973.
- Gibb, Jack R. "The Effects of Human Relations Training." In Handbook of Psychotherapy, edited by Allen E. Bergin and Sol L. Garfield. New York: Wiley, 1971.
- Goldstein, A. P.; Heller, K.; and Sechrest, L. B. Psychotherapy and the Psychology of Behavior Change. New York: Wiley, 1966.
- Hinkley, Robert G., and Hermann, Lydia. Group Treatment in Psychotherapy. Minnesota: University of Minnesota Press, 1951.
- Kaplan, Harold J., and Sadock, Benjamin J. The Evolution of Group Therapy. New York: Jason Aronson, Inc., 1972.
- Kirk, Roger E. Experimental Design Procedures for the Behavioral Sciences. California: Brooks/Cole Publishers Co., 1968.
- Lott, Albert J. "Social Psychology." In Handbook of General Psychology, edited by Benjamin B. Wolman. New Jersey: Prentice-Hall, 1973.

- Luft, Joseph. Group Processes. California: National Press Books, 1970.
- Minium, Edward S. Statistical Reasoning in Psychology and Education. New York: John Wiley and Sons, Inc., 1970.
- O'Day, Rory. "The T-Group Trainer, A Study of Conflict in the Exercise of Authority." In Analysis of Groups, edited by Graham S. Gibbard, John J. Hartman, and Richard D. Mann. San Francisco: Jossey-Bass, 1974.
- Rogers, Carl. On Encounter Groups. New York: Harper and Row, 1970.
- Wolf, Alexander. "Psychoanalysis in Groups." In Basic Approaches to Group Psychotherapy and Group Counseling, edited by George M. Gazda. Springfield, Illinois: Charles C. Thomas, Publisher, 1970.
- Yalom, Irvin D. The Theory and Practice of Group Psychotherapy. New York: Basic Books, Inc., 1970.

Journal Articles

- Barron, Frank. "Ego-Strength Scale Which Predicts Response to Psychotherapy." Journal of Consulting Psychology 17 (1953): 327-33.
- Bonney, W. C. "Pressures Toward Conformity in Group Counseling." Personnel and Guidance Journal 43 (1965): 970-73.
- Corotto, L. V., and Carnutt, R. H. "Ego-Strength: a Function of the Measuring Instrument." Journal of Projective Techniques 26 (1962): 228-30.
- D'Augelli, A. R. "Group Composition Using Interpersonal Skills." Journal of Counseling Psychology 20 (1973): 531-34.
- Fiske, D. W.; Cartwright, D. S.; and Kirtner, W. L. "Are Psychotherapeutic Changes Predictable?" Journal of Abnormal and Social Psychology 69 (1964): 418-26.
- Gazda, G. M., and Peters, R. W. "Analysis of Research in Group Procedures." Educational Technology 13 (1973): 68-75.
- Gottesman, I. I. "More Construct Validation of the Ego-Strength Scale." Journal of Consulting Psychology 23 (1959): 342-46.
- Harrison, R. "Group Composition Models for Laboratory Design." Journal of Applied Behavioral Science 1 (1965): 409-32.

- Herron, W. G.; Guido, S. M.; and Kantor, R. E. "Relationships Among Ego-Strength Measures." Journal of Clinical Psychology 21 (1965): 403-404.
- Kleinmuntz, B. "Extension of the Construct Validity of the Ego-Strength Scale." Journal of Consulting Psychology 24 (1960): 463.
- Lubin, B., and Lubin, A. W. "The Group Psychotherapy Literature." International Journal of Group Psychotherapy 23 (1973): 474-513.
- Tamkin, A. S. "An Evaluation of the Construct Validity of Barron's Ego-Strength Scale." Journal of Clinical Psychology 13 (1957): 156-58.
- Tamkin, A. S., and Klett, C. J. "Barron's Ego-Strength Scale: A Replication of an Evaluation of Its Construct Validity." Journal of Consulting Psychology 21 (1957): 412.
- Wirt, R. D. "Further Validation of the Ego-Strength Scale." Journal of Consulting Psychology 19 (1955): 444.
- Yalom, Irvin D. "A Study of Group Therapy Dropouts." Archives of General Psychiatry 14 (1966): 393-414.

Unpublished Works

- Anderson, Alonzo B. "Toward a More Complex Model of Group Cohesion; The Interaction Effects of Success, Failure, Participation Opportunity, Intrinsic Interest and Pay Condition." Doctoral Dissertation, Michigan State University, 1974.
- Backner, B. L. "Attraction-to-Group, as a Function of Style of Leadership, Follower Personality, and Group Composition." Doctoral Dissertation, The University of Buffalo, 1961.
- Burr, R. L. "The Effects of Same-Sex and Mixed-Sex Growth Groups on Measures of Self-Actualization and Verbal Behavior of Females." Doctoral Dissertation, The University of Tennessee, 1974.
- Childers, Frederick Woodrow. "Criteria for Selection of Members for Therapeutic Groups." Doctoral Dissertation, University of Southern California, 1974.
- Eskilson, Arlene. "Sex Composition and Leadership in Small Groups." Doctoral Dissertation, University of Illinois at Chicago Circle, 1974.
- Ferriolo, Michael Francis. "The Effect of Homogeneity and Heterogeneity, in Terms of Group Experience, on Success in Group Among Counseling Students," Doctoral Dissertation, University of Southern California, 1973.

- Hornsby, James Larry. "The Effects of Group Composition on Systematic Human Relations Training." Doctoral Dissertation, University of Georgia, 1973.
- Hovey, Frances E. "Group Composition, Group Cohesiveness, and Several Process Variables." Doctoral Dissertation, Temple University, 1974.
- Kimball, F. E. "Effects of Some Pretherapy Manipulations on Measures of Group Cohesion." Doctoral Dissertation, University of Maryland, 1973.
- Maher, Ellen L. "The Effect of Homogeneity in Age and Values Upon Satisfaction in Small Groups of Women." Doctoral Dissertation, University of Southern California, 1973.
- Peters, Roger William. "The Facilitation of Change in Group Counseling by Group Composition." Doctoral Dissertation, University of Georgia, 1972.
- Powers, James Richard. "Trainer Orientation and Group Composition in Laboratory Training." Doctoral Dissertation, Case Institute of Technology, 1965.
- Rast, Robert. "The Effects of Group Pressure on the Modification and Distortion of Judgments in Tolerant and Prejudiced Individuals." Doctoral Dissertation, The American University, 1963.
- Schumacher, R. R. "The Influence of Differential Group Composition on the Effectiveness of Group Counseling with Second, Third, Fourth, and Fifth Grade Male Children." Doctoral Dissertation, University of Virginia, 1974.
- Schumer, Harry. "Cohesion and Leadership in Small Groups as Related to Group Productivity." Doctoral Dissertation, The Ohio State University, 1961.
- Steele, Galen H. "A Study of the Effects of Grouping by Degree of Dogmatism on Group Task-Performance and on Perception of Member Importance." Doctoral Dissertation, The University of Toledo, 1972.
- Walker, Arthur D. "A Comparison of Two Methods of Selecting Applicants for a Group Experience." Doctoral Dissertation, University of Illinois at Urbana-Champaign, 1971.
- Weiss, J. "The Development of Cohesiveness in Marathon With Groups." Doctoral Dissertation, University of Maryland, 1971.

Dictionaries and Encyclopedias

Hinsie and Campbell's Psychiatric Dictionary. 4th ed. (1970), s. v.
"ego-strength."

The World Book Dictionary. 1974 ed., s.v. "homogeneous and heterogene-
ous."

Miscellaneous

Norms for the 16 PF, Forms A and B (1967-68 Edition), Tabular Supplement
No. 1. Illinois: Institute for Personality and Ability Testing,
1973.

Appendix A

BARRON'S EGO-STRENGTH SCORES -- PRE-TEST

N = 50 Population Mean = 44.98 Population Standard Deviation = 5.96

| Treatments | S | $c_1(b_1)$ HEs | $c_2(b_1)$ LEs | b_{21} Heterogeneous | b_{22} Heterogeneous | | | | |
|---------------------------|---|-------------------|-------------------|---------------------------|---------------------------|----|------------------|----|------------------|
| a ₁ TASK | 1 | 48 n = 6 | 33 n = 6 | 49 n = 6 | 51 n = 6 | | | | |
| | 2 | 49 | 35 | 48 | 48 | | | | |
| | 3 | 52 | 35 | 46 | 47 | | | | |
| | 4 | 52 | 40 | 46 | 46 | | | | |
| | 5 | 53 | $\bar{X} = 51.17$ | 43 | $\bar{X} = 38.5$ | 45 | $\bar{X} = 45.5$ | 46 | $\bar{X} = 46.7$ |
| | 6 | 53 | $s_x = 1.95$ | 45 | $s_x = 4.46$ | 39 | $s_x = 3.2$ | 42 | $s_x = 2.69$ |
| a ₂ THERAPY | 1 | 52 n = 7 | 45 n = 6 | 33 n = 7 | 35 n = 6 | | | | |
| | 2 | 51 | 44 | 39 | 42 | | | | |
| | 3 | 51 | 41 | 42 | 43 | | | | |
| | 4 | 51 | 35 | 45 | 46 | | | | |
| | 5 | 51 | 34 | 47 | 48 | | | | |
| | 6 | 47 | $\bar{X} = 50.57$ | 33 | $\bar{X} = 38.67$ | 49 | $\bar{X} = 43.7$ | 52 | $\bar{X} = 44.3$ |
| | 7 | 51 | $s_x = 1.49$ | | $s_x = 4.85$ | 51 | $s_x = 5.77$ | | $s_x = 5.3$ |

BARRON'S EGO-STRENGTH SCORES -- POST-TEST

| Treatment | S | $c_1(b_1)$ HEs | $c_2(b_1)$ LEs | b_{21} Heterogeneous | b_{22} Heterogeneous |
|---------------------------|---|----------------------|---------------------|---------------------------|---------------------------|
| a ₁ TASK | 1 | 55 n = 6 | 38 n = 6 | 49 n = 6 | 47 n = 6 |
| | 2 | 48 | 37 | 52 | 43 |
| | 3 | 56 | 33 | 47 | 50 |
| | 4 | 51 | 44 | 49 | 44 |
| | 5 | 55 $\bar{X} = 52.67$ | 42 $\bar{X} = 40.0$ | 44 $\bar{X} = 47.7$ | 51 $\bar{X} = 47.3$ |
| | 6 | 51 $S_x = 9.87$ | 46 $S_x = 4.85$ | 45 $S_x = 2.94$ | 49 $S_x = 3.26$ |
| a ₂ THERAPY | 1 | 51 n = 7 | 48 n = 6 | -- n = 6 | 46 n = 5 |
| | 2 | 50 | 41 | 45 | -- |
| | 3 | 52 | 37 | 49 | 42 |
| | 4 | 50 | 33 | 43 | 52 |
| | 5 | 49 | 39 | 50 | 51 |
| | 6 | 43 $\bar{X} = 48.86$ | 36 $\bar{X} = 39.0$ | 49 $\bar{X} = 47.17$ | 53 $\bar{X} = 48.8$ |
| | 7 | 47 $S_x = 3.02$ | 47 $S_x = 5.17$ | 47 $S_x = 2.71$ | 47 $S_x = 4.66$ |

DIFFERENCE SCORES PRE AND POST -- 16 PF

| Group | S | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 |
|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| a ₁ c ₁ (b ₁) | 1 | 0 | -3 | 2 | -1 | 1 | -1 | 2 | 0 | -5 | 2 | 2 | 1 | 0 | -3 | -1 | 7 |
| | 2 | 1 | 3 | 2 | 4 | 1 | -1 | -1 | 0 | 0 | -2 | 2 | -1 | 4 | 5 | -1 | 7 |
| | 3 | 2 | 0 | 4 | 3 | -1 | 8 | 0 | 1 | 2 | -1 | -2 | 1 | 1 | 2 | 0 | -3 |
| | 4 | 0 | 1 | 1 | -5 | 0 | 1 | 0 | -2 | -3 | -7 | 2 | 0 | -1 | 0 | 2 | -1 |
| | 5 | 2 | -2 | 2 | 2 | 2 | 4 | 4 | 1 | 2 | 1 | -2 | 2 | 0 | -2 | 0 | -2 |
| | 6 | 2 | 1 | 3 | -2 | 4 | 3 | 0 | 2 | 4 | 2 | 0 | 2 | -2 | 2 | 3 | -7 |
| a ₁ c ₂ (b ₁) | 1 | -3 | -1 | -6 | 4 | 0 | -1 | 6 | 4 | -3 | 1 | 2 | 4 | -1 | -3 | 1 | -5 |
| | 2 | -6 | 1 | -1 | 1 | 1 | 4 | 2 | 3 | -3 | 4 | 5 | 0 | 0 | 0 | -3 | -5 |
| | 3 | 0 | 3 | -1 | 8 | 0 | -2 | 4 | -2 | 2 | -3 | 2 | 3 | 1 | 0 | 0 | 1 |
| | 4 | -1 | 1 | 8 | 0 | 0 | -2 | 1 | 1 | 1 | 5 | 2 | 3 | 1 | 4 | -5 | -6 |
| | 5 | 1 | -1 | 2 | 3 | 2 | -1 | 2 | 2 | 1 | -6 | 5 | 0 | -2 | 0 | 2 | 1 |
| | 6 | -3 | 4 | 3 | -1 | 8 | -7 | 7 | -3 | -1 | -6 | -3 | -2 | 3 | -1 | -6 | 6 |
| a ₁ b ₂₁ | 1 | 5 | 2 | 2 | -1 | 9 | -3 | 8 | 1 | 5 | 1 | 0 | 2 | 3 | -1 | 0 | 7 |
| | 2 | -1 | -1 | 5 | 4 | 5 | -1 | 0 | 1 | 0 | 1 | 3 | -2 | 0 | -5 | 0 | -1 |
| | 3 | -3 | -1 | 1 | 4 | 0 | -2 | 4 | -2 | 2 | 4 | 0 | -5 | -1 | -1 | 1 | 0 |
| | 4 | -6 | 3 | -2 | 4 | -2 | 0 | -8 | 0 | -3 | 4 | 0 | -3 | -2 | -6 | 8 | 6 |
| | 5 | 1 | -1 | -2 | -3 | 3 | 0 | 4 | 0 | -3 | 3 | -2 | -1 | -2 | 1 | 3 | 2 |
| | 6 | 3 | 0 | 8 | 0 | 0 | 3 | 0 | 0 | -1 | 1 | -2 | 1 | 3 | 1 | 4 | 4 |
| a ₁ b ₂₂ | 1 | -2 | 1 | -2 | 5 | 3 | -2 | -3 | -2 | 1 | 1 | 3 | -1 | 1 | 2 | 1 | -1 |
| | 2 | 1 | 2 | -5 | 0 | -6 | -1 | -2 | 0 | -6 | 2 | -3 | 0 | -5 | -2 | -3 | 1 |
| | 3 | -2 | 0 | 1 | -5 | 4 | 5 | -1 | -1 | 0 | -3 | -2 | 0 | 4 | 1 | 0 | -1 |
| | 4 | 2 | 3 | 1 | 1 | -1 | 0 | 4 | 2 | 1 | 1 | -3 | 1 | -3 | 1 | -5 | 2 |
| | 5 | -2 | -1 | 2 | 0 | 0 | 0 | 0 | -2 | -1 | 4 | -2 | 0 | 7 | 0 | 2 | 5 |
| | 6 | -6 | 1 | 10 | -3 | -2 | -2 | 3 | 3 | 6 | 2 | 4 | -1 | 5 | -7 | 1 | 1 |

DIFFERENCE SCORES PRE AND POST -- 16 PF

| Group | S | A | B | C | E | F | G | H | I | L | M | N | O | Q1 | Q2 | Q3 | Q4 |
|----------------------------------|----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| a2c1(b1) | 1 | 3 | -1 | 0 | -1 | -3 | 5 | -1 | -2 | 0 | 4 | -1 | -3 | -5 | -2 | -3 | 1 |
| | 2 | 1 | -2 | -4 | 1 | -1 | -1 | -3 | 1 | 5 | -5 | 4 | 1 | -3 | 6 | -1 | 10 |
| | 3 | 1 | 1 | 3 | -1 | 3 | -8 | 6 | -1 | 0 | -5 | -1 | -1 | 5 | -6 | -5 | -3 |
| | 4 | 4 | -1 | 3 | 3 | 2 | 0 | -1 | -1 | -3 | -1 | -2 | -2 | -6 | -2 | 3 | -1 |
| | 5 | -4 | 1 | 0 | 8 | -1 | -1 | 3 | 0 | -8 | 2 | 2 | -7 | 0 | 0 | -3 | -4 |
| | 6 | 1 | -1 | -7 | 2 | 2 | -2 | 0 | -1 | 0 | -3 | 1 | -4 | -4 | -5 | 1 | 0 |
| | 7 | 2 | 2 | 3 | 5 | 5 | -6 | 5 | -1 | 3 | -2 | -2 | 2 | 1 | -6 | -4 | -2 |
| a2c2(b1) | 1 | 2 | -1 | 2 | 0 | 3 | 2 | 0 | 0 | 1 | -7 | 4 | 4 | 3 | 3 | 2 | 3 |
| | 2 | 0 | 1 | 1 | 7 | -3 | -3 | 4 | 0 | -2 | 2 | 3 | -5 | -1 | 1 | 1 | -3 |
| | 3 | -6 | 1 | 1 | 0 | -1 | 1 | 8 | 0 | -9 | 0 | -4 | -3 | 1 | -6 | 0 | -6 |
| | 4 | 4 | -1 | 2 | 3 | -4 | -2 | -4 | 3 | -5 | -1 | -2 | -4 | -4 | -5 | 0 | -9 |
| | 5 | -3 | -4 | 3 | -1 | 8 | -7 | 7 | -3 | -1 | -6 | -3 | -2 | 3 | -1 | -6 | 6 |
| | 6 | 1 | 2 | 7 | -3 | 10 | 0 | 4 | 3 | 3 | 6 | 4 | -1 | 0 | -2 | -1 | -8 |
| a2b21 (Data for 1 missing) | 2 | -1 | -1 | 5 | 4 | 5 | -1 | 0 | 1 | 0 | 1 | 3 | -2 | 0 | -5 | 0 | -1 |
| | 3 | -2 | -1 | 2 | 0 | 0 | 0 | 0 | -2 | -1 | 4 | -2 | 0 | 7 | 0 | 2 | 5 |
| | 4 | 0 | -2 | 6 | 3 | 5 | 1 | 4 | 0 | 3 | 1 | -4 | 1 | -3 | -4 | 0 | 4 |
| | 5 | 5 | -3 | 0 | 0 | -2 | 3 | -5 | -3 | -1 | 1 | 0 | -4 | 3 | 1 | 1 | 1 |
| | 6 | 3 | 0 | 8 | 0 | 0 | -3 | 0 | 0 | -1 | 1 | -2 | 1 | 3 | 1 | 4 | -4 |
| | 7 | 1 | 2 | -5 | 0 | -6 | -1 | -2 | 0 | -6 | 2 | -3 | 0 | -5 | -2 | -3 | 1 |
| | a2b22 (Data for 2 missing) | 1 | 1 | 4 | 5 | 3 | 0 | 1 | -1 | 1 | -3 | 3 | 5 | -4 | -9 | 0 | 0 |
| 3 | | 4 | -2 | 0 | 2 | -1 | -2 | 4 | -1 | -1 | 3 | 0 | -4 | 1 | 1 | -1 | 0 |
| 4 | | 2 | 1 | 0 | 2 | 1 | -1 | -1 | 0 | -1 | -7 | 0 | -1 | -3 | 2 | -1 | -1 |
| 5 | | 3 | -1 | -3 | -5 | 1 | -1 | -1 | -1 | 2 | -1 | -3 | -2 | -2 | 0 | -1 | -1 |
| 6 | | 0 | -4 | 3 | 2 | 0 | -3 | 1 | 4 | 1 | -2 | 3 | 0 | 2 | -4 | 0 | -7 |

PAIRWISE COMPARISONS OF CHANGES IN FACTORS -- 16 PF

| | Q2 | G | *O | M | *Q3 | *Q4 | I | B | N | A | Q1 | *L | *H | F | E | *C |
|-----|----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Q2 | -- | 2.3 | 7.1 | 16.1 | 16.1 | 16.1 | 18.4 | 19.5 | 20.3 | 23.3 | 25.9 | 32.3 | 33.0 | 37.9 | 41.6 | 48.0 |
| G | -- | -- | 4.9 | 13.9 | 13.9 | 13.9 | 16.1 | 17.3 | 18.0 | 21.0 | 23.6 | 30.0 | 30.8 | 35.6 | 39.4 | 45.8 |
| *O | -- | -- | -- | 9.0 | 9.0 | 9.0 | 11.3 | 12.4 | 13.1 | 16.1 | 18.7 | 25.1 | 25.9 | 30.8 | 34.5 | 40.9 |
| M | -- | -- | -- | -- | 0.0 | 0.0 | 2.3 | 3.4 | 4.1 | 7.1 | 9.7 | 16.0 | 16.9 | 21.8 | 25.5 | 31.9 |
| *Q3 | -- | -- | -- | -- | -- | 0.0 | 2.3 | 3.4 | 4.1 | 7.1 | 9.7 | 16.0 | 16.9 | 21.8 | 25.5 | 31.9 |
| *Q4 | -- | -- | -- | -- | -- | -- | 2.3 | 3.4 | 4.1 | 7.1 | 9.7 | 16.0 | 16.9 | 21.8 | 25.5 | 31.9 |
| I | -- | -- | -- | -- | -- | -- | -- | 1.1 | 1.9 | 4.9 | 7.5 | 13.9 | 14.6 | 19.5 | 23.3 | 29.6 |
| B | -- | -- | -- | -- | -- | -- | -- | -- | .7 | 3.8 | 6.4 | 12.8 | 12.9 | 18.4 | 22.1 | 28.5 |
| N | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.0 | 4.9 | 12.0 | 12.8 | 17.6 | 21.4 | 27.8 |
| A | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2.6 | 9.0 | 9.8 | 14.6 | 18.4 | 24.8 |
| Q1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.4 | 7.1 | 12.0 | 15.8 | 22.1 |
| *L | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | .8 | 5.6 | 9.4 | 15.8 |
| *H | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4.9 | 8.6 | 15.0 |
| F | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3.7 | 10.1 |
| E | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.4 |
| *C | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

* Second-order anxiety factor

** p < .01 F = 6.29
(Statistic used -- Tukey's HSD)

$$HSD = q_{\alpha, v} \sqrt{\frac{MS \text{ error}}{n}}$$

Appendix B

EGO-STRENGTH SCALE (Barron 1953)

Variable: This scale was originally devised to predict the response of psycho-neurotic patients to psychotherapy. However, further consideration of item content and correlates of the scale led Barron to believe it would be a good measure of the general aspects of effective functioning usually subsumed, in clinical psychology, under the term "ego-strength."

Description: The scale consists of 68 items to which the subject responds "true" or "false" indicating whether or not the statement applies to him. The original pool of 559 MMPI items was administered to 33 psychoneurotic patients prior to psychotherapy. After a period of 6 months, the 33 subjects were rated as having clearly improved or as being unimproved by two skilled judges who were acquainted with the course of therapy (their degree of agreement was reflected by an r of .91). The final 68 items were chosen on the basis of significant correlations with the rated improvement of these patients.

The test is scored by assigning 1 point for every response indicating "ego-strength" (the "ego-strength" responses are indicated in the list of items below). Scores may range from 0 to 68 with a higher score indicating greater "ego-strength."

Sample: The respondents involved in the construction of this scale were 33 psychoneurotic patients at the Institute of Personality Assessment and Research at Berkeley (IPAR). After 6 months, 17 were judged to have improved and 16 were judged to be unimproved.

Reliability: For a different sample of 126 clinic patients, the odd-even reliability was .76. Test-retest reliability after three months for a sample of 30 patients was .72.

Validity: After an intensive 3-day psychological assessment at IPAR, staff members filled out adjective check lists for each of 40 graduate students who had taken the Ego-Strength (E-S) Scale and other personality tests. The check lists for the 10 highest and 10 lowest on the E-S were compared. The following adjectives showed differences between "highs" and "lows" at the .05 level:

Adjectives checked more frequently about high-scoring subjects: alert, adventurous, determined, independent, initiative, outspoken, persistent, reliable, resourceful, responsible.

Adjectives checked more frequently about low-scoring subjects: affected, dependent, effeminate, mannerly, mild.

Staff members rated these same subjects on a number of psychological variables (inferred from behavior in an assessment setting). The E-S Scale correlated significantly with vitality (.38), drive (.41), submissiveness (-.40), effeminacy (-.34) and intraceptiveness (-.34). E-S also correlated .24 with self-confidence, .24 with poise and .25 with breadth of interest.

The author felt that in order for a measure of ego-strength to be in accordance with psychoanalytic theory, scores in it should be positively correlated with standardized measures of intelligence. For the original sample of 33, the E-S Scale correlated .44 with the Wechsler-Bellevue Test. It correlated .36 with the Primary Mental Abilities Test, and .47 with the Intellectual Efficiency Scale of the CPI for a sample of 160 Air Force officers. For the graduate student sample, the E-S correlated .39 with the Miller Analogies Test, and .52 with the Intellectual Efficiency Scale.

As anticipated, in the graduate student sample, E-S correlated -.33 with the Prejudice Scale of the MMPI, and -.46 with the California E Scale, while for the officer sample, it correlated -.42 with the Tolerance Scale of the CIP and -.23 with the E Scale.

Cross validation studies were conducted employing three clinical samples: 53 patients given psychotherapy because of delayed recovery from injury or physical disease, 52 patients given brief psychotherapy during the preceding five years at Langley Porter Clinic, and 46 patients currently receiving therapy at a general hospital. All subjects took the MMPI at the beginning of therapy and were rated on degree of improvement following therapy. For the first sample, the ratings correlated .42 with the E-S scale. For the second sample an eta of .54 was obtained between improvement ratings and E-S score. For the third sample, the improvement ratings correlated .38 with E-S.

Location: Barron, F. "An ego-strength scale which predicts response to psychotherapy," Journal of Consulting Psychology, 1953, 17, 327-333.

Administration: Estimated administration time is 30 minutes.

Results and Comments: This instrument is almost assuredly not unidimensional. Barron grouped the 68 items into eight clusters whose labels suggest the diversity underlying the single concept of "ego-strength": physical functioning and physiological stability, psychasthenia and seclusiveness, attitudes toward religion, moral posture, sense of reality, personal adequacy, phobias and infantile anxieties, and "miscellaneous." High and low

ego-strength are characterized by the following patterning of these categories:

High (associated with improvement in psychotherapy): (a) good physical functioning; (b) spontaneity, ability to share emotional experiences; (c) conventional church membership, but nonfundamentalist and undogmatic in religious beliefs; (d) permissive morality; (e) good contact with reality; (f) feelings of personal adequacy and vitality; (g) physical courage and lack of fear.

Low (associated with lack of improvement in psychotherapy): (a) many and chronic physical ailments; (b) broodiness, inhibition, a strong need for emotional seclusion, worrisomeness; (c) intense religious experiences, belief in prayers, miracles, the Bible; (d) repressive and primitive morality; (e) dissociation and ego-alienation; (f) confusion, submissiveness, chronic fatigue; (g) phobias and infantile anxieties.

Several of these components seem to be similar to constructs measured by other scales in this chapter, such as personal efficacy and attitudes toward the body. Others seem to overlap with measures in other chapters, for example, attitude toward the Bible and authoritarian morality (repressive and primitive).

This assortment of characteristics suggests again the possible inter-relation of several constructs mentioned in this book. Nevertheless, it is not at all clear that "ego-strength" will be the best theoretical concept to unite these apparently heterogeneous constructs, when and if such a union becomes possible. Comparative studies, using the various measures suggested and diverse populations, could prove worthwhile in working toward a coherent theory and a more efficient set of measuring instruments.

Note: Barron continually speaks in his article of 68 items, but he lists only 66. In a later note of correction (Journal of Consulting Psychology, 1954, 18, 150) he supplies the missing items but fails to tell what categories they are from: "In my home we have always had the ordinary necessities (such as enough food, clothing, etc.) (T) and "My sleep is fitful and disturbed (F)."

EGO-STRENGTH SCALE

(Ego-strength responses are indicated in parentheses)

A. Physical functioning and physiological stability.

1. During the past few years I have been well most of the time. (T)
2. I am in just as good physical health as most of my friends. (T)
3. I have never had a fainting spell. (T)
4. I feel weak all over much of the time. (F)
5. My hands have not become clumsy or awkward. (T)
6. I have a cough most of the time. (F)
7. I have a good appetite. (T)
8. I have diarrhea once a month or more. (F)
9. At times I hear so well it bothers me. (F)
10. I seldom worry about my health. (T)

B. Psychasthenia and seclusiveness.

11. I feel unable to tell anyone all about myself. (F)
12. I feel sympathetic towards people who tend to hang on to their griefs and troubles. (F)
13. I brood a great deal. (F)
14. I frequently find myself worrying about something. (F)
15. I have met problems so full of possibilities that I have been unable to make up my mind about them. (F)
16. I get mad easily and then get over it soon. (T)
17. When I leave home, I do not worry about whether the door is locked and the windows closed. (T)
18. Sometimes some unimportant thought will run through my mind and bother me for days. (F)
19. Often I cross the street in order not to meet someone I see. (F)
20. I dream frequently about things that are best kept to myself. (F)

C. Attitudes toward religion.

21. I go to church almost every week. (T)
22. I pray several times every week. (F)
23. Christ performed miracles such as changing water into wine. (F)
24. Everything is turning out just like the prophets of the Bible said it would. (F)
25. I have had some very unusual religious experiences. (F)
26. I believe my sins are unpardonable. (F)

D. Moral posture.

27. I would certainly enjoy beating a crook at his own game. (T)
28. When I get bored, I like to stir up some excitement. (T)
29. I do many things which I regret afterwards (I regret things more or more often than others seem to). (F)
30. I can be friendly with people who do things which I consider wrong. (T)

31. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right. (T)
32. I never attend a sexy show if I can avoid it. (F)
33. I like to flirt. (T)
34. I am attracted by members of the opposite sex. (T)
35. I like to talk about sex. (T)
36. I do not like to see women smoke. (F)
37. Sometimes I enjoy hurting persons I love. (T)

E. Sense of reality.

38. I have had very peculiar and strange experiences. (F)
39. I have strange and peculiar thoughts. (F)
40. I have had blank spells in which my activities were interrupted and I did not know what was going on around me. (F)
41. When I am with people, I am bothered by hearing very queer things. (F)
42. At times I have fits of laughing and crying that I cannot control. (F)
43. I have had no difficulty in keeping my balance in walking. (T)
44. Parts of my body often have feeling like burning, tingling, crawling, or like "going to sleep." (F)
45. My skin seems to be unusually sensitive to touch. (F)

F. Personal adequacy, ability to cope.

46. My plans have frequently seemed so full of difficulties that I have had to give them up. (F)
47. I am easily downed in an argument. (F)
48. I find it hard to keep my mind on a task or job. (F)
49. My way of doing things is apt to be misunderstood by others. (F)
50. I sometimes feel that I am about to go to pieces. (F)
51. I feel tired a good deal of the time. (F)
52. If I were an artist, I would like to draw flowers. (F)
53. If I were an artist, I would like to draw children. (F)
54. I like collecting flowers or growing house plants. (F)
55. I like to cook. (F)
56. When someone says silly or ignorant things about something I know, I try to set him right. (T)

G. Phobias, Infantile Anxieties.

57. I am not afraid of fire. (T)
58. I am made nervous by certain animals. (F)
59. Dirt frightens or disgusts me. (F)
60. I am afraid of finding myself in a closet or small closed place. (F)
61. I have often been frightened in the middle of the night. (F)

H. Miscellaneous.

62. I like science. (T)
63. I think Lincoln was greater than Washington. (T)

64. I very much like horseback riding. (F)
65. The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me. (T)
66. One or more members of my family is very nervous. (T)

Appendix C

16 PERSONALITY FACTOR DESCRIPTION

The Sixteen Personality Factor Questionnaire (16 PF) is designed to measure sixteen personality factors that were derived from factorial analysis and are considered by Cattell to be basic source traits. It includes a second-order anxiety factor, a measure of anxiety that is loaded by the following factors: C-, H-, L+, O+, Q₃-, and Q₄+. The primary anxiety factor loading is C, O, and Q₄. For high anxiety, C-, O+, and Q₄+ would be the pattern. If therapeutic progress is made, it would be expected that the anxiety factors in the 16 PF would decline.

The 16 PF includes the following basic source traits and their description as found in Cattell, Eber, and Tatsuoka.

Factor ALow A-

Critical

Stands by His Own Ideas

Cool, Aloof

Precise, Objective

Distrustful, Skeptical

Rigid

Cold

Prone to Sulk

High A+

Good Natured, Easygoing

Ready to Cooperate, Likes to Participate

Attentive to People

Softhearted, Casual

Trustful

Adaptable, Careless, "Goes Along"

Warmhearted

Laughs Readily

Factor BLow B-

Low Mental Capacity
 Unable to Handle Abstract
 Problems

High B+

High General Metal Capacity
 Insightful, Fast-learning, In-
 tellectually Adaptable

Factor CLow C-

Emotional Instability,
 Ego Weakness
 Gets Emotional When Frustrated
 Changeable in Attitudes and
 Interests
 Easily Perturbed
 Evasive of Responsibilities,
 Tending to Give Up
 Worrying
 Gets Into Fights and Problem
 Situations

High C+

Emotionally Stable,
 Ego Strength
 Emotionally Mature
 Stable, Constant in Interests
 Calm
 Does Not Let Emotional Needs
 Obscure Realities of a
 Situation, Adjusts to Facts
 Unruffled
 Shows Restraint in Avoiding
 Difficulties

Factor ELow E-

Submissive
 Dependent
 Considerate, Diplomatic
 Expressive
 Conventional, Conforming
 Easily Upset by Authority
 Humble

High E+

Assertive
 Independent-minded
 Stern, Hostile
 Solemn
 Unconventional, Rebellious
 Headstrong
 Admiration Demanding

Factor FLow F-

Desurgency

High F+

Surgency

Factor F (Cont.)Low F-

Silent, Introspective
 Concerned, Reflective
 Incommunicative, Sticks to Inner
 values
 Slow, Cautious

High F+

Cheerful
 Happy-go-lucky
 Frank, Expressive, Reflects
 the Group
 Quick and Alert

Factor GLow G-

Low Superego Strength
 Lack of Acceptance of Group Moral
 Standards
 Disregards Rules, Expedient
 Quitting, Fickle
 Frivolous
 Self-indulgent
 Slack, Indolent
 Undependable
 Disregards Obligations to People

High G+

Superego Strength
 Character
 Conscientious, Persistent,
 Moralistic, Staid
 Persevering, Determined
 Responsible
 Emotionally Disciplined
 Consistently Ordered
 Conscientious, Dominated by
 Sense of Duty
 Concerned about Moral Standards
 and Rules

Factor HLow H-

Shy, Timid, Restrained, Threat-
 sensitive
 Shy, Withdrawn
 Retiring in Face of Opposite Sex
 Emotionally Cautious

High H+

Adventurous, Thick-Skinned,
 Socially Bold
 Adventurous, Likes Meeting People
 Active, Overt Interest in Oppo-
 site Sex
 Responsive, Genial

Factor H (Cont.)Low H-

Apt to be Embittered
 Restrained, Rule-bound
 Restricted Interests
 Careful, Considerate, Quick to See
 Dangers

High H+

Friendly
 Impulsive
 Emotional and Artistic Interest
 Carefree, Does Not See Danger
 Signals

Factor ILow I-

Tough-minded, Rejects Illusions
 Unsentimental, Expects Little
 Self-reliant, Taking Responsibility
 Hard (to point of cynicism)
 Few Artistic Responses (but not
 lacking in taste)
 Unaffected by "Fancies"
 Acts on Practical, Logical Evidence
 Keeps to the Point
 Does not Dwell on Physical Disa-
 bilities

High I+

Tender-minded, Sensitive,
 Dependent, Overprotected
 Fidgety, Expecting Affection
 and Attention
 Clinging, Insecure, Seeking
 Help and Sympathy
 Kindly, Gentle, Indulgent, to
 Self and Others
 Artistically Fastidious,
 Affected, Theatrical
 Imaginative in Inner Life and
 in Conversation
 Acts on Sensitive Intuition
 Attention-seeking, Flighty
 Hypochondriacal, Anxious About
 Self

Factor LLow L-

Trusting, Accepting Conditions
 Accepts Personal Unimportance
 Pliant to Changes
 Unsuspecting of Hostility

High L+

Suspecting, Jealous
 Jealous
 Dogmatic
 Suspicious of Interference

Factor L (Cont.)Low L-

Ready to Forget Difficulties

Understanding and Permissive,
Tolerant

Lax over Correcting People

Conciliatory

High L+

Dwelling upon Frustrations

Tyrannical

Demands People Accept Responsibility over Errors

Irritable

Factor MLow M-

Practical, Has "Down to Earth" Concerns

Conventional, Alert to Practical Needs

Concerned with Immediate Interests and Issues

Prosaic, Avoids Anything Far-fetched

Guided by Objective Realities, Dependable in Practical Judgment

Earnest, Concerned or Worried, but Steady

High M+

Imaginative, Bohemian, Absent Minded

Unconventional, Absorbed in Ideas

Interested in Art, Theory, Basic Beliefs

Imaginatively Enthralled by Inner Creations

Fanciful, Easily Seduced from Practical Judgment

Generally Enthused, but Occasional Hysterical Swings of "Giving Up"

Factor NLow N-

Naivete, Forthright, Unpretentious

Genuine, but Socially Clumsy

Has Vague and Injudicious Mind

Gregarious, Gets Warmly Emotionally Involved

Spontaneous, Natural

Has Simple Tastes

High N+

Shrewdness, Astute, Worldly

Polished, Socially Aware

Has Exact, Calculating Mind

Emotionally Detached and Disciplined

Artful

Esthetically Fastidious

Factor N (Cont.)Low N-

Lacking Self-insight
 Unskilled in Analyzing Motives
 Content with What Comes
 Has Blind Trust in Human Nature

High N+

Insightful Regarding Self
 Insightful Regarding Others
 Ambitious, Possibly Insecure
 Smart, "Cuts Corners"

Factor OLow O-

Untroubled Adequacy, Self-assured,
 Placid, Secure, Complacent

 Self-confident

 Cheerful, Resilient

 Impenitent, Placid

 Expedient, Insensitive to People's
 Approval or Disapproval

 Does Not Care

 Rudely Vigorous

 No Fears

 Given to Simple Action

High O+

Guilt Proneness, Apprehensive,
 Self-reproaching, Insecure,
 Worrying, Troubled

 Worrying, Anxious

 Depressed, Cries Easily

 Easily Touched, Overcome by
 Moods

 Strong Sense of Obligation,
 Sensitive to People's Appro-
 val or Disapproval

 Scrupulous, Fussy

 Hypochondriacal and Inadequate

 Phobic Symptoms

 Lonely, Brooding

Factor Q1Low Q1-

Conservatism of Temperament

 Conservative, Respecting Estab-
 lished Ideas, Tolerant of
 Traditional Difficulties

High Q1+

Radicalism

 Experimenting, Liberal,
 Analytical, Free-thinking

Factor Q2Low Q2-

Group Dependency

Sociably Group Dependent, A
"joiner", and Sound FollowerHigh Q2+

Self-sufficiency

Self-sufficient, Resourceful,
Prefers Own DecisionsFactor Q3Low Q3-

Low Self-sentiment, Integration

Uncontrolled, Lax, Follows Own
Urges, Careless of Social RulesHigh Q3+

High Strength of Self-sentiment

Controlled, Exacting Will
Power, Socially Precise,
Compulsive, Following
Self-imageFactor Q4Low Q4-

Low Ergic Tension

Relaxed, Tranquil, Torpid,
Unfrustrated, ComposedHigh Q4+

High Ergic Tension

Tense, Frustrated, Driven,
Overwrought, Fretful

Cattell, Eber, and Tatsuoka indicate that "the kinds of behavior placed at the top of each of the...source trait (factor) description lists are more strongly characteristic (more highly 'loaded') than those lower in the list...."¹

In this study, the 16 PF is used supportively with the Es scale. It is also hoped that it will show the direction in which change (if any) is occurring in basic, personality, source traits as a result of the group experience.

¹Cattell, Eber, Tatsuoka, Op. Cit., pp. 77-109.

Appendix D

SYLLABUS

GUIDANCE 425 - INDIVIDUAL APPRAISAL AND GROUP PROCESSES

Fall Semester 1975-76
Dr. John A. Wellington

Purposes

1. To develop a philosophy of interpersonal relationships.
2. To initiate that philosophy in behavior.
3. To inspect your basic need systems developmentally.
4. To evaluate yourself in regard to the nature of your goal choice in Pupil Personnel Work or Student Personnel Work in Higher Education.
5. To develop skills in basic interpersonal relationships.
6. To formulate a concept of the place for diagnostics in helping relationships.

Required Reading

1. Groups: Theory and Practice. Napier-Gershenfeld. Houghton-Mifflin Co., 1973.
2. Any text explaining Maslow's system of needs, such as, Motivation and Personality.

Recommended Reading

Carl Rogers on Encounter Groups. Rogers, Harper-Row, 1970

The required text is to be read in the first week. A depth reading can then follow through the course.

Project

- I. 1. Socio-cultural pattern into which you were born covering attitudes concerning religion, family, economics, socialization, politics, mores of sub-culture.
2. Using Maslow's need system as a basis:
 - a. development from birth to school attendance.
 - b. school attendance to puberty.
 - c. puberty to completion of high school.
 - d. young adulthood to present.

Covering needs and evolution of attitudes and values through inter-relationships with family, surrogate figures, sib relationships, peer groups in school and community, vocational and avocational pursuits, and relationship to a higher being. Written in first person and working with feelings at an affective, not a cognitive level.

3. Perceptions of Self "I Am" - As a personality who has assets and liabilities in being affective in relationships to others as well as to the self.
4. Hopes and Fears - Toward self and others and looking at the present, immediate future, and the future. A fear is not to be dealt with as the opposite of hope.
5. Your goal choice - On what bases have you selected your goal in a field concentrating on helping relationships. This means functioning at a level of honesty which may not be comfortable.

II. Testing

1. Tests of mental ability, verbal and quantitative abilities, interest and personality inventories. The following format is required for test reporting:
 - a. Name and form and norms of test
 - b. Purposes
 - c. Results
 - d. Interpretation
 - e. Reactions
2. Test reactions are to be written immediately after you complete any test or inventory whether at school or at home. This deals with your personal feelings about the experience.

III. Synthesis

1. Parts I and II are developed into a synthesis covering abilities, interests, and personalities.
2. From the synthesis, what factors support or do not support goal choices: These should be developed into recommendations covering abilities, interest, and personality variables.

Part I is due on Wednesday, November 19, 1975. No paper will be accepted after that date except for hospitalization. Failure to submit a paper will require withdrawal from the course. The total project will be due on Monday, January 5, 1976. No incompletes will be assigned in the course; therefore, all projects must be turned in on that date.

The experience in the groups and the experience in looking at oneself through the paper are interrelated toward each person gaining a realistic perception of himself as a human being in all interrelationships working toward a goal of helping others. Therefore, by making a commitment through enrolling in this course, you are expected to make the full commitment through reading, group processes, individual processes, and self-examination and attendance at every class and group session. If you cannot or will not make the necessary commitment, then you should withdraw immediately. Honesty with yourself and others in your group is

the foundation for meaningful growth.

GROUP DYNAMICS

DR. J. MAYO

Course objectives:

1. Develop a knowledge of group processes.
2. Develop an understanding of the relationship between group goals and group process in task groups.
3. Develop group participant and observer skills.
4. Apply democratic group procedures to groups in field situations.

Textbooks:

Shaw, M. E., Group Dynamics, New York, McGraw-Hill, 1971

Appelbaum, R. L., The Process of Group Communication, Chicago, Science Research Associates, Inc., 1974.

Major Topics of Study:

I. Current Issues in small group study

A. Theory

1. Types of groups
2. Research

B. Practice

1. Participant skills
2. Observer skills

C. References

1. Cartwright and Zander, Chapters 1 & 2
2. Shepherd, Chapters 2 & 3
3. Shaw, Chapter 1

II. Formation of Groups

A. Theory

B. Practice

1. Structure (spatial relationships)
2. Dynamics (attraction)

C. References

1. Cartwright and Zander, Chapters 24, 25, 28, 29
2. Bonner, Chapter 12
3. Haiman, Chapter 4
4. Hare, Chapter 4
5. Shepherd, pp. 58-9, 81-4
6. Shaw, Chapter 4

III Membership Roles

A. Theory

B. Practice

1. Task and Maintenance
2. Leadership
3. Role conflict and changing roles

C. References

1. Hollander and Hunt, Article 34
2. Lewin, Lippitt, and White, "Patterns of Behavior in Experimentally Created Social Climates," Journal of Social Psychology.
3. Shaw
4. Napier, Chapters 2 & 5
5. Lippitt & White, Autocracy & Democracy

IV. Status, Power, and Stereotyping

A. Theory

1. Sources of power
2. Effects of power

B. Practice

1. Authority
2. Social Climate

C. References

1. Hollander and Hunt
2. Shaw
3. Cartwright & Zander

V. Norms and Goals

A. Theory

B. Practice

1. Setting goals
 - a. Direction
 - b. Clarity
 - c. Definition
2. Norms
 - a. Conformity
 - c. Deviance

C. References

1. Cartwright and Zander
2. Shepherd
3. Leavitt
4. Hare
5. Bonner
6. Shaw
7. Napier

VI. Communication

A. Theory

B. Practice

1. Feedback
2. Listening Skills

C. References

1. Cartwright and Zander
2. Shepherd
3. Hare
4. Shaw
5. Napier

VII. Conflict Management

- A. Theory - force field analysis and variations
- B. Practice
 - 1. Intragroup Forces
 - a. Cohesion
 - b. Disruption
 - c. Consensus
 - 2. Extragroup Forces
 - a. Reference groups
 - b. Competition
 - c. Negotiation
- C. References
 - 1. Cartwright and Zander
 - 2. Shepherd
 - 3. Bonner
 - 4. Festinger, Theory of Dissonance

VIII. Group Maturity

- A. Theory
 - 1. Phases of growth
 - 2. Patterns of growth
- B. Practice
- C. References
 - 1. Shepherd
 - 2. Haiman
 - 3. Bennis, Bennett, and Chin

IX. Application to other settings

- A. Theory
- B. Practice
 - 1. Education
 - 2. Industry
 - 3. Community Relations
- C. References
 - 1. Leavitt
 - 2. Argyris, Life

BIBLIOGRAPHY

- Albrock, Robert C.: "Participative Management: Time for a Second Look," Fortune, May, 1967.
- Alcorn, M. and Linley J.: Issues in Curriculum Development, World Book Co. 1959.
- Argyris, Chris: "We Must Make Work Worthwhile" Life, May 8, 1967.
- Bany & Johnson: Classroom Group Behavior, Macmillan Co. 1964.
- Benne, Kenneth D. and Muntyan, Bozider: Human Relations in Curriculum Change. New York: Dryden, 1951.

- Bennis, Bennett & Chin: The Planning of Change. New York, Holt, Rinehart & Winston, 1964.
- Blake, Robert R. and Mouton, Jane S.: Theory and Practice of Human Relations Training, The Hogg Foundation for Mental Hygiene, 1955. Austin, Texas.
- Bonner, Group Dynamics, Principles & Applications, 1959.
- Bradford, Leland P.: "A Fundamental of Democracy", Adult Education, Vol. II, No. 4, April, 1952.
- Bradford, Leland P. Lippitt, Gordon L.: "The Individual Counts in Effective Group Relations," NEA Journal, November, 1954.
- Cartwright, Dorwin, and Zander, Alvin (Eds.): Group Dynamics, Evanston, Ill.: Row, Peterson, 1968. (Series of basic papers on research and theory in group dynamics).
- Cartwright, Dorwin, "Achieving Change in People: Some Applications of Group Dynamics Theory." Human Relations. Vol. IV, No. 4, 1951.
- Chase, Stuart: Roads to Agreement, New York, Harpers, 1951, (approaches to the problem of obtaining agreement).
- Explorations in Human Relations Training. An assessment of experience, 1947-1953, NTLGD, 1954.
- Gardiner, Burleigh B. and Moore, David G.: Human Relations in Industry. Chicago: Richard D. Irwin. 1950.
- Gordon, T.: Group Centered Leadership. Boston: Houghton-Mifflin, 1955.
- Haiman, F. S.: Group Leadership and Democratic Action. Houghton-Mifflin, 1951.
- Glanz, E. C.: Groups in Guidance, Allyn and Bacon, 1962.
- Hall, D. M.: Dynamics of Group Action, The Interstate, Danville, Ill., 1960
- Hare, Paul A.: Handbook of Small Group Research, Free Press of Chicago, New York, 1964.
- Hollander, Edwin P. and Hunt, Raymond G.: Current Perspectives in Social Psychology: Readings with Commentary. New York; Oxford University Press, 1967.
- Lerner, Harry H. and Kelman, Herbert C. (issue editors), Group Methods in Psychotherapy, Social Work and Adult Education. Journal of Social Issues, Vol. VIII, No. 2, 1952.

- Leavitt, Harold J.: Managerial Psychology, University of Chicago Press, 1959.
- Lewin, Kurt: Field Theory in Social Science. New York, Harpers, 1951.
- Lifton, Working With Groups, Wiley, 1966.
- Lindsay, Handbook of Social Psychology, Vol. I - Chapter 5.
- Lippitt, Watson, Wastley: The Dynamics of Planned Change, New York, Harcourt Brace, 1958.
- Lewin, Kurt: Resolving Social Conflicts. New York: Harpers, 1948.
- Luft, Joseph: Group Processes, Palo Alto, National Press, 1963.
- Luft, Joseph: Of Human Interaction.
- Maier, Norman R. F.: Principles of Human Relations, New York: Wiley and Son, 1952.
- Miles, M.: Learning to Work in Groups. Bureau of Publications, Columbia University, New York, 1959.
- Moment & Zalesnik: The Dynamics of Interpersonal Behavior, New York: John Wiley & Son, Inc. 1964.
- Napier & Gershenfeld: Groups, Theory & Experience, Boston, Houghton-Mifflin, 1973.
- Schmuck & Schmuck: Group Processes in the Classroom, W. C. Brown, 1971.
- Shaw, M. E.: Group Dynamics, New York: McGraw-Hill, 1971.
- Shepherd, Clovis: Small Groups, San Francisco, Chandler Pub., 1965.
- Sherif, M. & Sherif, C.: Groups in Harmony and Tension, New York: Harper Brothers, 1953.
- Stogdill: Ind. Behavior and Group Achievement, New York: Oxford University Press, 1959.
- Stock and Thelen: Emotional Dynamics & Group Culture. NTL, 1958.
- Thelen, Herbert A. The Dynamics of Groups at Work. Chicago: University of Chicago Press, 1954.
- White, Ralph K. & Lippitt, Ronald: Autocracy and Democracy, Harper Bros., New York, 1960.
- Zalesnid & Moment: Dynamics of Interpersonal Behavior.

PERIODICALS

Journal of Social Issues. Association Press, 347 Madison Avenue, New York, New York. Quarterly.

Published for the Society for the Psychologic Study of Social Issues, American Psychological Association.

Human Relations. Research for Group Dynamics. University of Michigan, Ann Arbor, Michigan, Quarterly.

Joint publications of the Tavisto Institute of Human Relations. London, England and the Research Center for Group Dynamics, Ann Arbor, Michigan.

Adult Education. Adult Education Association of the United States, 1201 Sixteenth Street, N.W., Washington, D. C.

Educational Leadership. Association for Supervision and Curriculum Development (NEA), 1201 Sixteenth Street, N.W., Washington, D.C.

Journal of Social Psychology, Journal Press, 2 Commercial Street, Provincetown, Mass. Quarterly. Two volumes annually.

Journal of Applied Behavioral Science. National Training Laboratories, (N.T.L. Institute).

Speech Monographs.

Small Group Behavior. Sage Publications, Beverly Hills, California.

GROUP DYNAMICS

REFERENCES FOR UNITS

1. Spatial Relationships

C. & Z.

Shaw

Hall, Ed: The Hidden Dimension, 1966.Lott & Summer, "Seating Arrangements & Status", Journal of Personality & Social Psychology, 1967.Russo, N. F.: "Connotations of Seating Arrangements." Cornell Journal of Social Relations. 1967

Appalbaum

2. Attraction

C & Z

Shaw

Napier

3. Dissonance

C & Z

Festinger's theory

4. Leadership

Appalbaum

Shaw

Shepherd

Haiman (on reading list)

Napier

5. Membership Roles

Benne, K. & Shlats, P., "Functional roles of group members." J. Soc. Iss., 2, 1948.Schein, Edgar, H., Process Consultation

6. Group Goals

Shaw

Bonner

Shepherd

7. Communication

a. Oneway - twoway

Hare

J.A.B.S. - Vol. 5, No. 3, 1969; Lansky, DeWitte, Goldberg

Shaw

Barnlund, Interpersonal Communication.Leavitt, Managerial Psychology.

b. non-verbal

Appalbaum

Shaw

Bonner

Knapp, M. Non-Verbal Communication in Human Interaction

c. Listening

8. Norms & Cohesion
Appalbaum
Napier
Cartwright & Zander
9. Group Maturity
Haiman
C & Z
Shepherd
10. Psychological Membership
Jackson, Jay, "A Space for Conceptualizing Person-Group Relationships," Human Relations, Vol. 12, No. 1, Feb. 1959.
11. Membership
Napier
Shaw
12. Decision Making
Schein - Process Consultation
Napier
13. Problem Solving
Napier
Appalbaum
14. Conflict Management
Appalbaum

APPROVAL SHEET

The dissertation submitted by Evelyn Evans has been read and approved by the five members of her Dissertation Committee.

The final copies have been examined by the chairman of the committee and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the dissertation is now given final approval with reference to content, form, and mechanical accuracy.

The dissertation is therefore accepted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

5 May 1976
Date

John A. Wellington
John A. Wellington, Ph.D.
Chairman of the Committee