THE IMPACT OF STRUCTURED SMALL-GROUP EXPERIENCES ON THE BEHAVIORAL DEVELOPMENT AND GROUP INTERACTION OF NURSING STUDENTS

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ABSTRACT

THE IMPACT OF STRUCTURED SMALL-GROUP EXPERIENCES ON THE BEHAVIORAL DEVELOPMENT AND GROUP INTERACTION OF NURSING STUDENTS

By

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This study was conducted to systematically investigate the impact of structured, small-group experiences on the personal behavioral development and certain group development characteristics of selected second-year nursing students.

Forty-six subjects, constituting two naturally assembled collectives, participated in the small-group behavioral development program. The participants, all second-year students in a two-year diploma school of nursing, resided at two separate residences. Students had been assigned to the residential groups six months prior to the initiation of this project.

The experimental procedure included two types of group formation which were constructed on the basis of scores on the Myers-Briggs Type Indicator. Security groups were formed on the basis of similarity of

behavioral preferences for the purpose of identification and affirmation of behaviors represented in the group. Stimulation groups were formed on the basis of complimentarity and opposition of dominant behaviors for the purpose of understanding, accepting, and acquiring the behaviors represented in the group. Security groups met for one and one-half hours a week for four weeks. After a month of security group meetings, stimulation groups were formed. These groups met for one and one-half to two hours a week for eight weeks. Stimulation groups provided the learning encounters which were designed to broaden each participant's behavioral repertoire by means of new behavioral experiences.

All subjects, treatment and control, were pretested and posttested on the Omnibus Personality Inventory (OPI), Form F, and the Group Dimensions Descriptions Questionnaire (GDDQ). The scales on these instruments constituted the dependent variables in this research design. A correlated t test between the pretest and posttest scores was computed to determine if changes were significantly different from zero at the .05 level of confidence.

Follow-up interviews and student self-report evaluations were conducted with treatment subjects to assess their responses to the project and their perceived personal and group development.

The major hypotheses, that nursing students who participate in the behavioral development program described

in this study demonstrate favorable change in personal and group attitudes, interests, and values are supported by the results.

Data from the experiment can be summarized as follows:

1. Treatment subjects report significant favorable change on the Practical Outlook and Altruism scales of the OPI. Although not significant, the Autonomy, Personal Integration, and Masculinity-Feminity scales show large change constituting a persistent trend in a favorable direction. The overall treatment main effect across all OPI dimensions is favorable.

2. Control subjects indicate significant change on the Impulse Expression and Religious Orientation scales of the OPI. However, the positive direction of this change is questionable since the subjects also report a decrease on the Personal Integration and the Altruism scales, while the Autonomy scale remains unchanged.

3. The treatment group reports significant favorable change on five scales of the GDDQ: Flexibility, Hedonic Tone, Intimacy, Potency, and Stratification. The remaining two scales, Control and Viscidity, indicate change in a favorable direction, but not to as great a degree.

4. The Control Group indicates significant change on the Intimacy scale of the GDDQ. Two dimensions, Control and Stratification, indicate movement in an unfavorable direction. The Flexibility, Hedonic Tone, Potency, and Stratification scales indicate little change in a favorable direction. The positive direction of the Intimacy scale is questionable since this change is not supported by posttest changes on the other GDDQ scales.

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To my Sisters of Mercy

who nourish and celebrate

life with me

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CHAPTER I

INTRODUCTION

Background and Purpose of the Study

The real educator is characterized by his refusal to put limits to the possible, by his "effort to make maturity the more it might become" (Rauschenbush, 1965), and by his unrelenting faith in the growth-thrust of the person. Whether one speaks in the terms of Socrates or Jesus, of Newman or Dewey, education consists in leading out of the self, of breaking down the barriers and the walls which prevent a person from relating to reality and responding to it with the full totality of his powers. The end of all knowledge and education, then, is tensed toward the growth and development of the person.

The college touches the student at a most important point in his development. Decades ago Alfred North Whitehead asserted that " . . . the valuable intellectual development is self-development and that it takes place between the ages of sixteen and thirty" (1929, 13). More recently The Hazen Foundation's Committee on the Student in Higher Education (1968) reemphasized the position that

the college is a major influence in the personality development of the young adult. In spite of this, institutions of higher education, of which schools of nursing are a part, have made little progress toward incorporating concepts or practices which would facilitate the personal self-development of the students they serve.

It is understood that much has yet to be explored about that period of the life cycle we call later adolescence or young adulthood, but it must be recognized that much is already known. The task of higher education, therefore, is to apply as best it can the known while persons engaged in research continue to unravel the unknown (Chickering, 1969).

Nursing education has traditionally been concerned with the transmission of knowledge and the practice of nursing procedures. In order to meet the future demands of health care in the United States, nursing education must develop nurse practitioners who can assimilate a large body of scientific data and clothe it with humanistic values. It is not enough to rely on the mere acquisition of knowledge and the mastery of nursing procedures.

> It seems to me that "personal nursing" is something that machines cannot do; but it also seems to me that nurses, in their efforts to make their practice of care efficient, impersonal, and effortless, are actually competing with machines, and becoming machine-like in the process (Jourard, 1964, 139).

The student nurse needs experiences which will help her become attuned to herself and to others. Only

then will she be able to assess health conditions and measure degrees of wellness more effectively. Many classes in nursing education are small, permitting a ratio of less than ten students to one faculty member. Therefore, the environment for interaction, for faculty-student contact and peer group influence already exists.

Statement of the Problem

Recognizing the theoretical constructs already known about small-group interaction and peer group influence, it would be possible to utilize the existing structures within nursing education more effectively for the personal development of the student by means of planned intervention through goal-oriented small-group experiences.

The purpose of this research, then, was (1) to facilitate and assess the personal behavioral characteristics and certain group development characteristics of selected second-year nursing students who lived together and who participated in a planned series of small-group experiences; and (2) to assess the personal behavioral characteristics and certain group development characteristics of similar students, living in a separate residence, who did not participate in the small-group experiences.

The sample study consisted of second-year residential students from Mercy School of Nursing of Detroit, Michigan, (MSND) a two-year diploma school of

nursing. All second-year resident students were subjects in the study. A total of forty-six residential students constituted naturally assembled collectives. Six months prior to the initiation of this study, students were non-randomly assigned to two nurses' residences--Ann Arbor, Michigan, and Pontiac, Michigan. Assignment was based on proximity to the students' family residences and residential space. There is no evidence of assignment based upon personality characteristics, aptitude, behavioral competencies, or any other variable which would be significant to this research. Therefore, equivalency of individual and group characteristics was assumed. The treatment was randomly assigned to the students residing at Pontiac, Michigan; the students residing at Ann Arbor, Michigan, comprised the control group.

For the experimental subjects, small-group membership was based on similarity of individual behavioral preferences during the first four weeks of the program. Later, group membership was based upon complementarity and opposition of individual behavioral preferences as measured by a self-report instrument, the Myers-Briggs Type Indicator (MBTI) (Myers, 1962).

The group process was based upon an understanding and appreciation of a person's own basic behaviors in relation to others as well as upon an understanding and appreciation of behaviors opposite to one's own behavioral

competencies. The group process was goal-oriented in so far as it was based upon the appreciation and acquisition of specific new behaviors demonstrated by various members of the group.

The research consisted of a planned and direct intervention into a residential setting in order to increase the sense of group identification (community) and to facilitate the development of selected individual behaviors within the residential setting. The assessment tools used to measure the impact of the small-group experience on the personal development of the student consisted of the Omnibus Personality Inventory (OPI) (Heist and Yonge, 1968), the Group Dimensions Descriptions Questionnaire (GDDQ) (Hemphill, 1967), and a personal self-report evaluation of the program which students completed at the termination of the study.

Several basic assumptions underly this research:

1. The individual person is basically and ultimately self-directive.
2. Each person is capable of unlimited development, depending upon his own motivation and the support of the external environment.
3. Personality development necessitates a broad repertoire of behavior in order to respond to the ever greater demands of reality.

4. Education should address itself to the full human development of the student by creating an environment which is supportive of the self-actualizing tendencies of the person.

5. Higher education, of which schools of nursing are a part, has a major impact on the personality development of the student.

6. Small group interaction is a helpful method of encouraging and inducing change in ways associated with and promoted by the nursing curriculum.

7. Peer groups in a residential setting have an impact on the learning process and upon the effect learning has on behavior.

Hypotheses

Research studies in college student development and small-group interaction support the central hypothesis that nursing students who participate in goal-oriented small-group experiences demonstrate personal growth and development.

The specific hypotheses to be tested in this research are:

Hypothesis 1: Students in the experimental group of the behavioral development program (BDP_E) will demonstrate favorable change on posttest scores of the fourteen scales of the Omnibus Personality Inventory

Hypothesis 2: Students in the control group of the behavioral development program (BDP_C) will not demonstrate favorable change on the posttest scores of the fourteen scales of the Omnibus Personality Inventory.

Hypothesis 3: Students in the experimental group (BDP_E) will demonstrate favorable change on posttest scores for each of the following dimensions of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Hypothesis 4: Students in the control group (BDP_C) will not demonstrate favorable change on posttest scores for each of the following dimensions of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Vascidity.

Definition of Terms

Security groups within the behavioral development program consisted of subjects assigned to small-groups on the basis of similarity of behavioral preferences as measured by the MBTI.

Stimulation groups within the behavioral development program consisted of subjects assigned to small-groups on the basis of opposition and complimentarity of behavioral preferences as measured by the MBTI.

Personal behavioral characteristics refers to scores on the fourteen scales of the Omnibus Personality Inventory before and after participation in this

experimental study. The scales of the Inventory represent a series of defined individual characteristics which are the criterion measures for change in this study (see Appendix A).

Group development characteristics refers to scores on seven scales of the Group Dimensions Descriptions Questionnaire. Subjects in this study completed the questionnaire before and after participation in this program. The scales on this questionnaire represent a series of defined group characteristics which are the criterion measure for group development in this study (see Appendix B).

Limitations of the Study

Although every effort was made to create a systematic experimental study, there are several limitations which are inherent in research of this nature:

1. Random assignment of subjects was not possible because of the predetermined nature of group membership.
2. Sample size was limited by the number of second-year nursing students (forty-six) who lived in the nurses' residences.
3. Not all personality types according to the MBTI were represented in the experimental group. The majority of treatment subjects manifested the two

behaviors of sensation and feeling. Only a few subjects demonstrated well-developed thinking and intuitive behaviors. This restricted the range of role models.

4. To the extent that the personality type classifications affect behavior, and to the extent to which there was an imbalance of personality types between the groups, the presence of intervening variables that are capable of distorting the outcome may be presumed.

5. The limited duration of the experimental program (four months) reduces the possibility of significant personal and group development.

6. Although the OPI and the GDDQ are at the present time considered adequate research tools, the expected limitations of paper-and-pencil criterion are inherent in this study.

Overview of the Study

It has been noted in this chapter that this study attempted to experimentally assess specific behavioral development and certain group development characteristics in nursing students who participated in structured small-group experiences which took place once a week over a period of twelve weeks. The research resulted from a need to identify and define new experiences in nursing education

which would most contribute to the behavioral growth and development of the student, thus insuring greater depth, understanding, and humaneness in nursing care.

Chapter II of this study is a review of the literature relevant to this research. In Chapter III the research design and the experimental procedure are presented in detail. The three psychological instruments used in the study, the Omnibus Personality Inventory, Myers-Briggs Type Indicator, and the Group Dimensions Descriptions Questionnaire, are also discussed. Analysis of the data and other findings of the study are presented in Chapter IV. A summary of the research, discussion of the results, and implications for practice in a variety of settings appear in the final chapter.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Since the early days of American higher education,[1] students have often been dissatisfied with the delivery of the promises stated in the college catalogue. Periodically, students have risen up to make known their plight, to call attention to the neglect they feel heaped upon them; and just as often they have fostered change in which the educational process emerged as in a new baptism, reborn from the past and quickened with new life (Rudolph, 1966).

The protest and unrest of the 1960's were just one of those periods in which students lamented the irrelevance of their education to the realities around them. The consequences of the Aquarian Age are enormous, and students "sense that the education they are receiving is not functional for the world they will be inhabiting in ten or

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[1]Throughout this study, all references to higher education or to college students refer also to other post high school educational institutions and students such as diploma schools of nursing, with which this study is immediately concerned.

twenty years" (Freedman, 1967, 174). The heady intellectual training, the ensuing competition and the academic press associated with it has become diametrically opposed to the education of the "gentleman," the "well-rounded individual," and the "whole person" of the college catalogue in the 1960's (Bolton, 1967; Katz, 1968; Morris, 1969).

The findings of recent research have been conclusive--information is transmitted to students about as effectively by textbooks as by direct instruction. The review of literature presented by McKeachie (1962) emphasizes the fact that course work has little effect on student attitudes, values, or behavior. Even the variance of teaching methods has little effect. Hence, the belief that students are changed by reason of the classroom experience is less tenable than educators have thought (Becker, 1968; Jacob, 1957).

At a time when knowledge is exploding daily and the crucial questions center around what and how much should be taught, the educator must "control his zeal for imparting knowledge" (Sanford, 1967, 8). He must make choices based upon what the student needs in order to change as a person--in order to become a changing person (Ibid.).

Students are resisting the pressures and demands of the academic world, but at the same time they are in a "state of heightened educability for growth in values and

interpersonal relations" (Heath, 1968, 267). The insistence of today's students upon the satisfaction of these needs and desires may be evidenced in the rise of communes, love-ins, and the uninhibited sensualism of this day. The needs that higher education fails to address itself to will be met outside the system with all the excesses incumbent upon "the revolt of the dependent" against exploitation and frustration (Erickson, 1970).

Today's students feel a genuine loss of understanding of themselves and the world they live in. They are not satisfied with the stereotype role behavior so demanded by the cultural press. The threat of such a press confuses their ability to maintain a sense of self in the society. The fabricated image is a lie, and if nothing else these students are committed to honesty (Francis, 1970; Sanford, 1967). They have grown up in the midst of affluence and have seen their parents pay the price of success. The total dedication of the self to the system, the insistent work ethic, the alienation and loneliness and competition are hardly the spoils of the good life. Consequently, these students desire the freedom to become whole persons, not bartering themselves to the slavery of the system. They believe that the "unexamined life is not worth living, and they mean to examine it fully," seeking the intellectual life in the "spirit of celebration" (Martin, 1969, 8). They sense that

> . . . true learning ultimately involves unique perceptions and unique integrations, and that real expertness is more a light from within, more a matter of personal wisdom and the making of good choices, than the ability to reproduce facts (Moustakas, 1968, 4).

The central question to which this research is addressed is: How is it possible to intervene into the educational process in order to facilitate the development of the whole person? Allied questions relevant to this study are: What is the developmental status of the post high school student? What is the impact of the peer group as a determinant of student behavior? How can small group interaction facilitate the behavioral development of the student?

The theoretical bases of these questions as they apply to this study relate to the nature of college student development, the influence of the peer group, and the nature of small-group interaction as it affects the behavioral development of the individual.

Developmental Status of the Student

> A longing for profound transformation seems to live in nearly every human soul. But on a day-to-day level, many of our students seemed to have decided many years ago that transformation was out of their reach, and to have settled for a more restricted responsiveness to stimuli, seeking security by finding out what the rules of the game were, and by playing accordingly (Katz, 1968, 8).

This very revealing statement is supported by Sanford's report that "many students do not really expect to change much in college. The concept of personal change

was totally new, but persuaded of the possibility of growth and of their own power to direct the change, the students set out to explore directions for personal growth and development" (1967, 9). Unless a person has expectation for change, he is unable to give serious consideration to the choices that remain open before him (Axelrod, et al., 1969).

Many psychologists and researchers in the field of college student development support the theory of late adolescence or young adulthood as a developmental stage of human life (Chickering, 1969; Erikson, 1950; Freedman, 1965; Heath, 1968; Katz, 1968; Lozoff, 1968; Sanford, 1967).

There are numerous descriptions of the tasks of adolescent development as interpreted by Erikson, Sanford, and Freedman, but each one enumerates the central issues--

> . . . the adolescent concerns for independence from parents, coming to terms with authority, maintaining adequate self esteem while achieving a more or less accurate evaluation of himself, deciding on a vocation, attaining a perspective of society that will permit him to see and oppose its ills without lapsing into cynicism or total withdrawal (Sanford, 1968, 177).

The tasks are staggering. The young person is seeking to determine who he is, what his life goals are, how he can maintain a sense of self while giving himself to another, what is worth living for and for what would one die. As present challenges mount, older childhood problems may be revived. Many students cannot handle this, and educational institutions, for the most part, do not

recognize their potential power to assist in this quest for adulthood (Katz, 1968, 4).

Partly because students cannot articulate all that is happening to them, and partly because there is no framework or criteria available to them by which to measure personal success and degrees of maturity, students have taken the only criteria education has given them, grades and test scores, and awkwardly applied it to themselves and others as the measure of personal success, adjustment, and maturity. Students refer to their own grade point average when measuring their progress toward maturity, and they use it as a way of measuring the most profound and personal judgments about themselves (Becker, 1968).

> . . . grades seem to students a particularly apt and reliable measure of character and maturity. Earning satisfactory grades is like earning a living, a sign of steadiness, of ability to discipline oneself and stick to the job. Conversely, a person who cannot "make his grades" must, like a person who cannot earn a living, have something wrong with him; there must be reason for his failure, and, whatever it is, it cannot speak well of him (Ibid., 117).

Consequently, conformity to the educational process takes the student farther outside himself, directed toward external validation and external rewards. He is directed toward standards and achievements outside himself; thus, the habitual pattern of life is directed toward meeting the expectation and approval of others rather than of himself (Moustakas, 1968). Immeshed in such a behavior pattern, the student "becomes confused for having given

up his own individuality, his own response to life . . . [he has] lost touch with the actual both in himself and in others" (Ibid., 3). Validated by grades and test scores, the criteria for personal maturation of the self are external, not of his own choosing, but chosen for him by others. Hence, the student loses touch with his own inner resources and his own power for creative growth (May, 1966).

Education which supports such a system can have no real impact upon the person where he can be touched most deeply; nor can the experience of such an education support the developmental tasks encountered by the student in late adolescence (Moustakas, 1968).

Developmental Tasks of the Student

Erikson's delineation of the stages of human development provide a conceptual framework for the understanding of growth problems and crises experienced by late adolescents in post high school years. The problems of identity and intimacy offer challenges which the young person needs to explore and resolve within the educational environment (Erikson, 1950).

The task of identity vs. role confusion is the adolescent's central developmental problem. The period of identity formation is fraught with challenges of learning how to behave, of discovering one's unique potentialities, goals, and desires, of exploring life

styles that support them, of being attuned to one's most authentic inner feelings and allowing personal behavior and speech to express them (Erikson, 1950, 1953; Heath, 1968; Maslow, 1971). In contrast to the process of self-identification which involves the establishment of status and achievement, of role and mask, the process of identity formation allows the person to come to terms with who he is and what he wants. Such consciousness of "selfhood" grows out of the myriad experiences of the past and toward a growing certainty of the future, concretizing, in part, his destiny (Erikson, 1959; Heath, 1968; Levin, 1968; Moustakas, 1968).

> Individuality and identity emerge from the deep levels of the self, from the resources and talents that exist in each of us to be formed and shaped into a particular being in the world. It is these values which society should recognize, encourage, and affirm. The self cannot develop unless there is freedom, choice, and responsibility, unless each person experiences his own senses and becomes an active force in life, free to choose and select, free to feel and express openly and honestly the nature of these feelings, free to identify with living forces, with alive persons who encourage growth in individual identity, who value being for itself, and who can enable the person to engage himself and be committed to meaningful inquiry and activity (Moustakas, 1968, 10).

Closely akin to identity formation is the discovery of vocation. As a result of listening to himself at the deepest levels and of learning who he is, the student comes to grips with what it is he wants to do with his life. Identity formation is almost synonymous with the choice of a life's work, "revealing the altar on which one will sacrifice oneself" (Maslow, 1971, 185).

The second vital task of adolescent development as identified by Erikson is the problem of intimacy vs. isolation. The achievement of a relatively stable personal identity is a precondition of forming adequate relationships with others (Katz, 1968).

The problems of intimacy become crucial in a residential environment where former intimacies are now severed. The student needs to learn how to communicate with others, how to give of himself in word and in deed. He must face the lonely challenge of giving himself to others in trust and of receiving them when they come in an attitude of self-donation to him. Now he must become convinced that he can love and that he is worthy of being loved (Hazen, 1968).

However prolific the literature may be, however recognized may be this problem,

> American higher education has failed to recognize explicitly that cognitive development which is not integrated into the quest for identity and intimacy deals only with a fraction of the human personality and that this fraction is necessarily of secondary importance to the young person arriving at chronological adulthood (Ibid., 45).

Personality Development in College Students

The following section consists of a very brief review of research conducted for the purpose of ascertaining developmental changes in college students.

Jacob's (1957) controversial assumption that college has little impact on student values and attitudes has served to emphasize the need for research on student development, the direction and magnitude of change, possible assessment measures and research methods. Freedman (1967) referred to the Jacob report to point out just how acculturated higher education may have become, and therefore, how limited may be its effectiveness. It is more important that an individual be able to transcend and transform the society than it is to be adjusted to that same society (Sanford, 1962).

Differences among entering freshmen and among the colleges they choose are so great that one cannot expect personal change in the same direction or to the same degree within the student population. In general, students change in accord with the values and attitudes of the immediate college environment (Webster, Friedman, Heist, 1962). On the other hand, the more the entering freshman has of the characteristics under study, the greater is the potential impact of the college experience for him (Feldman and Newcomb, 1969). Stated another way, college facilitates development in students who are predisposed to grow because they are "psychologically open to new experiences or because they are open to the influence of others" (Ibid., 304).

One of the most significant and most widely documented changes in college student development consists in a decrease in authoritarianism. Whether one refers to it in terms of dogmatism, ethnocentrism, rigidity, prejudice, or intolerance, evidence suggests that students who are making normal progress in personal development are able to adapt to social reality more adequately than younger students and to a greater degree than non-students (Flacks, 1963; Foster, et al., 1961; Lehmann and Dressell, 1962; Levin, 1968; Plant, 1965, 1966; Trent and Medsker, 1968; Webster, Freedman, and Heist, 1962). Plant's research with students and applicants of San Jose College indicates that all subjects (students and applicants) became less dogmatic and less ethnocentric. Furthermore, the amount of change increased with the length of college attendance (1965, 1966).

Trent and Medsker's recent study of 10,000 high school graduates indicates significant differences between college and non-college youth. Over four years of study, the collegiate subjects gained in autonomy, independence, complexity, and thinking introversion. They decreased in authoritarianism significantly more than the non-college subjects. While the study supports the claim that personal growth and development are proportionate to the length of time spent in college, the researchers have stressed that individual readiness and predisposition are requisite to

any personal change. The college may provide an environment which permits the student to experience new forms of behavior, new values and attitudes, as well as to test his own behaviors against a broad scope of experiences. However, it is apparent that institutions of higher learning simply provide the environment for student growth rather than directly seeking to influence student development (1968).

Chickering's study of student development in thirteen small colleges heightens the position that developmental changes do occur in college. His study indicates behavioral change in the following directions: openness to impulses, personal integration and autonomy, and freeing of interpersonal relations. Chickering laments the present chasm between available knowledge of college student development and current practices in higher education. Recognizing the developmental status of the student, colleges can encourage and foster growth and development along the lines mentioned above (1969).

One of the underlying assumptions of human development is that "growth is facilitated by true, free expression of impulses in thought and in action, and by the development of more sophisticated and complex impulses" (Katz, 1968, 440). In his study of student development, Katz found many students who had achieved at least partial integration of "impulse and ego that pervaded their whole

personality" (Ibid.). Other research studies indicate that seniors achieve more impulse expression, are more spontaneous, more open and less self constrained than freshmen who tend to be more controlled and restrained (Beach, 1967; Katz, 1968; McConnell, et al., 1960; Sanford, 1956, 1957; Webster, Freedman, and Heist, 1962). However, an initial predisposition to this sort of development consists in an openness to one's deeper feelings and a willingness to risk new and different experiences (Katz, 1968).

More broadly, the goals and values of college students change in accord with the immediate collegiate environment. In general, students increase in aesthetic values and decrease in religious values in proportion to the length of time spent in college. There are also tendencies for increase in theoretical and social values. The strength and intensity of economic value as a personal motivator decreases. These factors concerning the impact of the college experience are reported in studies based upon the Allport-Vernon-Linzey Study of Values (Heath, 1968; Huntley, 1965; Stewart, 1964).

Vocationally oriented students seem to experience less change from the college experience than do other students who are not so practically oriented. Students in career groups seem more satisfied with themselves and with others; however, this satisfaction is bought at the expense of not seeing or feeling other aspects of human experience.

Such students are keenly attuned to an external reward system. They seem to spend little time evaluating an intrinsic set of human values and rewards. Since these students are preparing to take positions of responsibility, practical, utilitarian concerns dominate their thought. Consequently, career oriented students are less influenced by the campus culture and value system than students who are more intellectually or aesthetically oriented (Korn, 1968a; Selvin and Hagstrom, 1966).

A survey of comprehensive reviews of literature indicates that a great deal remains to be known about the effects of college on the student. All agree that certain kinds of change occur as a result of the college experience, but questions regarding the amount of change, conditions for change, and directions of change are not conclusive in existing research studies (Feldman and Newcomb, 1969; Freedman, 1967; Lehmann and Dressel, 1963; Sanford, 1962). For further development in this area, there is a need for more accurate research tools, more careful theoretical constructs, and more appropriate assessment measures (Bloom, 1964).

Peer Group Influence

Since research from Jacob to Feldman and Newcomb indicates that the greatest impact on college students comes through informal, peer group encounters, it is important to look at the nature of peer group formation,

the nature of its process and influence, and the implications it presents to higher education.

Although studies in college student development indicate change under certain conditions, research has made little progress in studying differentiated peer group formation and process. In general, studies have consisted of student samples from college classes or from the larger campus; only recently has attention been given to the phenomenon of small peer group membership and its impact upon the student (Newcomb, 1966).

The educational process in American culture has capitalized upon the power of peer groups to influence student behavior. Adolescents, like all persons, seek the affirmation of the peer group, for status and security depend in large measure upon one's relationship with peers (Erikson, 1963). Peer group effects extend to all aspects of student life: academic, social, political, aesthetic, and emotional (LeVine, 1966). Consequently, the student culture is the greatest educational force operating within the college (Freedman, 1956).

College students encounter each other at a time when the many and varied developmental tasks of adolescence absorb a great deal of mental and emotional energy. The resolution of these same tasks consists, in turn, upon the support of peers for solution and adjustment. These tasks are intensified by their urgency, and they cannot be

postponed for academic demands. In such a complex situation, the residential group plays an important part in defining patterns of adjustment and adaptation (Lozoff, 1968).

Recent studies on the nature of the student's residential environment indicate that the peer group is a pervasive influence on student behavior and development. The most frequently observed determinant of behavior modification is the peer group. The results of many studies indicate that the peer culture has the most significant impact in shaping student behavior (Becker, et al., 1961; Heath, 1968; Newcomb and Wilson, 1966; Wallace, 1966). Furthermore, the peer culture within a student residence has a greater influence upon student growth and development than the residence itself (Alfert, 1966; Brown, 1966; Lozoff, 1968).

The formation of peer group membership seems to be greatly determined by personality characteristics and family background, for precollege acquaintance and similarity of attitudes and values are often prime conditions of group formation. "Birds of a feather do flock together" and students are more likely to interact when they share some common interest. Interaction may begin on the bases of shared interests, but the continuity of the interaction may lead to new and more expanding kinds of diversified concerns (Newcomb, 1966).

As group members develop favorable attitudes toward each other, they develop "sets of expectations regarding each other's behavior" (Ibid., 4). Hence, groups hold the power to reward or punish individual behavior by affirmation or censure (Newcomb, 1966). The emphasis is often on conformity and on moderation in all things. The peer culture has an effective means of keeping group members in line (Sanford, 1967).

In many cases, the peer culture maintains its power from the neurotic fears of some students to hurt anyone by disagreement or nonconformity to group norms. There are indications that many students experience strong feelings of disagreement and difference toward peer expectations, but they "are glossed over by a compelling sense that they must, if possible, never be expressed . . . students exhibited deep resistance to admitting negative feelings about others . . ." (Katz, 1968, 44). The fear of admitting negative feelings about persons or situations is an obstacle to the personal developmental tasks of adolescent years. Such fear prevents the student from valuing himself, from finding out more fully what he feels and wants, from respecting his own desires and wishes. Apparent smoothness in relations with others is most often bought at the price of personal devaluation and the development of assertiveness of personality. Thus, students can live together in close proximity without ever

achieving true, honest, deep relations with one another (Ibid.; Sanford, 1967). If higher education is to be a developmental experience for the student, he must to some extent become free from the unjust demands of the peer group. Such freedom would allow him to develop as an individual and would result in his becoming more autonomous, differentiated, and complex (Sanford, 1967).

Summarizing four decades of research on peer groups and their influence, Feldman and Newcomb (1969) propose the following functions of peer groups: (1) peer groups may assist individual students through the crisis of achieving independence from home; (2) peer groups can offer support and facilitate academic goals of the college; (3) such groups offer emotional support and fulfill other needs not met by the curriculum, the classroom, or the faculty; (4) groups provide the student with occasions for and practice in getting along with people whose background, interests, and orientations are different from his own; (5) through value reinforcement, groups can provide support for not changing, challenge old values, provide intellectual stimulation and act as a sounding board for new experiences, help clarify new self-definitions, and provide support for change.

Bolton (1967), Mayhew (1969), and Newcomb (1962) suggest that the positive aspects of the peer group environment become a consciously manipulated variable to

foster student development in the learning process. Bolton's study emphasizes the fact that the informal, peer group culture within the college does not generally support the academic purposes which are the educational responsibility of the collge. However, it should be possible to "structure peer interaction in such a way as to forward the intellectual-academic goals of the school" (Bolton, 1967, 259).

Mayhew (1969) supports the same position that the college should recognize the phenomenon of peer group formation by establishing small student groups which could foster intimacy and identification for academic and educational purposes. Such groups can have a profound effect upon what is learned in the collge, how it is learned, and whether or not what is learned is integrated into the total life style of the student.

By applying concepts of social psychology and social learning to the nature of peer groups on the college campus, the educational process could become much more effective in promoting the learning process (Bandura, 1962; Gibb and Gibb, 1968).

Because personal human development takes place essentially within small, primary group relationships, it is important to consider in more detail the nature of the small-group experience, its effects, and its ability to influence individual behavior.

Impact of the Small-Group

Today's technological, cybernetic, post-modern society finds man groping to establish a "selfhood," to see himself independent of the bureaucracies and the institutions which threaten to smother him, to find personal meaning and internal validation in a social structure breathed through with the stench of competition and the loneliness it breeds. Thus, renewed interest in the small-group experience is a "cultural attempt to meet the isolation and alienation of contemporary life" (Rogers, 1969b, 61; Sanford, 1967).

One of the recurrent themes of youth movements is opposition to the impersonal organization of man, the devaluation of the meaning of human life, and a desire for greater identification with other people (Sanford, 1968). At the very time when higher education has reached the pinnacle of affluence in the United States, at the very time when it has become a national institution, on its way to becoming available to everyone, the very foundations upon which its success has been built are being questioned and irreparably shaken. While higher education has increased its professional function, it has steadily become more socially dysfunctional. Educational goals consistently emphasize a concern for the education of the "whole man," but the emphasis has been on quantitative criteria--grades evaluations, credits (Martin, 1969). Rewards and success

have been inextricably associated with cognitive learning and skill. The student's head has been cut off from his heart in the ever-increasing race to survive and to succeed. Academic reward systems have capitalized upon the competitive, the individualistic American theme. All too often the student has become an isolated, lonely participant in the race for meritocratic goodies. Heath's study brings to focus the great loneliness of many students in the midst of the flurry and activity of the campus scene (1968).

The day of isolationism in the United States has long past. The competitive concept of the revolutionary "survival of the fittest" is beginning to give way to concepts of a new era, to concepts associated with the global village and the interplanetary world, to concepts of interdependence, cooperation, sharing, and trust.

The new student is "attempting to counter the atmosphere of competitiveness and isolation which has prevailed since 1950" (Freedman, 1967, 34). He is seeking to restore the community of scholars to the campus scene. Indeed, the student is even trying to break out of the imprisoning concepts of the ineffable uniqueness of individuality in order to share himself with another, to be open, to grow, to reduce the barriers and the roles which keep people apart and alone (Ibid.; Francis, 1970; Morris, 1969). Today's youth are preparing for a different human

and social existence. As they move toward restoring the union between the personality and cognitive skills, they move also toward the restoration of the sense of community to colleges and other social institutions (Freedman, 1967).

In community, man becomes most fundamentally himself in and through personal relationships. Community is rooted in man's nature, for only in community can man achieve the fullness of his personhood. Community is not being side-by-side but being-with another, a dynamic facing one another, a flowing from person-to-person. At the same time each person retains his identity, autonomy, and responsibility even though embraced in a loving and caring relationship (Buber, 1947). The achievement of personhood is attained by a faithful standing-with another, an encounter which transcends mere meeting or juxtaposition; it implies the ability to transform circumstances into opportunities. The true foundation of personhood is not the "I am," but the "We are." To-be-with is the highest dimension of being which implies the commitment of the person in dialogue and self donation to another (Marcel, 1963).

The student in the world today is like an atom caught in a whirlwind, like a statistical unit or an IBM card. He voices opinions about national policy; he lives a timetable existence, and becomes almost identified with his work functions or his G.P.A. When he breaks down he

goes to the health center or to the counseling office to be overhauled. Within the student, however, lay an obscure unrest which keeps hinting that this pattern of life violates his nature. In such anonymous, alienated masses, the student cannot grow toward personhood. He is often "playing in the gallery," creating a role for others to know. In this global village the person has almost disappeared. There is a great need for communication and dialogue, for a mutual self-donation with other persons (Ibid.).

Today's students are passionately concerned about belonging and sharing and participating. They desire to belong, to share an intimate fellowship, and to participate with others in face-to-face community. In a movement toward this end they are seeking "to learn the skills of Being" (Van Doren, 1943, 67), to integrate their emotional, social, and personal lives with the cognitive style of higher education. Interpersonal skills which develop the capacity for dealing effectively with other persons are crucial for the survival of man. This aspect of education has been largely ignored or taken for granted (Leonard, 1968). "As the abrasion of human existence increases in our crowded world, it can no longer be ignored" (Birnbaum, 1969, 98).

Thus, the task belongs to the educators to provide opportunities and experiences that are conducive to

psychological and interpersonal development (Katz, 1968). Persons can fail to grow because of unconscious defense mechanisms, but too often persons fail to develop because of a lack of challenge. Persons charged with the education of youth "can be deliberate about introducing young people to the major challenges of adult life" (Sanford, 1967, 56). Learning has always consisted of the modification of human behavior, and "normal adult behavior develops through the stimulation of other people" (Berelson and Steiner, 1964, 65; Mayhew, 1969).

Kemp's review of developments in the study of small-groups emphasizes the need for educators to trust the group experience as a significant influence in the personal development of students (Kemp, 1964). By placing a student in a small, meaningful, non-competitive group, he may be freed from his usual role with its expected behavior patterns. As a result, the primary group may become the center in which the student may learn new patterns of living, and from which he can move out to interact with larger realities (Axelrod, 1967; Mayhew, 1962; Sanford, 1966).

The small-group experience can provide an environment for both security and stimulation. Left to himself, the individual is more likely to choose an environment which offers little threat to his defenses and established modes of behavior (Bloom, 1964; Borel, 1964). However,

there must be sufficient security (minimum anxiety and stress) for the person to risk a new behavioral response. The median must be maintained; too little security can throw a person back upon more primitive behavior patterns; too much security does not offer an opportunity for growth. By creating a little anxiety (stimulation) in a person, he is more open to new learning (Sanford, 1966).

The student must be challenged before change can occur, and it is the educator's task to keep challenging the student's behavioral patterns in the interest of growth (Sanford, 1967). An approach to student development grows out of the belief

> that people do not change unless they encounter a situation to which they cannot adapt with the use of devices already present. They have to innovate, to generate some new response to meet the new situation offered them (Sanford, 1966, 44).

Therefore, with the blend of security and stimulation which may exist in the small-group, the student would experience new thoughts, new feelings, and new conflicts. With the assistance of group support and the competence of an adult, these could become occasions for new growth and further development (Katz, 1968).

The central growth process of the group is from fear to trust. In early periods of latent and disguised fear, group members camoflage their deeper feelings, they are dependent upon role behaviors for an idealized presentation of self; advice and affection is openly bartered.

As the group grows, fears are reduced and trust is increased. In a trusting environment group members become more personal; facades are replaced by intimacy and openness, members become more self-directive and search-oriented (Gibb and Gibb, 1969).

Competitive attitudes are a great barrier to trust. In a student group, previous patterns of competition must give way to mutual cooperation and trust. This is more easily achieved if group members are interested in each other's welfare. Conversely, mutual interest in each other's good is fostered by opportunities for meaningful cooperation (Deutsch, 1962). The establishment of enduring patterns of trust over mistrust is the first task of the group experience (Erikson, 1959).

If small groups are meaningful occasions for the developmental growth of the members, there is every reason to involve students as behavioral models for one another in the interpersonal process (Gibb and Gibb, 1968). Theories of social learning indicate the importance of social agents as a source of patterns of behavior in the learning experience of the group process. "The provision of models in actual or in symbolic form is an exceedingly effective procedure for transmitting and for controlling behavior" (Bandura, 1962, 265). In a group where there has formed a high degree of membership identification (community), persons feel some responsibility for assisting

one another. In behavioral development, the more proficient student may help another. In a helping, caring encounter of this nature, all members of the group are free to learn something of the social and human purposes of personal development (Sanford, 1964). One researcher concludes that "the most persuasive determinant of personality change is another human being whom one respects or toward whom one must adapt" (Heath, 1968, 224).

The purposes of the small-group process are closely aligned with the broad educational goals which center around the full development of the total person. It provides the opportunity for the student to test his own theory, his values, and his assumptions about himself and the world. As a result of the small group experience, it is hoped that each member has experienced himself as growing, has seen other members growing, and has borne his share of the responsibility to create positive growth conditions in the environment. Through responsible participation in the small-group, each member has an opportunity to experiment with new modes of behavior, to receive feedback regarding the effects of his behavior upon himself and upon the group, and to make continual changes in personal behavior patterns under conditions that are supportive of creative growth. Each participant may experience the full range of pain and joy that accompanies taking personal responsibility for one's

own feelings, initiations and refusals, and sharing that experience with others (Gibb and Gibb, 1968).

> Sharing is not a mere reporting of experience; it is a medium for opening into new relationships and, in the process, for developing insights and letting go. In sharing, a climate is created in which each person within the group recognizes himself as he really is, really notices each person in the group, and uses his senses in being present and in creating bonds with others.
>
> That which we know we come to trust; as each person shares himself in the personal, private world in which he lives, real knowledge is generated; a clarity of self and others is emerging (Moustakas, 1968, 56).

Research dealing with the application of small group processes to the development and modification of behavior in college students has been widely diverse. It has been tentatively accepted that small group experiences (a) positively affect participants' attitudes and values (Bowers and Soar, 1960), (b) foster a positive approach to the learning process (McKeachie, 1962), (c) increase self-directed behavior change among participating students (Kolb, Winter, and Berlow, 1968).

Studies involving the unstructured group process report divergent findings. Dyer (1967) found significant changes in self report and peer ranking of interpersonal behavior after eight weekly meetings of one and one-half hours each. Coleman and Glofka (1969) report similar research with nursing students. Their study indicates a significant increase in positive self-esteem as measured by the Tennessee Self Concept Inventory. Alberti (1969) studied the effects of small group interaction among

students and faculty. He reports significant results on the Altruism scale of the Omnibus Personality Inventory.

Conversely, L. K. Johnson (1966) reports no effect on personal behavior as a result of unstructured small group experiences. LeMay (1966) found no difference in post-treatment results between volunteers for group counseling and the control group.

Research studies involving more structured group process provide similarly tentative results. Curry (et al., 1968) used the Management Improvement Program developed by the Human Development Institute with small groups of student nurses. He reports significant impact on the human relations skill of the participants in their work as nursing team members and as team leaders. In another study utilizing structured, small-group interaction, Grass (1970) reports significant changes on the Impulse Expression and the Anxiety Level scales of the Omnibus Personality Inventory. On the other hand, after initiating a sequence of small-group experiences, Grant and Eigenbrod (1970) found no significant results pertaining to behavioral change.

Studies involving group composition (homogeneous, complementary, heterogeneous) indicate more consistent findings. Although homogeneity may be a necessary condition for early group cohesion (Anderson, 1969; Pollack, 1967), it can result in the absence of stimulation, leaving group

members with little challenge toward personal growth (Shepherd, 1964). According to Pollack's research, heterogeneous group members demonstrate more positive change in interpersonal relations than members of homogeneous groups. McCary (1970) reports that members of homogeneous groups found the group experience less satisfying than they had expected, and they indicated little desire to continue with the group experience. On the other hand, complementary group members appeared to have a greater degree of self-understanding and appeared to have been satisfied by the group experience. This seems to be verified by their willingness to volunteer again for group membership. Finally, in contrast to homogeneous groups, members of complementary and heterogeneous groups reported a greater desire to continue with the present group experience.

In general, the reported impact of the small-group experience upon the behavioral development of the members is decisive. Specific results of the effects of group membership remain tentative.

> There is little doubt that a small group provides the major source of the values and attitudes people have, and an important source of pressures to conform to social values and attitudes. . . . The small group serves an important mediating function between the individual and the larger society (Newcomb, 1966; Shephard, 1964, 1).

Furthermore, as was indicated previously in this chapter, small-group experiences appear to have a positive impact

on the learning process by mediating the process of applying knowledge, by fostering positive feelings toward learning, by facilitating the learning of attitudes and values, and by rewarding positive behaviors (Bowers and Soar, 1960; McKeachie, 1962; Newcomb, 1966; Shephard, 1964; Wilson, 1966).

It is well recognized that the effects of the small-group experience depend upon many conditions, i.e., the processes of the small-group, the environment within and without the group itself, techniques designed to assist the growth of participants, and the personality characteristics of the members (Stock, 1964).

Change within the personal behavior of group participants depends to a large extent upon the initial personality of the individual (Schutz and Allen, 1966). Miles (1960) and Whitman (1964) have identified the characteristics of flexibility and openness as essential prerequisites for the growth process. A most significant catalyst for personal growth is a willingness to share oneself with others--doubts, conflicts, uncertainties, i.e., "to share the most vital dimensions of being as they are emerging in oneself and in one's own relations with others" (Moustakas, 1968, 56). Individuals who are inclined toward a high degree of authoritarianism are likely to respond poorly toward the unstructured environment so characteristic of most small-group experiences

(Levin, 1968). Therefore, it must be recognized that personal developmental change as a result of a small-group experience may occur only for some persons under certain conditions. Specific variables indicating the causes of change and the effects of the group experience are as yet unknown. However, research studies indicate that the application of small group methods to student development may have considerable value. It remains for future research to provide more adequate research tools, more innovative strategies, and more effective measurement techniques.

Summary

An effort has been made in this chapter to summarize those research reports and supporting theories which are relevant to this study. Students in higher education today are rebelling against the depersonalization, the competition, and the heady cognitive emphasis which has characterized higher education since the 1950's. The loneliness and competition of the collegiate experience in particular, and of American society in general have given rise to renewed concern over the role higher education has in the world today.

Most psychologists and research scholars support the theory of late adolescence as a developmental stage in human life. The primary tasks of this period are the

formation of personal identity and the achievement of intimate, meaningful relations with others.

A survey of the literature indicates that some broad conclusions may be made regarding personality change in college students. In general, students change in accord with the characteristics of the immediate college environment. The college experience facilitates the development of students already predisposed toward further growth. Student development is proportionate to the length of time spent in college. More specifically, research tentatively indicates that the college experience tends to contribute toward student growth and development in the following ways: decrease in authoritarianism, increase in autonomy, independence, complexity, thinking introversion, and impulse expression. However, because of their practical, utilitarian concerns, vocationally oriented students are less inclined to experience change as a result of higher education.

There is little doubt that the greatest impact on college student development is the peer group. Peer pressure is a primary determinant of behavioral modification. Nevertheless, research has made little progress in studying differentiated peer group formation and its effects. In spite of the closeness of residence hall living arrangements, and in spite of continual peer interaction, many students admit to profound loneliness

and great fear of expressing negative feelings in the peer group. As a result, relationships are superficial and loneliness persists. Evidence points to the possibility of structuring peer group interaction in such a way as to forward the personal development of the student as well as the academic and intellectual goals of the college.

In a desire to restore community to the scholars, interest in small-group process and its impact upon student development has heightened in recent years. Learning has always consisted of the modification of human behavior, and this occurs only through interaction with other people. Although conclusions are tentative and generalized, research indicates that the small-group experience may offer an effective, growth-producing, learning environment.

The curriculum of student nurses provides for the formation of small groups within the academic and clinical setting. Students become active members of the nursing team, working for some time as a team member, at another time as a team leader. Students in a diploma school of nursing experience the same period of young adulthood with all of its developmental tasks and concerns as other college students. It seems evident that the small-group structure of the nursing curriculum could be more effectively utilized toward the personal development of the student as well as toward the academic goals of the institution.

Chapter III describes the design and methodology of a structured attempt to meet these needs within a residential setting by means of a small-group behavioral development program.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

This research sought to test one method of purposeful intervention into a residential environment in order to encourage students' behavioral potential on the one hand, and to identify and strengthen behavioral competencies on the other. The strategy included the formation of goal-oriented small-group interaction which would offer the necessary conditions for security as well as for stimulation or learning.

Several aspects of the research project are discussed in this chapter, including (1) a brief description of the student population which participated in the project, (2) an explanation of the instrumentation, (3) a statement of the testable hypotheses, and (4) a description of the research design and the experimental procedure.

Description of the Sample

The population from which this research sample was drawn consisted of the total population of second-year, female nursing students who lived in residence at Mercy

School of Nursing of Detroit, during the 1969-1970 academic year. A total of forty-six resident students constituted naturally assembled collectives in two residential groups. One residence is at Pontiac, Michigan (twenty-two treatment subjects); and the other is at Ann Arbor, Michigan (twenty-four control subjects). Students were assigned to the living groups in August, 1969, on the bases of proximity to home and residential space. There is no evidence of assignment of students based upon personality characteristics, aptitude, behavioral competencies, or any other variable which would be significant to this research. The project was initiated in February, 1970.

Mercy School of Nursing of Detroit is a two-year diploma school of nursing affiliated with St. Joseph Mercy Hospital, Detroit, Michigan; St. Joseph Mercy Hospital, Pontiac, Michigan; and St. Joseph Mercy Hospital, Ann Arbor, Michigan. Enrollment consists of close to two hundred female and male students.

All of the students in this sample lived in Detroit or in the surrounding suburbs. As indicated in Table 3-1, experimental subjects had a slightly higher median age than control group subjects.

The educational background of the population consisted of public and Catholic parochial secondary schools, with 46 per cent of the subjects having had attended Catholic affiliated high schools and 54 per cent

TABLE 3-1.--Frequency of ages of nursing students in the research sample.

Age, in Years	Treatment Group		Control Group		Total	
	N	%	N	%	N	%
19	7	31.8	15	62.5	22	47.8
20	9	40.8	3	12.5	12	26.0
21	3	13.6	4	16.6	7	15.2
22	1	4.5	0	0.0	1	2.1
23	2	9.0	2	8.3	4	8.6

of the participants having had attended public secondary schools.

As indicated in Table 3-2, the sample population appears relatively homogeneous in relation to parental occupational status. Fathers' occupations consisted predominantly of industrial supervisors, skilled and semi-skilled workers. Similarly, the majority of mothers were full-time homemakers. Mothers who were employed outside the home appear to have been engaged in traditionally female service positions.

Parental educational patterns seem consistent with the occupational choices, with a greater percentage of parents terminating their formal education after high school graduation (see Tables 3-3 and 3-4).

Table 3-2.--Parental occupational classifications for students in the research sample.

Item Description	Treatment Group		Control Group		Total	
	N	%	N	%	N	%
Father's occupation						
Businessman	0	0.0[a]	2	8.3	2	4.5
Disabled	1	5.0	0	0.0	1	2.2
Insurance, sales	2	10.0	2	8.3	4	9.0
Professional	0		2	8.3	2	4.5
Police, Fireman	2	10.0	4	16.6	6	13.6
Supervisor, foreman	7	35.0	4	16.6	11	25.0
Skilled worker	6	30.0	6	25.0	12	27.2
Semi-skilled worker	2	10.0	4	16.6	6	13.6
Mother's occupation						
Bookkeeper	2	9.1	0	0.0	2	4.3
Clerk	1	4.5	5	20.8	6	13.0
Housewife	13	59.1	13	54.1	26	56.5
Nurse	4	18.2	5	20.8	9	19.5
Secretary	1	4.5	1	4.1	2	4.3
Teacher	1	4.5	0	0.0	1	2.1

[a]Per cents are rounded to one decimal place and do not necessarily total 100.

TABLE 3-3.--Number and per cent of fathers who completed various levels of education.

Educational Level	Treatment Group		Control Group		Total	
	N	%	N	%	N	%
Postgraduate Degree	0	0.0	0	0.0	0	0.0
College Degree	0	0.0	1	4.1	1	2.2
Three years college	1	5.0	2	8.3	3	6.8
Two years college	4	20.0	5	20.8	9	20.4
One year college	1	5.0	0	0.0	1	2.2
High school graduate	9	45.0	11	46.0	20	45.4
Tenth grade	1	5.0	2	8.3	3	6.8
Ninth grade	1	5.0	0	0.0	1	2.2
Eighth grade	3	15.0	3	12.5	6	13.6

TABLE 3-4.--Number and per cent of mothers who completed various levels of education.

Educational Level	Treatment Group		Control Group		Total	
	N	%	N	%	N	%
Postgraduate Degree	1	4.5	0	0.0	1	2.1
College Degree	0	0.0	0	0.0	0	0.0
Two years college	0	0.0	1	4.1	1	2.1
One year college	1	4.5	2	8.3	3	6.5
Technical education	4	18.2	6	25.0	10	21.7
High school graduate	15	68.2	12	50.0	27	58.6
Tenth grade	0	0.0	1	4.1	1	2.1
Ninth grade	1	4.5	2	8.3	3	6.5

In all of the above respects, age, high school background, parental occupation and education, the sample population appears to have been relatively homogeneous, thus supporting comparability in these factors between the experimental and control groups.

Research Procedure

Mercy School of Nursing of Detroit, through the Director and the Associate Director, was invited and agreed to serve as the population within which the experiment would be conducted. Meetings were held with all faculty members from each of the three units of the school, i.e., Detroit, Ann Arbor, Pontiac, for the purpose of explaining the nature of the study and the procedure to be followed in its implementation.

The total population of second-year resident students participated in the project. The students lived in two residences: Ann Arbor, Michigan, and Pontiac, Michigan. The treatment was randomly assigned to the Pontiac students. Twenty-four students from the Pontiac residence became the experimental group and twenty-four students from the Ann Arbor residence constituted the control group. After five weeks of the study, two participants in the experimental group moved out of the residence for reasons of marriage. Thus, the final study consists of twenty-four control subjects and twenty-two treatment subjects.

In February, 1970, all experimental and control subjects were pretested on the Myers-Briggs Type Indicator (MBTI), the Omnibus Personality Inventory (OPI), and the Group Dimensions Description Questionnaire (GDDQ). Each student in the experimental group had an assessment interview with the researcher in order to assess present behavioral competencies and to explore directions for future development. Control subjects had no further contact with the researcher until the posttest.

The treatment group was first divided into small security groups which consisted of subjects assigned to small-groups on the basis of similarity of behavioral preferences as measured by the Myers-Briggs Type Indicator, a self-report inventory based upon Carl Jung's theory of personality type. Typological theory suggests that the different dominant types--sensation, intuition, feeling, thinking--foster different behavioral patterns. The type which is most developed in each person is the most influential in personal behavior (Myers, 1962). The dominant function is accompanied by an auxiliary function.

As far as possible, security groups were formed according to similarity of dominant and auxiliary functions. These groups met for one and one-half hours a week for four weeks. Research and theory on behavioral development support the importance of homogeneity in providing a base

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from which a person can move toward more stimulating and learning experiences in his personal and social environment.

After a month of group meetings, security groups were dissolved and stimulation groups were formed according to complementarity and/or opposition of dominant behaviors. As far as possible, each of the four behaviors were represented as a dominant function within the group. Stimulation groups met for one and one-half to two hours a week for eight weeks. These groups provided the learning encounters which were designed to broaden each participant's behavioral repertoire by means of modeling and experiencing new behaviors.

At the conclusion of the twelve weekly meetings, all participants in the program, both experimental and control subjects, were posttested on the OPI and the GDDQ. The interval between the pretest and posttest was a little more than four months.

The research project was terminated by a personal interview with each member of the experimental group in order to reflect individual perceptions and reactions to the program as well as to assess how each student perceived her own progress. Two weeks after the final interview, experimental subjects were asked to complete anonymous self-report evaluations regarding the effectiveness of the program (see Appendix C).

Experimental Treatment

The following steps describe the treatment employed in this study in order to facilitate personal growth and development and group interaction.

1. After pretesting, each student in the experimental group was interviewed by the researcher in order to confirm behavioral preferences as indicated by the MBTI and to explore areas for future growth and development.

2. Experimental subjects were assigned to security groups according to similarity of behavioral preferences as determined by the MBTI (see Table 3-5).

    a. Security groups, consisting of four to six members, met for one and one-half hours each week for four weeks with the experimenter present as facilitator in each case.

    b. During the time of these meetings, one-half of the experimental subjects resided at the Ann Arbor unit because of their nursing affiliation. Therefore, two security groups met in Ann Arbor and three groups met in Pontiac.

TABLE 3-5.--Composition of security group formation with treatment subjects according to scores on the MBTI.

	Group Description	Group Composition
Group I	Dominant Sensing Types	ESFP ESFP ESFP ESFP ESFP
Group II	Dominant Sensing Types	ESFP ESFP ISFJ ISFJ
Group III	Two Dominant Thinking Types and Two Dominant Sensing Types with Auxiliary Thinking Function	ISTJ ESTJ ISTP ISTJ
Group IV	Dominant Feeling Types	ESFJ ISFP ESFJ ISFP ESFJ* ESFJ*
Group V	One Dominant Intuitive Type and Four Dominant Feeling Types with Auxiliary Intuitive Function	INFJ ENFJ INFP ENFJ INFP

*These subjects were terminated from the program after four weeks of meetings when they moved out of the residence for reasons of marriage.

c. The focus of the security groups was on the identification, experience, and affirmation of behaviors common to members in the group.

d. The activity of the groups centered on informal discussion of MBTI results, sharing of personal perceptions and responses, and determination of areas of needed growth and development.

e. At the end of four group meetings, security groups were terminated, and members were told that the formation of stimulation or learning groups would provide greater opportunity for personal behavioral development by means of inclusion into each group of persons demonstrating a broad variety of behaviors.

f. At the termination of security groups, the participants were encouraged to use their personal freedom in choosing whether or not to continue in the project.

3. Experimental subjects were then assigned to stimulation groups which were formed on the basis of complementarity and/or opposition of behavioral preferences as indicated by the MBTI. These groups, consisting of five or six members, met for one and one-half to two hours a week for eight weeks (see Table 3-6).

TABLE 3-6.--Composition of stimulation group formation with treatment subjects according to scores on the MBTI.

	Group Composition	Type Description	
		Dominant Function	Auxiliary Function
Group I	ESFJ	Feeling	Sensing
	ISFJ	Sensing	Feeling
	ESFP	Sensing	Feeling
	ISTJ	Sensing	Thinking
	INFP	Feeling	Intuition
Group II	ESFP	Sensing	Feeling
	ESTJ	Thinking	Sensing
	INFP	Feeling	Intuition
	ENFJ	Feeling	Intuition
	ESFP	Sensing	Feeling
	ESFP	Sensing	Feeling
Group III	ISTP	Thinking	Sensing
	ENFJ	Feeling	Intuition
	ESFP	Sensing	Feeling
	ISFJ	Sensing	Feeling
	ISFP	Feeling	Sensing
Group IV	ISTJ	Sensing	Thinking
	INFJ	Intuition	Feeling
	ESFP	Sensing	Feeling
	ESFP	Sensing	Feeling
	ESFJ	Feeling	Sensing
	ISFP	Feeling	Sensing

a. The focus of these meetings was on the understanding and acquisition of developmental behaviors in an environment of minimal stress and anxiety.

b. Each meeting was focused on one particular function with each behavioral function covering two meetings.

c. The activity of the group centered on the

   1. awareness, understanding, and acceptance of behaviors represented in the group;
   2. identification, discussion, and observance of the behavior to be learned;
   3. explanation and modeling of the behavior by persons with competency in it;
   4. individual practice in the behavior by role playing and allied activities;
   5. identification and expression of individual feelings and reactions relating to the behavioral experience;
   6. affirmative feedback by role models, group members, and the facilitator;
   7. discussion and identification of situations in which the behavior could be practiced during the following week.

d. The specific strategies for behavioral development which were employed during the group meetings were:

1. To facilitate the development of sensing behaviors, specific strategies included

a. Self-wareness exercises involving the senses of taste, touch, and smell (Otto, 1966, 1968; Schutz, 1967);

b. Experiences in awarness of personal physical presence (Ibid.).

2. To facilitate the development of intuition, experiences included

a. Contemplative concentration on an object, a candle, a mirror, and the sky (Smith, 1963);

b. An Oriental tea ceremony involving the attitudes of attention, reverence, harmony, and celebration;

c. Fantasizing and imagining stories behind pictures presented by members of the group.

3. To facilitate development of feeling behaviors, strategies included:

a. Reflection, awarness, and expression of personal feelings which arose while

participating in a corporate effort to create one design out of construction blocks;

b. Group discussion and/or experiences designed to stimulate feeling among members, reflection and awareness of the feeling, and finally verbal expression of the feeling, negative as well as positive.

c. Activities involving expression and communication of feeling through touch, sight, and one-word verbalizations;

d. Expression of feelings in diads and in small groups.

Concentration on feeling behaviors took place during the first two stimulation group meetings in order that identification and verbalization of feelings might be facilitated during subsequent meetings, thus reducing stress and anxiety.

4. To facilitate the development of thinking behaviors, group activities included:

a. Identification and modeling of assertion as distinct from hostility and aggression, the use of assertion and its role in personal and

professional life, and the personal cost of lack of assertiveness, i.e., self-depreciation and lack of self-esteem;

b. Discussion of the dynamics of decision-making, including personal risk, responsibility, thrust for life, and celebration;

c. Practice in relaxation techniques which are designed to calm the sympathetic nervous system, thus reducing personal tention and anxiety;

d. Identification of situations in personal life, in professional contacts, and in the residence hall where assertion might be practiced.

Each member in the small group was encouraged to test and experience each behavior. Therefore, each participant had the opportunity to feel comfortable with his own perceptions and responses and to model his behavioral competencies for other members of the group. This procedure also emphasizes the acceptability and necessity of all behaviors and of each

person's power to increase and broaden his own behavioral repertoire.

Instrumentation

Omnibus Personality Inventory

The Omnibus Personality Inventory (OPI), Form F, consists of 885 true-false personality items, most of which were reportedly derived from the Minnesota Multiphasic Personality Inventory and the California Psychological Inventory. Consisting of fourteen scales, the OPI purposes to deal with "the relevant aspects of the individual as a changing, learning organism in the special social context of academic institutions" (Heist and Yonge, 1968, 3). It was constructed to assess certain dispositions, attitudes, and values which are considered to be particularly relevant in the areas of intellectual activity, social-emotional development, and normal ego-functioning. Each scale was constructed because of its assumed relevance to behavior in the academic setting, "and some of these scales serve as important variables by which to assess development and change presumably related to college experiences" (Ibid., 26).

Form F of the OPI includes fourteen scales which are listed below and which are described in Appendix A.

Thinking Introversion (TI)	Impulse Expression (IE)
Theoretical Orientation (TO)	Personal Integration (PI)

Estheticism (Es)	Anxiety Level (AL)
Complexity (Co)	Altruism (Am)
Autonomy (Au)	Practical Outlook (PO)
Religious Orientation (RO)	Masculinity-Femininity (MF)
Social Exproversion (SE)	Response Bias (RB)

The instrument has been used extensively for research purposes, often within the context of longitudinal studies of personality development among college students (Chickering, 1969; Katz & Associates, 1968; Korn, 1968b; Trent and Medsker, 1968; Webster, et al., 1962). The authors support its use for longitudinal comparisons of scores from two administrations as a means of providing a basis for measuring change in a number of non-intellective characteristics over a period of time (Heist and Yonge, 1968).

Reliability coefficients of .71 to .93 (Kuder-Richardson 21 Formula) appear sufficiently high. The median reliability coefficient is .84. Such stability permits the use of the instrument in studies concerning intraindividual comparisons over time (Buros, 1965).

Most of the external validity evidence consists of correlations with other tests. The following statement from the Sixth Mental Measurements Yearbook (Buros, 1965) help to summarize early validation research:

> OPI scales are correlated with appropriate scales from the Study of Values, California Psychological Inventory, Myers-Briggs Type Indicator, Stern Activities Index, and Strong Vocational Interest Blank. . . . This instrument would be most useful in research on group differences involving relatively normal subjects.
>
> Paul M. Kjeldegaard
> Harvard University

This inventory has been selected because (1) it is specifically designed to measure dimensions of student behavior related to the goals of nursing education; (2) it is used extensively as a research tool in studies relating to student development; (3) it purports to measure those dimensions of personality development which were of interest in this study.

Group Dimensions Descriptions Questionnaire

The Group Dimensions Descriptions Questionnaire (GDDQ) consists of 150 statements regarding group characteristics or attributes. The respondent to this questionnaire expresses his answers for (attitudes toward, perceptions of, impressions or knowledge about) a specific group by indicating to what degree he regards each statement as stating something that is true about the group. The 150 statements are arranged to yield scores on thirteen group dimensions (see Appendix B).

Scores on the thirteen group dimensions provide a profile of an individual's orientation (perception and attitude) toward a group. A profile based on the responses

of all members of a group gives a description of the group as it appears to its members. Therefore, the instrument may be used to assess a group member's orientation toward the group or it may be used to obtain a description of the group as it is perceived by its members (Hemphill, 1967).

Although the instrument yields thirteen scores relating to various group dimensions, the particular focus of this study is concerned with the seven dimensions indicated in the hypotheses: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Reliability of the group dimensions scores varies widely with the dimension described. The scores for two dimensions, Stability and Hedonic Tone, yield lower reliabilities due to the fact that they are based on responses to only five items each. Reliability for the other eleven dimensions ranges from .66 to .92. These estimates of reliability are from three studies, and they appear to be adequate.

The discussion of validity raises questions regarding group members' divergent perceptions of the same group. When members disagree, are their percetions invalid? When members agree, are they more valid? The researcher recognizes this concern; however, the following excerpt from the Fifth Mental Measurements Yearbook helps to clarify its use in this study:

> For one who would like to discover how the members of a "group"--defined broadly as any social unit regardless of its size, geographical distribution or internal organization--perceive its "Autonomy," "Homogeneity," degree of "Intimacy," amount of "Participation," "Stratification," "Stability," and other interesting characteristics, this questionnaire lies ready to be used. . . . The investigator in pursuit of such systematic knowledge [regarding the formation, structure, and dynamics of groups] will welcome these scales and the technically sound development research described in the manual.
>
> Jay Jackson

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) consists of a forced-choice, self-report inventory designed for use with normal subjects. Based on Carl Jung's typology of personality, the instrument aims to ascertain people's basic behavioral preferences in regard to perception and judgement so that the effects of the preferences may be put to practical use (Myers, 1962).

The four dimensions of the Indicator test the following dichotomous preferences:

	Preference as between	Affects on individual behavior
I	Introversion	Whether the person prefers to direct his mental activities
	or	toward the external world of people and things or toward
E	Extroversion	the inner world of concepts and ideas
S	Sensation	Whether the individual prefers to perceive his world in a
	or	factual and realistic way or to perceive imaginative
N	Intuition	possibilities in an inner world of concepts and ideas

	Preference as between	Affects on individual behavior
T	Thinking	Whether the subjects prefers to arrive at judgments by impersonal, logical analysis or by the subjective processes of appreciating personal and interpersonal values
	or	
F	Feeling	
P	Perception	Whether the person prefers to take a judgmental attitude or an understanding, perceptive attitude toward his environment (Buros, 1965; Myers, 1962)
	or	
J	Judgment	

Since the instrument was originally developed more than twenty years ago, there is a considerably large body of reliability and validity data available for the Indicator, a substantial part of which is detailed in the manual. Internal consistency reliabilities range from .75 to .85. These figures are comparable to other well-known personality inventories, the Minnesota Multiphasic Personality Inventory, California Psychological Inventory, and the Guilford-Zimmerman Temperament Survey. While the issue of construct validity is always a complex one, Sticker and Ross (1963) conclude that the SN and TF scales may reflect the dimensions they represent, but the EI and JP scales are more tentative.

Many types of research projects have utilized this instrument. Studies indicate a relationship between behavioral type preferences and (1) frequency of personality change in college students, (2) choice of religious vocations (Greenfield, 1969; Nauss, 1968), and

(3) behavioral development in small group interaction (Grass, 1970).

Similarity of type preferences appear to be positively related to roommate satisfaction (Eigenbrod, 1969) and to the length of client-counselor relationships (Mendelsohn and Geller, 1963).

Complementarity of behavioral preferences seem to be related to small group effectiveness (Grass, 1970; McCary, 1970).

Although there has been much conflicting discussion about the theoretical bases of the instrument and the statistical significance of the continuous scores, the debate is inconclusive. However, the resolution of this debate is not crucial to this study.

The MBTI was selected for this study because of its ability to distinguish behavioral types within group settings. The formation of small-groups as implemented in this project was dependent upon behavioral type preferences indicated by this instrument. One reviewer supports this position, stating that "an intriguing possibility for use of the Indicator is within groups, such as married couples, families, or work groups" (Buros, 1965).

Statement of Hypotheses

Research studies in college student development and small-group interaction support the central hypothesis that nursing students who participate in goal-oriented

small-group experiences demonstrate personal growth and development.

The specific hypotheses to be tested are:

Hypothesis 1: Students in the experimental group of the behavioral development program (BDP_E) will demonstrate favorable change on posttest scores of the fourteen scales of the Omnibus Personality Inventory.

Hypothesis 2: Students in the control group of the behavioral development program (BDP_C) will not demonstrate favorable change on the posttest scores of the fourteen scales of the Omnibus Personality Inventory.

Hypothesis 3: Students in the experimental group (BDP_E) will demonstrate favorable change on posttest scores for each of the following dimensions of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Hypothesis 4: Students in the control group (BDP_C) will not demonstrate favorable change on posttest scores for each of the following scales of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Research Design and Statistical Analysis

The research design employed in this study is a pretest-posttest nonequivalent control group design (Campbell and Stanley, 1963). Treatment and control groups constituted naturally assembled collectives determined by factors outside the scope of this study.

The treatment was randomly applied to the experimental group. The design may be expressed as follows:

0	X	0
0		0

Experimental programs are often evaluated on the basis of pretest-posttest changes. This is the design that is generally used when no randomly equivalent control group exists. However, the inclusion of even an unmatched and/or nonequivalent control group reduced the equivocality of interpretation over what is obtained in the one-group pretest-posttest design (Ibid., 47; Kerlinger, 1964).

In designing this research, it was impossible to employ random assignment of subjects to two groups because the groups were constituted six months prior to the implementation of this study. Students had been assigned to one of two residences on the basis of proximity to home and residential space. There is no evidence of assignment of students based upon personality characteristics, aptitude, behavioral competencies, or any other variable which would be significant to this research.

Nevertheless, analysis of pretest scores showed more significant differences between the two groups than had been initially expected. The MBTI pretest scores indicate significant differences between the sensation-intuition and the feeling-thinking preferences, with the

control subjects apparently preferring the intuitive and feeling functions to a significantly greater degree than the treatment subjects (see Table 3-7).

The theoretical bases of typology of personality assumes that differences in behavioral type preferences would indicate marked differences in individual behavioral responses, growth patterns, and in group interaction. In view of this, it has been assumed that the treatment and control groups were not equivalent and are, therefore, not comparable.

Large differences between the groups were also reflected on the following OPI pretest scale scores: Thinking Introversion, Complexity, Social Extroversion, Anxiety Level, and Practical Outlook.

Because the experimental treatment was based upon the MBTI pretest scale scores, and because the OPI pretest scores indicated wide differences between the groups, it was determined that these significant differences on the pretests made comparisons of change scores inappropriate.

Therefore, the analysis chosen for this study is a test for significant changes on the various scales from pretest to posttest. This analysis was carried out separately for each group. Specifically, a correlation t test between the pretest scores and posttest scores was computed to determine if changes were significantly different from zero.

TABLE 3-7.--Frequency of MBTI Dominant Types and Auxiliary Functions in the research sample.

Dominant Type	Auxiliary Function	Index	Treatment Group		Control Group	
			N	%	N	%
Sensing			11	50.0	2	8.3
	with feeling	ESFP, ISFJ	9	40.9	2	8.3
	with thinking	ESTP, ISTJ	2	9.1	0	
Intuition			1	4.5	11	45.8
	with feeling	ENFP, INFJ	1	4.5	10	41.4
	with thinking	ENTP, INTJ	0		1	4.1
Thinking			2	9.1	1	4.1
	with sensing	ESTJ, ISTP	2	9.1	1	4.1
	with intuition	ENTJ, INTP	0		0	
Feeling			8	36.4	10	41.4
	with sensing	ESFJ, ISFP	4	18.2	4	16.6
	with intuition	ENFJ, INFP	4	18.2	6	25.0

Follow-up interviews and student self-report evaluations were conducted with treatment subjects in order to assess their responses to the project as a source of supplementary descriptive data.

Summary

This research sought to test one method of purposeful intervention into a residential environment in order to facilitate students' behavioral potential on the one hand, and to identify and strengthen behavioral competencies on the other.

The population from which the research sample was drawn consisted of the total population of second-year nursing students who lived in residence at Mercy School of Nursing of Detroit. The research subjects are all female, and they appear relatively homogeneous in respect to age, race, educational background, and parental economic status.

The experimental procedure includes two types of group formation which were constructed on the basis of scores on the Myers-Briggs Type Indicator. Security groups were formed on the basis of similarity of behavioral preferences for the purpose of identification and affirmation of behaviors represented in the group. Stimulation groups were formed on the basis of complementarity and opposition of dominant behaviors for the purpose of understanding, accepting, and acquiring the behaviors represented in the group.

It has been hypothesized that (1) nursing students who participate in goal-oriented small group experiences will demonstrate personal behavioral development according to scale scores on the Omnibus Personality Inventory and the Group Dimensions Descriptions Questionnaire; and (2) nursing students who do not participate in the small group experiences will not demonstrate personal behavioral development as indicated by scale scores on the above instruments.

The instruments employed to test these hypotheses are the Omnibus Personality Inventory (Form F) and the Group Dimensions Descriptions Questionnaire which are the pretest and posttest measures in this multivariate design. The research design used in this study is a pretest-posttest nonequivalent control group design. The statistical analysis was a test for significant changes on the various scales from pretest to posttest. This analysis was carried out separately for each group. Specifically, a correlated t test between the pretest scores and posttest scores was computed to determine if changes were significantly different from zero at the .05 level of confidence.

Follow-up interviews and student self-report evaluations were conducted with treatment subjects to assess their responses to the project as a source of supplementary descriptive date.

A detailed analysis of the project data is reported in Chapter IV.

CHAPTER IV

ANALYSIS AND RESULTS

Presentation of Data

Forty-six subjects, constituting two naturally assembled collectives, participated in the small-group behavioral development program. The participants, all second-year students in a two-year diploma school of nursing, resided at two separate residences--Ann Arbor, Michigan, and Pontiac, Michigan. The treatment was randomly assigned to the Pontiac group (twenty-two subjects). Ann Arbor residents became the control group (twenty-four subjects). The treatment subjects were divided into small security groups[1] which met for an hour and a half, once a week for four weeks. At the end of this time, security groups were dissolved and treatment subjects were assigned to stimulation[2] or learning groups which met for one and

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[1]Security groups consisted of subjects assigned to small groups on the basis of similarity of behavioral preferences as measured by the MBTI.

[2]Stimulation groups consisted of subjects assigned to small groups on the basis of complementarity and/or opposition of behavioral preferences as measured by the MBTI.

one-half to two hours a week for eight weeks. Group assignment was based upon the results of the Myers-Briggs Type Indicator (MBTI) which reflect individual behavioral preferences.

The Omnibus Personality Inventory (OPI), Form F, and the Group Dimensions Descriptions Questionnaire (GDDQ) had been administered to both control and treatment subjects in the latter part of the winter term (mid-February, 1970), prior to the initiation of the project. A second administration of the OPI and the GDDQ took place at the end of the behavioral development program (July, 1970). The interval between the pretest and the posttest administration was four and one-half months. The fourteen scales of the OPI (defined in Appendix A) and the seven scales of the GDDQ (defined in Appendix B) are the dependent variables in this multivariate design.

Because random assignment of subjects was impossible in this study, every effort was made to use samples from the same population. Similarity of the groups was examined, utilizing all available information--age, sex, social class, parental occupational classifications and educational background. However, pretest differences revealed at the termination of the study indicated significant differences between treatment and control group subjects on the Sensation-Intuition, Thinking-Feeling, and Perception-Judgment scales of the MBTI.

Theory of personality type suggests that differences in behavioral preferences indicate differences in growth patterns, in personal perceptions and responses to reality, toward one's inner and outer world. Consequently, it has been assumed that the treatment and control groups were not equivalent and are, therefore, not comparable. Comparisons of relative growth and changes of the two groups would not be valid since the two groups did not begin at the same point.

Therefore, the analysis chosen for this design is a test for significant changes on the various scales of the OPI and the GDDQ which may have occurred between the pretest and posttest administrations. This analysis was computed separately for each group. Specifically, a correlated t test between pretest and posttest scores was computed to determine if changes were significantly different from zero at the .05 level of confidence.

Descriptive data compiled from final interviews and self-report evaluations of the effectiveness of the program are included as a source of supplementary descriptive data.

No attempt is made in this chapter to draw conclusions or to make substantive inferences about these data, since those topics are treated in some detail in Chapter V.

Hypothesis 1: Students in the experimental group of the behavioral development program (BDP_E) will demonstrate favorable change on the posttest scores of the fourteen scales of the Omnibus Personality Inventory.

A summary of pretest and posttest raw score means and the mean differences of the treatment group are presented in Table 4-1. A composite profile derived by rounding off the raw scores and plotting standard score positions on the graph, are presented for the experimental group in Figure 4-1.

A visual study of the profile, along with a detailed look at the raw-score means and the mean differences presented in Table 4-1, reveals that the pretest and posttest differences within the treatment group are small on the first six scales of the OPI. There is a slight decrease in scores on the Thinking Introversion and Theoretical Orientation scales, while the Estheticism, Complexity, and Religious Orientation scales reveal a slight increase. The Autonomy scale shows a large change, though not to a significant degree. These scales measure intellectual values and interests, and related non-authoritarian attitudes. The authors of the Inventory view these measures as relatively stable for the greater population of students (Heist and Yonge, 1962).

The scales measuring social-emotional adjustment characteristics indicate change in a favorable direction.

TABLE 4-1.--Mean pretest and posttest raw scores, standard deviations, and mean differences on the OPI scales of the treatment group.

OPI Scale	Pretest Mean	Standard Deviation	Posttest Mean	Standard Deviation	Mean Difference
Thinking Introversion	21.14	6.42	20.91	7.85	-0.23
Theoretical Orientation	16.41	4.51	15.86	5.55	-0.55
Estheticism	12.05	4.24	12.18	4.81	0.14
Complexity	14.09	4.48	15.00	6.71	0.91
Autonomy	25.23	6.75	26.36	7.15	1.14**
Religious Orientation	11.23	4.18	11.36	3.82	0.14
Social Extroversion	22.14	6.79	22.77	7.73	0.64
Impulse Expression	27.00	8.22	26.36	9.65	-0.64
Personal Integration	33.73	7.89	35.59	10.11	1.86**
Anxiety Level	12.68	3.79	13.50	4.04	0.82
Altruism	22.32	4.19	24.41	4.56	2.09*
Practical Outlook	16.27	5.09	14.68	5.04	-1.59*
Masculinity-Femininity	23.45	4.77	24.59	5.31	1.14**
Response Bias	11.68	3.36	12.09	3.94	0.41

Note: $N_t = 22$.

*Indicates significance at the .05 level of confidence.

**Although not significant, these scores tended to show large change in a consistent direction.

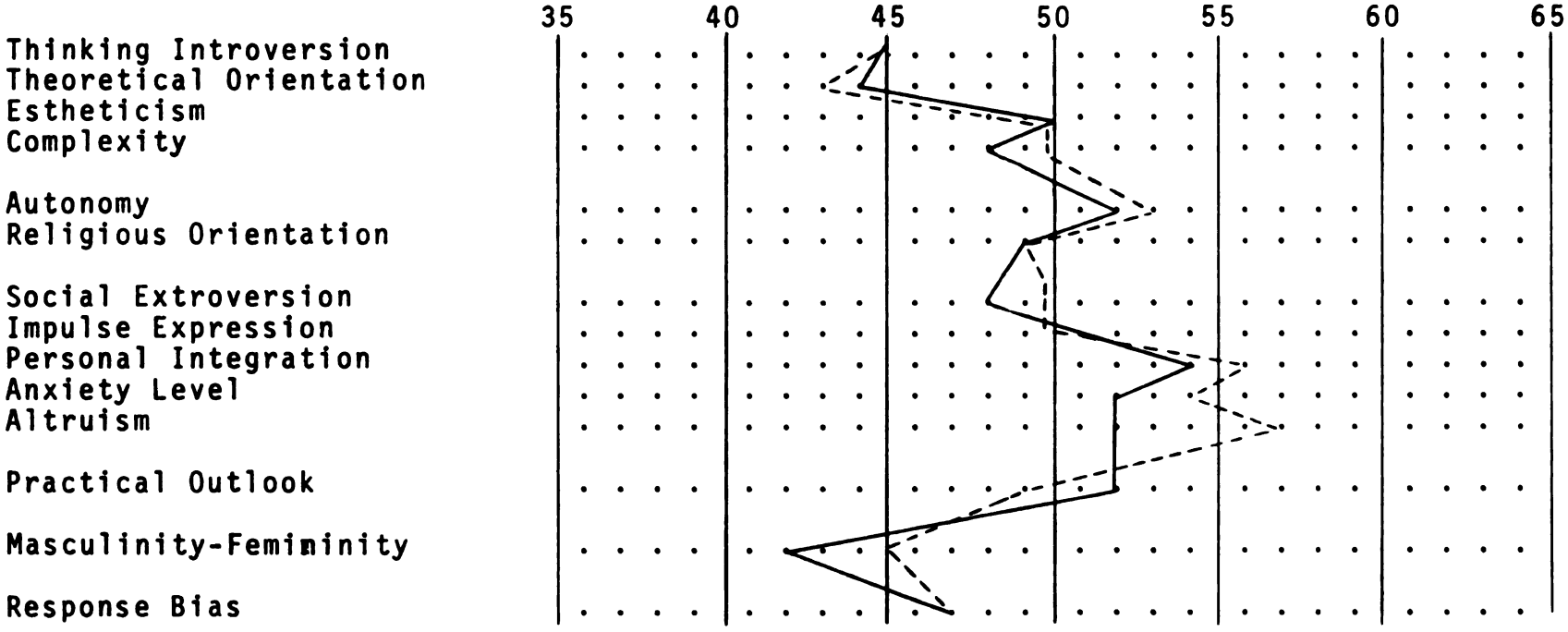

Figure 4-1.--Composite profile of pretest and posttest OPI mean standard scores of treatment group subjects.

Note: Solid line represents mean standard scores of the pretest. Broken line represents mean standard scores on the posttest.

The Social Extroversion and Anxiety Level scales show a slight increase in a positive direction, with the Impulse Expression scale reporting a slight decrease of .64. However, as indicated in Table 4-1, treatment subjects indicate a large increase on the Personal Integration scale, thus reporting growth toward emotional and psychological adjustment.

On the Altruism scale, a high score indicates in large part a need to affiliate with others and to be concerned about them. High scorers are affiliative persons, trusting and ethical in relations with others. Low scorers tend not to consider the feelings and welfare of other persons. Participants in the treatment group express significant favorable change on this measure at the .05 level of confidence. Students who participate in the small-group experiences report increased affiliative tendencies.

A second scale on which there is significant change is Practical Outlook. As indicated on Table 4-1, the treatment group mean difference on this scale is -1.59, indicating significant change. Therefore, it may be said that students who participate in the behavioral development program show less tendency toward authoritarian and conservative attitudes.

Similarly, the Masculinity-Femininity scale reports a large change which indicates a movement toward

more masculine interests and attitudes--objectivity over subjectivity, and rationality over emotionality.

Predictably, the Response Bias scale indicates very slight change in test-taking attitudes.

In summary, Hypothesis 1 is supported. Participants in the behavioral development program report an increase in affiliative, trusting feelings and relationships toward others (significant increase on Altruism scale) as well as movement toward nonauthoritarian, liberal, and less pragmatic values and attitudes (significant decrease on the PO scale). Although not significant, change on three scales, Autonomy, Personal Integration, and Masculinity-Femininity, indicate a persistent trend toward personal growth. These changes seem consistent with previous research and theory of student development and small-group interaction.

The intellectual disposition scales, Thinking Introversion, Theoretical Orientation, Estheticism, Complexity, and Religious Orientation remain in accord with the authors' prediction of stability of these measures over time.

Participants in the small group experience express a slight decrease in feelings of anxiety (a higher AL score) and in readiness to express impulses (a lower IE score). Their tendencies toward Social Extroversion show only slight increase.

Hypothesis 2: Students in the control group of the behavioral development program (BDP_C) will not demonstrate favorable change on the posttest scores of the fourteen scales of the Omnibus Personality Inventory.

As demonstrated in Figure 4-2, there is very slight change in pretest and posttest scores for the first five scales on the Inventory. The Thinking Introversion scale shows a decrease, while the Estheticism scale indicates a slight rise. The total main effect of these intellectual disposition categories, however, appears to change little, as predicted by the authors of the Inventory (Ibid.).

On the other hand, the final scale associated with the measurement of intellectual values and interests, the Religious Orientation scale, shows a significant increase in change scores from the pretest to the posttest. This scale purports to measure liberal, independent, nonconventional religious beliefs and attitudes. High scorers tend to reject conventional religious beliefs, while low scorers manifest a strong commitment to Judo-Christian belief systems. A significant increase in this scale seems to indicate that control subjects became more liberal, independent, and unconventional in religious attitudes and beliefs. However, this scale is closely related to and associated with the Autonomy scale which, as indicated in the mean scores presented in Table 4-2, shows no change.

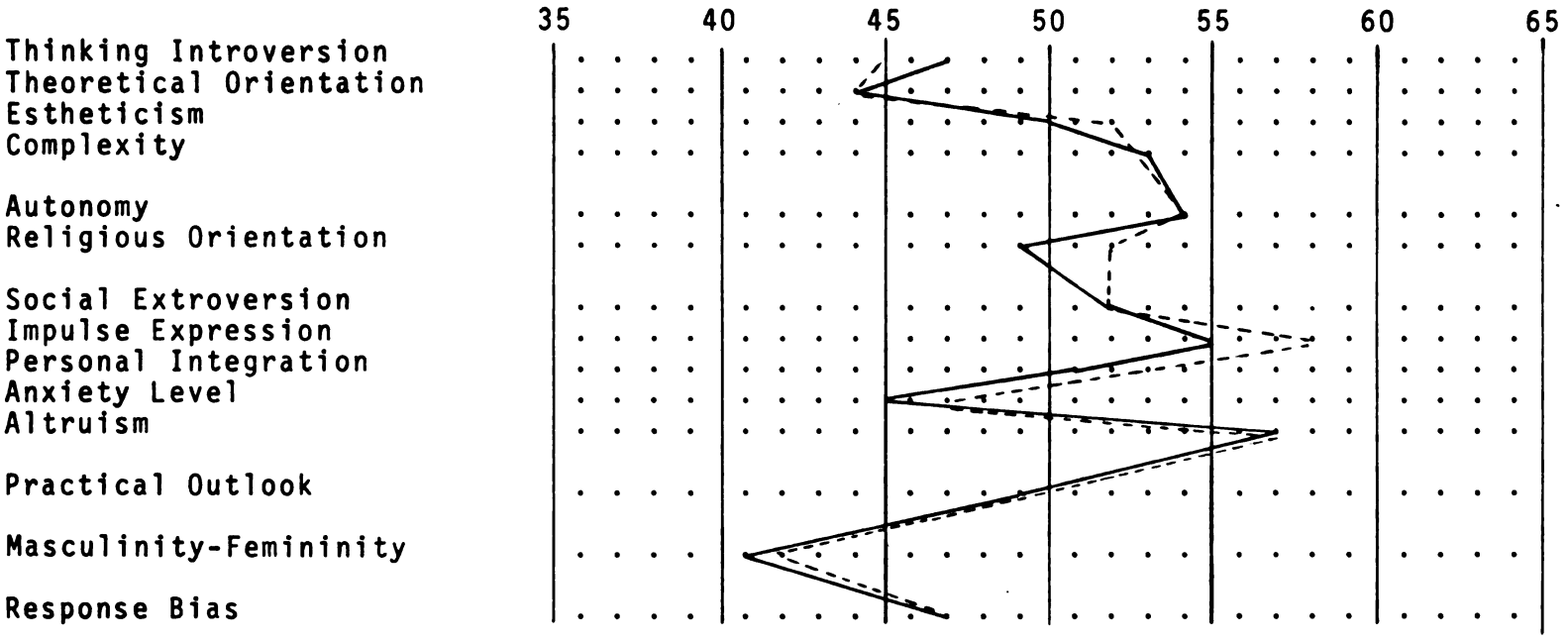

Figure 4-2.--Composite profile of pretest and posttest OPI mean standard scores of control group subjects.

Note: Solid line represents mean standard scores on the pretest. Broken line represents mean standard scores on the posttest.

TABLE 4-2.--Mean pretest and posttest raw scores, standard deviations, and mean differences on the OPI scales of the control group.

OPI Scale	Pretest Mean	Standard Deviation	Posttest Mean	Standard Deviation	Mean Difference
Thinking Introversion	23.04	7.41	21.29	7.45	-1.75
Theoretical Orientation	16.33	6.37	15.50	6.95	-0.83
Estheticism	12.13	4.26	12.88	4.86	0.75
Complexity	16.63	5.90	17.13	6.51	0.50
Autonomy	26.88	7.02	26.92	7.01	0.00
Religious Orientation	11.29	3.57	12.46	4.14	1.17*
Social Extroversion	25.13	7.09	25.33	7.49	0.21
Impulse Expression	30.17	7.82	32.71	8.10	2.57*
Personal Integration	31.79	10.21	31.67	11.02	-0.13
Anxiety Level	10.25	4.36	10.63	4.51	0.38
Altruism	23.88	4.89	23.79	5.80	-0.03
Practical Outlook	13.50	5.73	14.25	5.84	0.75
Masculinity-Femininity	22.17	4.14	22.79	3.20	0.63
Response Bias	11.46	4.18	11.63	4.78	0.17

Note: $N_c = 24$

*Indicates significance at the .05 level of confidence.

According to raw mean scores and the standard deviations presented in Table 4-2, the social-emotional adjustment scales indicate slight favorable change on the Social Extroversion scale and the Anxiety Level scale, while the Personal Integration scale shows a decrease in the standard deviation from 10.21 to 11.02. However, the Impulse Expression scale indicates significant increase from pretest to posttest scores.

The control group reports a slight decrease on the Altruism scale as well as a small increase on the Practical Outlook, Masculinity-Femininity, and Response Bias scales.

In summary, Hypothesis 2 is partially supported. Nursing students who do not participate in the behavioral development program apparently indicate significant increase in liberal, nonconservative religious attitude and beliefs (a higher RO score) and a significant increase in readiness to express impulses (a higher IE score).

However, these same students report an increase in feelings of isolation, loneliness, and aggression (a lower PI score) and a decrease in affiliative, trusting relationships with others (a lower Am score). Non-participants indicate no change toward liberal, independent, non-authoritarian attitudes and values (stable Au score).

The intellectual disposition scales show a tendency toward practicality as reported in the following mean score differences: -1.75 decrease in Thinking Introversion and -.83 decrease in Theoretical Orientation.

Hypothesis 3: Students in the experimental group (BDP_E) will demonstrate favorable change on posttest scores for the following dimensions of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

A summary of pretest and posttest stanine (standard) scores of the treatment group is presented in Figure 4-3. The composite profile is derived by rounding off standard score means and plotting the mean standard score positions on the graph (Hemphill, 1967).

A study of the figures presented in Table 4-3 reveals that the pretest-posttest variations within the treatment group are significant in five of the seven scales. The two remaining scales report change in a favorable direction, but not to as great a degree.

Treatment group subjects report a significant increase in group flexibility as reflected in freedom from custom, tradition, and codes of behavior (a higher Flexibility score). Treatment subjects also indicate a general feeling of pleasantness and agreeableness associated with group membership (increase in Hedonic Tone). Intimacy of group members as reflected by interpersonal behavior appears significantly high (increase on Intimacy scale). Participants in the small group program report that group membership has primary significance for its members as expressed by the kind of personal and

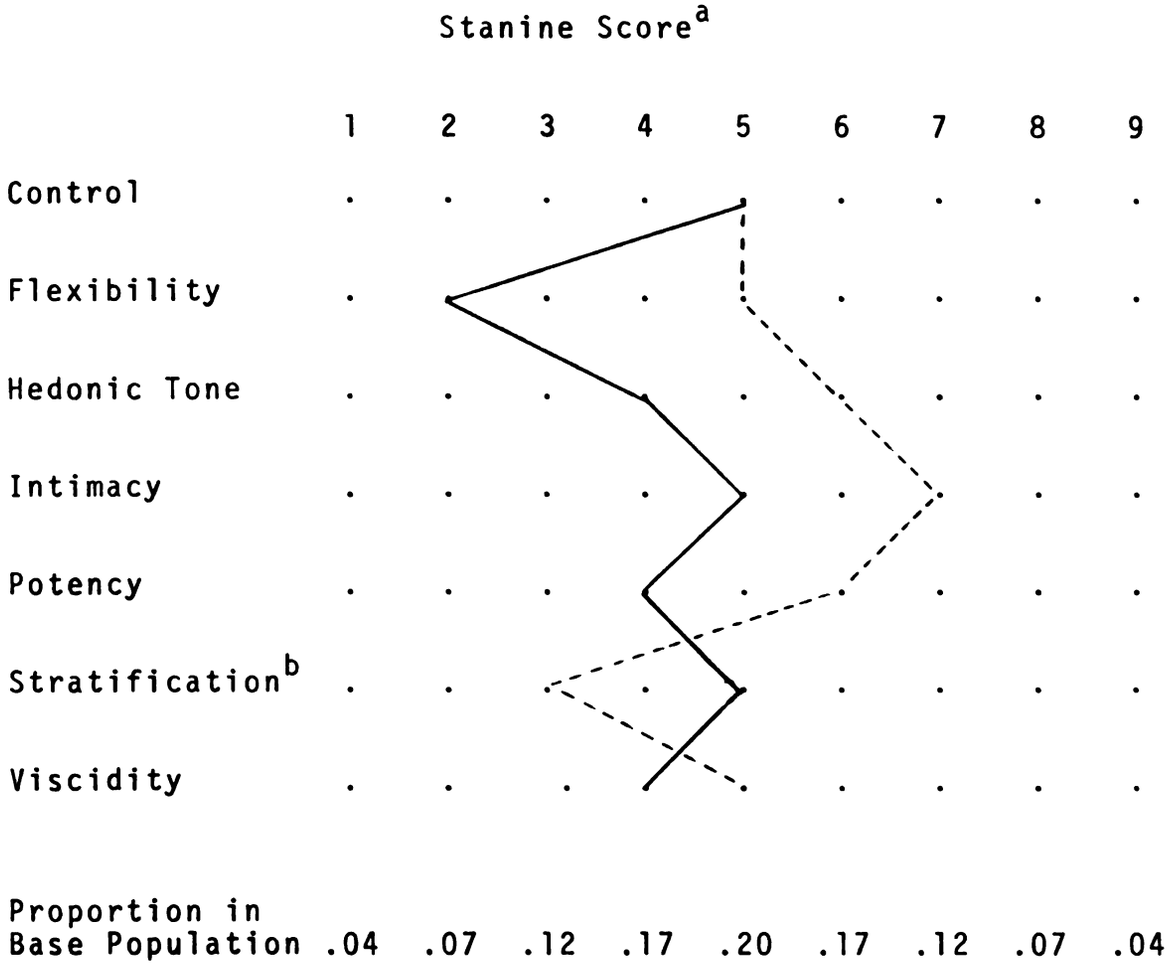

Figure 4-3.--Group Dimensions profile of pretest and post-test stanine scores for the experimental group.

Note: Solid line = pretest
Broken line = posttest

[a]A stanine score is a standard score.

[b]A positive change on the Stratification scale is indicated by a low score.

TABLE 4-3.--Mean pretest and posttest raw scores and mean differences on the GDDQ scales of the treatment group.

GDDQ Scale	Pretest Mean	Posttest Mean	Mean Difference
Control	30.5	31.5	1.00
Flexibility	26.1	33.0	6.95*
Hedonic Tone	17.4	22.2	2.85*
Intimacy	50.1	53.9	3.77*
Potency	46.7	51.7	4.95*
Stratification[a]	33.7	30.3	-3.41*
Viscidity	38.3	41.3	3.00

Note: $N_t = 22$.

*Indicates significance at the .05 level of confidence.

[a]A positive change on the Stratification scale is indicated by a low score.

interpersonal needs which the group is satisfying (increase in Potency dimension). Absence of dissension and personal conflict among members and an increase in group unity is indicated in an increase on the Viscidity scale. Treatment group members report a significant decrease in stratification among group members as reflected by the absence of status hierarchies and shared participation in power, privileges, obligations, and duties among the members (a lower score on the Stratification dimension of the GDDQ).

In summary, Hypothesis 3 is supported. Nursing students who participate in the behavioral development program report an increase in group growth and development as reflected by significant favorable treatment main effects across five dimensions of the GDDQ: Flexibility, Hedonic Tone, Intimacy, Potency, and Stratification. The group dimensions of Viscidity and Control show an increase in a positive direction, but not to as great a degree.

Hypothesis 4: Students in the control group (BDP_C) will not demonstrate favorable change on posttest scores for each of the following dimensions of the Group Dimensions Descriptions Questionnaire: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

A composite profile of pretest and posttest stanine (standard) scores for the control group is presented in Figure 4-4. A study of the profile indicates little change in the degree of pleasantness

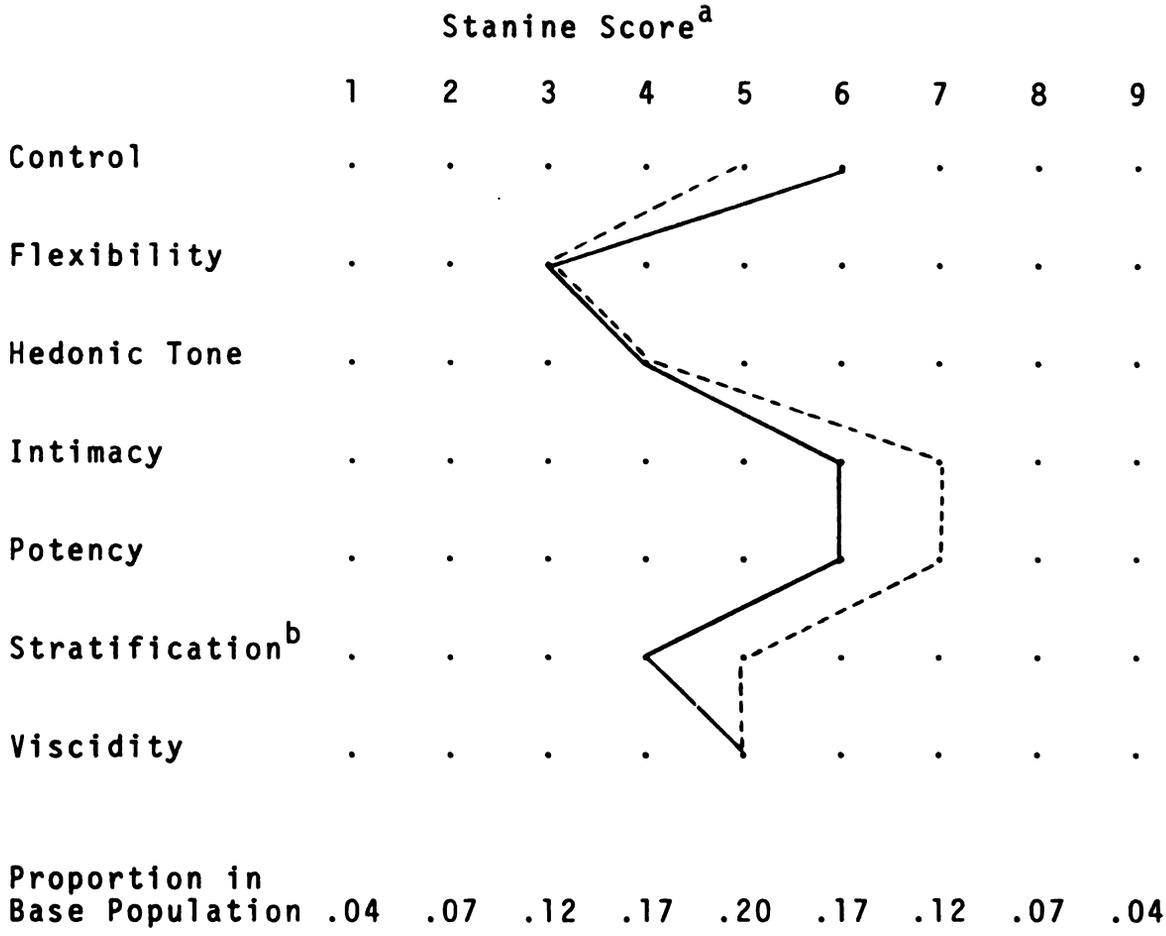

Figure 4-4.--Group Dimensions profile of pretest and post-test stanine scores for the control group.

Note: Solid line denotes pretest; broken line denotes posttest.

[a]A stanine score is a standard score.

[b]A positive change on the Stratification scale is indicated by a low score.

associated with group membership (Hedonic Tone). Group members likewise report little change in the unity of group members (Viscidity scale) and the degree of flexibility within the group (Flexibility scale). On the other hand, non-participants in small group interaction indicate an increase in the degree of control that group members tend to exert over one another (Control scale). Similarly, status hierarchies and differential distribution of power and privilege appear to have increased (increase on Stratification scale). The power of the group to have importance for its members and to satisfy their needs shows slight increase. Significant pretest-posttest change is reflected on the Intimacy dimension (see Table 4-4). Non-treatment participants in the program report an increase of intimacy among and between members which is reflected in interpersonal interaction.

In summary, Hypothesis 4 is supported. Nursing students who do not participate in the behavioral development program indicate significant favorable change on only one group dimension, i.e., Intimacy. Two dimensions, Control and Stratification, report change in an unfavorable direction. A small increase in a favorable direction is indicated on the Potency dimension. The Flexibility, Hedonic Tone, and Viscidity scales show such slight change that the stanine score is not affected.

TABLE 4.4--Mean pretest and posttest raw scores and mean differences on the GDDQ scales of the control group.

GDDQ Scale	Pretest Mean	Posttest Mean	Mean Difference
Control	34.1	32.7	-1.42
Flexibility	26.9	30.0	2.75
Hedonic Tone	17.5	18.3	0.75
Intimacy	50.9	56.3	5.38*
Potency	53.3	54.7	1.42
Stratification[a]	33.0	33.2	0.25
Viscidity	38.3	40.3	2.00

Note: $N_C = 24$.

*Indicates significance at .05.

[a]A positive change on the Stratification scale is indicated by a low score.

Descriptive Data: The Final Interview

At the completion of the behavioral development program, all twenty-two treatment group subjects took part in a follow-up interview with the experimenter. The purpose of the interview was to provide an opportunity for students to reflect their feelings and attitudes toward the project as well as to compile supplementary descriptive data regarding the effectiveness of the program.

During the interview students were asked the open-ended question, "Do you feel that participation in the program in any way supported or failed to support your personal growth and development?" A summary of responses appears in Table 4-5.

Eighty-six per cent of the participants indicated an increased ability to get along with other people. This factor appears to be closely related to other responses reflecting increased ability to understand various behaviors (59%) and to interact with people the student previously disliked or avoided.

Principal self-reported gains from participation in the project were self-acceptance (68%), increased ability to be assertive in appropriate situations (72%), and the recognition and acceptance of assertive behavior in others (63%).

Many students expressed an increased understanding of the feelings of others (59%), as well as a recognition

TABLE 4-5.--Frequency and per cent of responses during the final interview of treatment subjects indicating the effect of the Behavioral Development Program in personal life.

Item Description	Number of Responses	Per cent of Total Number of Participants
Greater ability to get along with other people	19	86.3
Increased ability to be assertive in appropriate situations	16	72.7
Greater self-acceptance	15	68.1
Ability to recognize and accept assertion in others	14	63.6
Greater facility in understanding and accepting behavior of others	13	59.0
More sensitive understanding of feelings in self and others	13	59.0
Ability to interact with people previously avoided	12	54.5
More comfortable with other people	11	50.0
Greater facility in verbalizing problems	10	45.4
Increased ability for decision-making	10	45.4
Increased ability to recognize and express feelings	10	45.4
Greater self-understanding	10	45.5
More able to be self-directive in environment of peer pressure	9	40.0
Increased self-confidence	8	36.3

TABLE 4-5.--Continued.

Item Description	Number of Responses	Per cent of Total Number of Participants
Greater ability to express anger and negative feelings	8	36.3
Increased recognition and appreciation of intuition	7	31.8
More comfortable in small groups	6	27.7
Greater appreciation of sensing behaviors	6	27.7
Conscious enjoyment of little things in life	6	27.7
Ability to enjoy self more	6	27.7
Increased awareness of the possibilities of self-development	3	13.6
More comfortable with interpersonal silence	1	4.5
Increased aggression and anxiety	1	4.5
Program did not assist in any way	1	4.5

and acceptance of their personal feelings, negative as well as positive. Closely allied to these responses are reports of greater ability to express feelings, including anger and negative emotions. These responses likewise are related to feelings of self-worth and self-acceptance.

Descriptive Data: Self-Report Evaluations

Two weeks after the termination of the program and the follow-up interview, all twenty-two treatment-group subjects were asked to complete an anonymous self-report evaluation of the behavioral development program (see Appendix C). The evaluation consisted of three parts: the effectiveness, or lack of effectiveness of the behavioral development program in relation to (1) team nursing and/or the hospital work situation, (2) the student residential environment, and (3) personal growth and development.

A summary of the first part, the effectiveness of the program in relation to team nursing and/or the hospital work experience, appears in Table 4-6. The frequency of responses (68%) suggests that an understanding of assertion and the ability to practice assertive behavior are assets in the work setting. Fifty-four per cent of the students indicate that an understanding of the various behavioral preferences assisted them in their interaction with professional colleagues, patients, and fellow students.

TABLE 4-6.--Number and per cent of student responses indicating the effectiveness of the behavioral development program in relation to the professional nursing situation.

Item Description	Number of Responses	Per cent of Total Number of Participants
Ability to understand and express assertion	15	68.1
Ability to understand and accept behavioral differences in others	12	54.5
Increased ability to get along better with nursing staff	10	45.4
Ability to accept position of team leader with confidence	9	40.0
Ability to recognize and express personal feelings	7	31.8
Ability to understand patients better	6	27.7
Increased ability to get along with nursing students	5	22.7
Increase in self-understanding	5	22.7
Ability to delegate responsibility in team leading	2	9.0
Program was not effective	1	4.5

Part two of the questionnaire asks about the effectiveness of the behavioral development program in relation to the residence setting. A summary of responses is presented in Table 4-7. Most frequent responses center around greater understanding and acceptance of other students (72%).

A summary of the third part of the questionnaire, the effectiveness of the program in relation to personal growth and development, is presented in Table 4-8. Over half of the participants report an increase in self-understanding (59%) and the ability to understand other persons (68%).

Summary

Second-year students in a two-year diploma school of nursing who participated in a twelve-week behavioral development program as explained in Chapter III, completed the Omnibus Personality Inventory and the Group Dimensions Descriptions Questionnaire at the termination of the program. The statistical analysis employed to test four hypotheses of interest is a correlated t test between pretest and posttest scores in order to determine if changes are significantly different from zero.

Hypothesis 1: Students in the experimental group (BDP_E) will demonstrate favorable change on posttest scores of the fourteen scales of the OPI.

TABLE 4-7.--Number and per cent of student responses indicating the effectiveness of the behavioral development program in the residential environment.

Item Description	Number of Responses	Per cent of Total Number of Participants
Better understanding of people and their behaviors	16	72.7
More able to recognize and accept assertion in others	10	45.4
More familiar with people previously avoided	8	36.3
More able to get along with others	7	31.8
Increase in self-confidence	5	22.7
Greater ability to recognize and express feelings	4	18.5
Increased understanding of personal interactions	4	18.5
More tolerant of other people	3	13.6
Better able to communicate with others	3	13.6
Able to share self more	2	9.0
More able to see good and bad aspects of cliques	2	9.0
Able to break loose from clique pressures	1	4.5
Personal rights are respected more	1	4.5
Program was not effective	1	4.5

TABLE 4-8.--Number and per cent of student responses indicating the effectiveness of the behavioral development program in relation to personal development.

Item Description	Number of Responses	Per cent of Total Number of Participants
Able to understand other persons better	15	68.1
Greater self-understanding	13	59.0
Increased ability to recognize and accept own feelings	9	40.9
Increased personal development	8	36.3
More able to be assertive	8	36.3
Greater self-acceptance	7	31.8
Increase in self-confidence	7	31.8
Conscious effort toward personal development	4	18.5
Ability to be free from other's control	4	18.4
Better relationships with others	4	18.4
Increase in personal independence	2	9.0
Enlarged concept of self in relation to others, i.e., important part of the whole	2	9.0
Increased appreciation of little things in life	1	4.5
Program was not effective	1	4.5

Supported: A t test between pretest and posttest scores indicates significant change in a favorable direction on the Practical Outlook and Altruism scales. Participants in the program also report large favorable change on the Autonomy, Personal Integration, and Masculinity-Femininity scales. Change in a positive direction is indicated on the Anxiety Level and Social Extroversion scales. The Impulse Expression scale shows a slight decrease. The over-all main effect of the intellectual disposition scales appears relatively stable.

Hypothesis 2: Students in the control group (BDP_C) will not demonstrate favorable change on posttest scores of the fourteen scales of the OPI.

Partially Supported: The first four scales which comprise the intellectual disposition category of the OPI appear relatively stable. Two scales, Religious Orientation and Impulse Expression show significant increase. Conversely, the Personal Integration and the Altruism scales indicate a decrease in the favorable development of associated behaviors, while the Autonomy scale remains stable. The remaining scales, Social Extroversion, Anxiety Level, Practical Outlook, Masculinity-Femininity, and Response Bias all report a slight tendency toward change in a favorable direction.

Hypothesis 3: Students in the experimental group (BDP_E) will demonstrate favorable change on posttest scores for the following dimensions of the GDDQ: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Supported: Students who participated in the program report significant change in a favorable direction on five of the seven scales: Flexibility, Hedonic Tone, Intimacy, Potency, and Stratification. The remaining two scales, Control and Viscidity, indicate change in a favorable direction, but not to as great a degree.

Hypothesis 4: Students in the control group (BDP_C) will not demonstrate favorable change on posttest scores for each of the following dimensions of the GDDQ: Control, Flexibility, Hedonic Tone, Intimacy, Potency, Stratification, and Viscidity.

Supported: Students who did not participate in the behavioral development program indicate significant favorable change on only one group dimension, i.e., Intimacy. Two dimensions, Control and Stratification report a change in an unfavorable direction. A slight increase in a favorable direction is indicated on the Potency dimension. The remaining scales, Flexibility, Hedonic Tone, and Viscidity, show such small change that the stanine score is not affected.

In a follow-up interview at the completion of the project, participants supported the effectiveness of the

project toward their personal growth and development. Most frequently cited effects include: (1) increased ability to get along with other people, (2) understanding and appreciation of various behaviors, (3) ability to recognize, accept, and practice assertive behavior, and (4) increased self-acceptance.

Two weeks after the termination of the project, treatment group subjects completed an anonymous self-report evaluation of the program. The evaluation consisted of three areas dealing with the effectiveness of the project in relation to (1) the hospital setting, (2) the student residential environment, and (3) personal growth and development. Most frequent responses regarding the effectiveness of the program in relation to the hospital setting are (a) ability to understand and to practice assertive behavior, and (b) ability to understand and appreciate behavioral differences, thus facilitating interaction with colleagues, students, and patients. Responses regarding the effectiveness of the program in relation to the student residential environment are (a) greater understanding and acceptance of other students, and (b) increased interaction with students previously disliked and avoided. Finally, program participants indicate that the treatment main effects facilitated their personal growth and development by (a) increasing

self-understanding and acceptance, and (b) by enlarging their capacity to understand and accept the different behaviors of other persons.

CHAPTER V

SUMMARY, DISCUSSION, AND CONCLUSIONS

Introduction and Purpose

The student in higher education today is facing a different world. The questions of the past--What shall we teach? What should the course cover?--no longer form an appropriate fit. They are relevant only in an unchanging world, the world from which the past decades have just evolved. In the world of today and the interplanetary world of the not-too-far-distant tomorrow, those questions are meaningless. In such an environment, no knowledge is secure. The question is rather, how can education facilitate the development of the learning man, the person-in-process? How does a person learn to continually adapt and change? How does a man learn to transcend and help transform society? How does he achieve a balance between what is known and the fluid, moving problems and realities of the future (Rogers, 1969a)?

For the most part, higher education has failed to assist students toward the solution of these questions by not providing a satisfactory environment for total personal

development. Pressure for grades, testing, competitive evaluations, and the various appendages of a meritocratic society thrust upon the college by a mushrooming technology have directed student energies toward survival and adjustment. Educational institutions have been preoccupied with what Abraham Maslow (1971) calls extrinsic learnings--the knowledge, the skills, the facts that are external to the personality. Having fostered such learnings, the institution supports a system of reward and punishment which is also external to the human person. Consequently, the student learns to assess his personal value in terms of his grade point average, test scores, and other academic myths which are outside the self.

Conversely, intrinsic learning consists of "learning to be a human being in general, and second, learning to be this particular human being" (Ibid., 170). Education which is worthy of the name consists of intrinsic learning which influences behavior, which assists a person to achieve his optimal personhood by focusing on the self-actualizing tendencies already present in his personality. It is concerned with learning how to grow, what to grow toward, what to choose and not to choose.

To be able to float with the stream of experiences, to remain close to oneself and one's inner world, to drop defenses, to grasp a glimpse of infinite values where basic and ultimate values converge, this is to

rescue oneself from a goal-less, meaningless, existence so common in today's culture (Maslow, 1971; Rogers, 1969a). Such an education begins with an assumption about the nature of person, with an open-ended vision of what each person can become. It measures educational progress in terms of change in personality--from prejudice to broad-mindedness, from egocentrism to altruism, from disciplined to undisciplined thought. This education does not deny the historical values of socialization or of the ability to adapt to and aid in the preservation of civilization, society, and culture. The freely response-able person can do such things creatively and constructively (Sanford, 1967). But the response-able person will be born only in an environment which supports the full development of his powers and recognizes the self-actualizing and self-directing thrust within the human person.

If one were to imagine an environment that would be conducive to individual growth and development, it would be an environment

> . . . that is accepting and forgiving; let it be one that takes him [the student] out of himself and involves him in group activities; let the inducements to sociability be attractive and vivid, yet let them be measured accurately to his own capacities; let there be real pressure in the environment, let it make definite demands, yet let the demands be flexible; let there be no formal punishment nor long-lasting ostracism; let there be a hope of friendship and hope of praise; let the environment offer him a sense of the skills and the varieties of behavior that lead to greater pleasure, greater security . . . and let the rewards for this kind of growth be immediate and intrinsic in the activities themselves (Dennison, 1969, 74).

The purpose of this research, then, was to intervene into a residential environment in order to encourage and facilitate the behavioral development and the group interaction of nursing students.

Literature Review

Research in higher education indicates that students do change, as a result of the college experience, in social-emotional characteristics related to the personality. However, such changes appear to be either accidentally achieved or the result of socialization processes. Personality development does not appear to be the result of institutional intervention or of the implementation of strategies directed toward developmental change. Much is already known about necessary conditions for growth and development in young adulthood, and higher education could move toward conscious implementation of those conditions into the educational environment for the purpose of fostering personality development within and among the student clientele.

Furthermore, Sanford emphasizes that it is necessary to persuade students of the "possibility of growth and of their power to direct the change" (1967, 9). A profound longing for change seems to live in nearly every human person, but many students seem to have decided years ago that growth and development were no longer within their reach (Freedman, 1965; Katz, 1968).

It is the responsibility of educators to expand the horizons toward directions of change and then present opportunities and strategies which would facilitate further growth.

The small-group experience, incorporated into the educational process can have great value and potential for facilitating behavioral development in the life and experience of the student (Burton, 1969; Martin, 1969; Newcomb, 1967; Rogers, 1969b). Through guided, small-group interaction, the student may learn to respond to a broad range of human experience. Such interaction with other persons and openness to self would involve a greater acceptance of his own feelings and would build up his confidence in handling new relationships and experiences in the future.

All of this suggests that structured, small-group experiences, bringing together persons of complementary personality types, can create an environment which is supportive of the behavioral development of the participants. The small-group project implemented and tested in this study is an attempt to consciously intervene into a residential environment in order to create those conditions and to apply those strategies essential to personal growth and development--support, stimulation, complementary relations, behavioral experiences, assessment of existing behaviors and facilitation of behavioral expansion.

Design of the Study

Forty-six subjects, constituting two naturally assembled collectives, participated in the small-group behavioral development program. The participants, all second-year students in a two-year diploma school of nursing, resided at two separate residences. Students had been assigned to the residential groups six months prior to the initiation of this project.

The experimental procedure includes two types of group formation which were constructed on the basis of scores on the Myers-Briggs Type Indicator. Security groups were formed on the basis of similarity of behavioral preferences for the purpose of identification and affirmation of behaviors represented in the group. Stimulation groups were formed on the basis of complementarity and opposition of dominant behaviors for the purpose of understanding, accepting, and acquiring the behaviors represented in the group. Security groups met for one and one-half hours a week for four weeks. Stimulation groups met for one and one-half to two hours a week for eight weeks.

All subjects were pretested and posttested on the Omnibus Personality Inventory (OPI), Form F, and the Group Dimensions Descriptions Questionnaire (GDDQ). The scales on these instruments constituted the dependent variables in this research design. A correlated t test

between the pretest and the posttest scores was computed to determine if changes were significantly different from zero at the .05 level of confidence.

Follow-up interviews and student self-report evaluations were conducted with treatment subjects to assess their responses to the project as a supplementary source of descriptive data.

Results of the Study

The data from the study can be summarized as follows:

1. A correlated t test between pretest and posttest scores of the experimental group indicates significant change in a favorable direction on the Practical Outlook and the Altruism scales of the OPI. Participants in the behavioral development program report an increase in affiliative, trusting feelings and relationships as well as movement toward nonauthoritarian, liberal, less ethnocentric attitudes and values. Although not significant, the favorable change on three scales, Autonomy, Personal Integration, and Masculinity-Femininity, indicates a persistent trend toward personal growth.

2. Control subjects indicate significant change on the Impulse Expression and Religious Orientation scales of the OPI. Non-participants report movement toward independent and unconventional religious attitudes and values as well as an increased tendency to express impulses.

3. Treatment subjects report significant change in a favorable direction on the Flexibility, Hedonic Tone, Intimacy, Potency, and Stratification scales of the GDDQ. Participants in the behavioral development program report a significant increase in group flexibility as reflected in freedom from custom, tradition, and codes of behavior (a higher Flexibility score). Treatment subjects also indicate a general feeling of pleasantness and agreeableness associated with group membership (increase in Hedonic Tone). Intimacy of group members as reflected by interpersonal behavior appears significantly higher (increase on Intimacy scale). Participants in the small-group program report that group membership has primary significance for its members as expressed by the kind of personal and interpersonal needs which the group is satisfying (increase in Potency dimensions). Absence of dissension and personal conflict among members and an increase in group unity is indicated

in an increase on the Viscidity scale. Treatment group members report a significant decrease in stratification among group members as reflected in the absence of status hierarchies and shared participation in power, privileges, obligations, and duties among the members (a lower score on the Stratification dimensions of the GDDQ).

4. Non-participant control subjects report a significant change in a favorable direction on the Intimacy scale of the GDDQ. Conversely, they report an unfavorable change in the Control dimension which is indicated by the degree of control that group members exert over one another as well as an increase in status hierarchies and differential distribution of power and privilege as reflected by an increase on the Stratification scale.

5. In a follow-up interview at the completion of the project, participants supported the effectiveness of the project toward their personal growth and development. Most frequently cited effects include (1) increased ability to get along with other people, (2) understanding and appreciation of various behaviors, (3) ability to interact with persons previously avoided, and (4) ability to recognize, accept, and practice assertive behavior.

6. Two weeks after the termination of the project, treatment group subjects completed an anonymous self-report evaluation of the program. The evaluation consisted of three areas dealing with the effectiveness of the project in relation to (1) the hospital setting, (2) the student residence, and (3) personal growth and development. Most frequent responses regarding the effectiveness of the program in relation to the hospital setting are (a) ability to understand and to practice assertive behavior, and (b) ability to understand and appreciate behavioral differences thus, facilitating interaction with colleagues, students, and patients. Responses regarding program effectiveness in relation to the student residence are (a) greater understanding and acceptance of other students, and (b) increased interaction with students previously disliked and avoided.

Discussion

An accurate intepretation of the preceding results demands viewing and analyzing OPI scale scores in the context of two or more other scores in order that existing sub-patterns of change may emerge (Heist and Yonge, 1962).

Both the treatment group and the control group indicate a decrease on the Thinking Introversion and Theoretical Orientation scales of the OPI. This change

seems consistent with the nursing education experience which is primarily concerned with the practical utilization of knowledge and theory. Furthermore, this pattern is predictable since most diploma nursing students have little inclination toward scholarly pursuit, nor are most of these students seriously committed to continuing their formal education beyond the two-year nursing program. The other two intellectual disposition scales, Estheticism and Complexity, indicate little change, which is in accord with the predicted stability of these scales over time (Ibid., 2).

The response Bias scale for both groups falls close to the standard mean and reports little change from pretest to posttest. This finding may suggest that the student self-reports as indicated on the OPI represent a sufficiently valid presentation of the self.

Treatment group subjects report significant change on the Altruism and Practical Outlook scales of the OPI, thus indicating an increase in affiliative, trusting feelings and relationships toward others as a result of the small-group experiences (higher Altruism score). Therefore, growth from egocentric tendencies toward altrusitic concerns may be perceived as an outcome of the behavioral development program.

Small-group participants also indicate significant change toward greater tolerance of complexity and ambiguity,

toward nonauthoritarianism, and toward greater appeal for ideas rather than facts (decrease on Practical Outlook scale). This change is not consistent with present theory regarding vocationally-oriented students. Selvin, Hagstrom (1966), and Korn (1968a) report that career-oriented students are more utilitarian, that practicality is their credo, and that they are less influenced by the educative experience than academically-concerned students.

Fifty per cent of the treatment subjects preferred dominant sensing behaviors as reported by the MBTI. Another 23 per cent indicated a preference for sensing as an auxiliary function. Therefore, the significant decrease on the Practical Outlook scale may be attributed to growth toward intuitive behavior. Group participants also showed an increase on the Autonomy scale which is positively associated with intuition.

The Personal Integration, Masculinity-Femininity, and Autonomy scales of the OPI indicate large positive change which appears to be a persistent trend toward personal growth for treatment group subjects. It is interesting to note that these three scales are positively associated with the Thinking preference on the MBTI. Only four of the twenty-two subjects reported preference for thinking behavior at the time of pretesting. It may be suggested that the trend indicated by the above scales may be a movement toward the practice of thinking behaviors.

Student responses at the time of the follow-up interview and on the self-report evaluation indicate growth toward assertive and decision-making behaviors. Thus, treatment subjects may have grown in directions (intuition and thinking) complementary to their preferred functions of sensation and feeling (78% of the participants).

Therefore, it may be stated that, for the most part, participants in the behavioral development program described in this study do appear to have grown in those dimensions associated with the small group experience as measured by the OPI.

Control subjects indicate significant change on the Impulse Expression and the Religious Orientation scales of the OPI. However, considered in context with all of the scale scores, the interpretation and direction of these changes may raise some questions. Although the magnitude of change is a clue to how many individuals will have change scores consistent with the mean change, it must be remembered that certain trends may be masked. When the pattern of change is analyzed, it may be clearly seen that eleven of the twenty-four control subjects had standard scores of sixty or above on the Impulse Expression scale, seven of these students had scores above sixty-five. In interpreting this trend, it should be remembered that standard scores of sixty (eighty-fourth percentile) or above are interpreted as sufficiently high for the

respective definition to apply. Persons whose scores fall above a standard score of seventy are very appropriately characterized by the definition (Heist and Yonge, 1962). The Impulse Expression scale purports to assess a "general readiness to express impulses and seek gratification in conscious thought or in overt action. High scorers have an active imagination, value sensual reactions and feelings; very high scorers have frequent feelings of rebellion and aggression" (Ibid., 5). It is interesting to note that one-third (eight) of the control subjects, who report a standard score of sixty-two or above on the Impulse Expression scale of the OPI posttest, raised their scores from pretest to posttest an average of eight standard scores. Therefore, despite an overall mean increase on this scale, eight control subjects increased their individual scores to a sufficiently high degree as to be tentatively interpreted as a movement toward hostility and rebellion. High scorers not only tend to have frequent feelings of rebellion and aggression, they may have undifferentiated emotional responses (Ibid.).

Considered in relation to other OPI scales, the interpretation of the significant change on the Impulse Expression scale of the control group may become clearer. "A high score has often been found to indicate rebellion and hostility, rather than delightful impulsivity, when considering this index in the light of scores on the

Personal Integration, Anxiety Level, and Altruism scales" (Ibid., 13). On the OPI posttest scores, control subjects indicate a slight decrease on the Personal Integration and the Altruism scales, while the Anxiety Level scale reports a slight increase (lower degree of anxiety). Therefore, while control subjects report a decrease in feelings of anxiety, they admit to more feelings of loneliness, rejection, and aggression (decrease on Personal Integration scale) and to fewer trusting, affiliative feelings toward others (decrease on Altruism scale).

Furthermore, the decrease on the intellectual disposition scales, Thinking Introversion and Theoretical Orientation, and the indications toward mild introversion and alientation (decrease on Personal Integration and Altruism scales) may suggest that the feelings of aggression and rebellion, which are possibly associated with the high Impulse Expression score for the control subjects, may be outwardly directed toward other persons and toward the environment rather than inwardly directed in self-punitive behavior.

Control subjects also report a significant posttest change on the Religious Orientation scale of the OPI. A significantly higher score on this scale seems to indicate that control subjects became more liberal and less conservative in religious beliefs. However, this scale is closely associated with the Autonomy scale, with the

freedom-to-learn syndrome. Together they have value in discerning the degree and type and quality of a students' anchorages in the past, the degree of liberalness and emancipation from familial and cultural heritages. Although the Religious Orientation scale for the control subjects reports significant changes on the posttest, the Autonomy scale remains unchanged. Therefore, it is possible to raise the question of whether the significant increase on the Religious Orientation scale indicates a true movement in the direction of liberal, nonconservative religious belief and attitude. The unchanged Autonomy scale, along with the decrease on the Thinking Introversion and Theoretical Orientation scales, raises the question of just how open to liberal, nonauthoritarian ideas and new thoughts the control subjects actually became. It is interesting to speculate on the possible relationship between the changes reported on the Impulse Expression and the Religious Orientation scales. If the aggressive tendencies indicated by the high Impulse Expression scores were directed toward the environmental structure so indigenous to schools of nursing, the rebellious rejection of that same structure (which is affiliated with Roman Catholicism) could appear to be a rejection of the belief-system which the structure supported.

It has already been noted that 50 per cent of the treatment subjects preferred dominant sensing behavior and

23 per cent preferred sensing as an auxiliary function. Conversely, 46 per cent of the control subjects report a preference for dominant intuitive behavior while an additional 25 per cent indicate a preference for intuitive behavior as an auxiliary function. Thus, the two groups have little comparability. While the treatment group preferred a stable, predictable environment and relationships, control subjects are uneasy with peaceful, well-balanced relations. They seek variety and opportunity for the expression of their impulsive energy (VanderHoop, 1939, 1950). The intuitive subjects would find little outlet for their energy and restlessness in the academic environment; the residential and social environments would probably absorb the aggressive and angry feelings accumulated as a result of collision with the school structure. To return to the OPI scales, Impulse Expression, Religious Orientation, and Autonomy are positively associated with the Intuition functions of the MBTI. For the most part, control subjects do not appear to have demonstrated change in a favorable direction as measured by the OPI.

Posttest scores for the treatment group on the Group Dimensions Discussion Questionnaire indicate significant favorable change in five of the seven dimensions of interest in this study, i.e., Flexibility, Hedonic Tone, Intimacy, Potency, and Stratification. The other two

scales, Control and Viscidity, reported favorable change, but not to a significant degree. That is to say, the treatment group increased the community climate of group living as the group became free from the confines of custom and standard codes of behavior, free of dissension and personal conflict among members in the group, and free from status hierarchies with their supporting power and privilege blocks. In its growth toward an environment supportive of community living, the treatment group reports a significantly high degree of pleasantness and agreeableness associated with group membership. Members report greater intimacy in interpersonal behavior, and this community experience seems to have primary significance for the members as expressed by the kind of personal and interpersonal needs which the group is satisfying. Therefore, it may be asserted that participants in the behavioral development program cooperated in forming greater dimensions of community living and sharing than had existed among them prior to the small-group experiences.

The Control group reports significant change on only one dimension--Intimacy--of the GDDQ. The group reports slight favorable change on four scales, Flexibility, Hedonic Tone, Potency, and Viscidity. However, they indicate unfavorable change as members report a greater degree of control, reflected in the coercive power that members exert upon each other. They also report a greater

degree of status hierarchies and preferential disposition of power and privilege among group members. Although the direction of intimate interpersonal relations appears to have increased, this change is not supported by the other group dimensions scales. Consequently, it is possible that this apparent intimacy exists on the superficial level of calling one another by first names, having daily contact, borrowing and lending money, discussing personal affairs and family backgrounds. It may therefore be stated that the control group did not grow toward those dimensions of community living which are relative to this study.

Considered as a whole, the results of this study confirm previous research that small-group interaction does have an effect upon participants. However, it may be further stated that the community dimensions of group living may be facilitated when persons who reside together participate with each other in small-group experiences.

Limitations of the Study

It is important to clarify some of the limitations which are inherent to this research on personal and group development.

In the first place, sample size is small and randomization of subjects was not possible. Because all behaviors were not represented among treatment subjects, it was not possible to have an adequate representation of

all behaviors in the stimulation groups. It is suggested that replication of this study be conducted with a larger sample utilizing random assignment of subjects representing the full repertoire of behaviors.

The lack of equivalency of behavioral types between control and treatment subjects constituted a major limitation of this study. Since the groups were not comparable on pretest measures, it is not possible to compare posttest results. It is not certain what outcomes would occur if comparability of groups had been achieved.

Another limitation in this study is the relatively short time span covered by the small group meetings. Twelve weeks is time enough to identify and practice behavioral strategies, but it is not sufficient time to encompass and practice the full range of behavioral development and insight. A year of planned experience and interaction would afford a broader base for behavioral experimentation and development as well as provide a truer test of the effects of structured small-group interaction on individual and group behavior.

This behavioral development program began during the second semester of the second-year in nursing. At the initiation of this project, students had been residing together for six months. Expectations, judgments, and predictions of other students' behavioral responses constituted a difficulty in this study. Interpersonal

barriers and mistrust of each other had to be dealt with before creative activity could begin. It is suggested that this program be initiated at the beginning of a residential experience so that it may facilitate interpersonal interactions before sub-groups are formed.

The various expectancy factors that are inherent in any research of this nature, which intensely involves the experimenter with his subjects, constitute a recognized limitation. The Hawthorn effect, halo effects, and experimenter bias may intervene in the research at various times and contribute to some degree of error. However, these same expectancy factors may be consciously utilized as strategies for changing and developing a broader repertoire of behavior (Grass, 1970; Rosenthal and Jacobson, 1968).

Implications of the Research

This study has provided a planned program for behavioral development which can be applied in many educative settings. The specificity of replicable procedures and techniques provide a base from which further research may procede and from which future intervention into educational environments may be designed.

Although this research was primarily concerned with the microenvironment of one residential setting, it is challenging to speculate on the possibility of influencing the macroenvironment to be supportive of the concepts and

strategies employed in this program. Organizational policy and practice radically influence the environmental climate, the tone, and the myriad aspects of group life. If these policies and practices were to change in accord with the conditions for community development described in this study, the effectiveness of the program rendered herein may be enhanced and secured. Both the macroenvironment and the immediate group environment are powerful determiners of growth and behavioral change (Gibb and Gibb, 1969).

By collaborating to create an environment conducive to human growth and development, administrators and educators can convince students of the power to change, to make "maturity the more it might become" (Raushenbush, 1965). In order to bring educational practice into harmony with basic human needs, educational policy must recognize the very orderly patterns of individual growth and development in what may ordinarily appear to be arbitrary differences among persons. The Jungian position of individual preferences in perceiving and responding to one's inner and outer world, implies also a unique growth pattern for each person. Such growth can be fostered and facilitated through the incorporation of planned interpersonal experiences into the educational program. Through the small-group experiences described in this study, the student can learn more about what influences his behavior and the behavior of others. And the more he is able to

bring his personal and interpersonal behavior under conscious control, the more he will be able to increase his freedom of choice, to expand his own repertoire of behavior, and to understand and appreciate the diverse behaviors of others. Unless one has, even briefly, walked the paths of sensation and intuition, of thinking and feeling, one cannot fully understand and value the total realm of human behavior. In a very real sense, one person cannot understand another until and unless he has walked in the other's shoes, perceiving and responding to reality in diverse ways.

Conclusion

The behavioral development program described herein employes specific strategy for personal growth and development which can be implemented in a variety of settings. Through participation in such a program, a student is encouraged to develop a broad repertoire of behavior which may assist him to meet any challenge that the environment, human and non-human, may pose for him so that he does not become subservient to or controlled by that same environment.

The interpersonal experience fosters within the student a personal, vital self-appreciation of all that he brings to the group as well as an appreciation and positive regard for the personal contribution of others within the group. Ultimately, each student grows to respect and

value his own self-directing thrust without violating the self-direction of others. This kind of growth can take place only in a trusting and open group environment.

This is what life and growth and fulfillment are all about. To be "perfect" as the Father while encouraging and facilitating the perfection of others, to lead not only out of the self, but in a real sense, beyond it; to open oneself in a prayerful response to the sacredness of the real world and all of its interactions--this is education ever ancient ever new. This is the education of Socrates and Jesus, of Newman and Dewey, of Maslow and Rogers.

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APPENDICES

APPENDIX A

DEFINITIONS OF THE FOURTEEN OMNIBUS PERSONALITY INVENTORY SCALES

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1. Thinking Introversion (TI)--43 items: Persons scoring high on this measure are characterized by a liking for reflective thought and academic activities. They express interests in a broad range of ideas found in a variety of areas, such as literature, art, and philosophy. Their thinking is less dominated by immediate conditions and situations, or by commonly accepted ideas, than that of thinking extroverts (low scorers). Most extroverts show a preference for overt action and tend to evaluate ideas on the basis of their practical, immediate application, or to entirely reject or avoid dealing with ideas and abstractions.

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2. Theoretical Orientation (TO)--33 items: This scale measures an interest in, or orientation to, a more restricted range of ideas than is true of TI. High scorers indicate a preference for dealing with theoretical concerns and problems and for using the scientific method in thinking; many are also exhibiting an interest in science and in scientific activities. High scorers are generally logical, analytical, and critical in their approach to problems and situations.

3. Estheticism (Es)--24 items: High scorers endorse statements indicating diverse interests in artistic matters and activities and a high level of sensitivity and response to esthetic stimulation. The content of the statements in this scale extends beyond painting, sculpture, and music, and includes interests in literature and dramatics.

4. Complexity (Co)--32 items: This measure reflects an experimental and flexible orientation rather than a fixed way of viewing and organizing phenomena. High scorers are tolerant of ambiguities and uncertainties; they are fond of novel situations and ideas. Most persons high on this dimension prefer to deal with complexity, as opposed to simplitiсy, and very high scorers are disposed to seek out and to enjoy diversity and ambiguity.

5. Autonomy (Au)--43 items: The characteristic measured by this scale is composed of liberal, nonauthoritarian thinking and a need for independence. High scorers show a tendency to be independent of authority as traditionally imposed through social institutions. They oppose infringements on the rights of individuals and are tolerant of viewpoints other than their own; they tend to be realistic, intellectually and politically liberal, and much less judgmental than low scorers.

6. Religious Orientation (RO)--26 items: High scorers are skeptical of conventional religious beliefs and practices and tend to reject most of them, especially those that are orthodox or fundamentalistic in nature. Persons scoring around the mean are manifesting a moderate view of religious beliefs and practices; low scorers are manifesting a strong commitment to Judaic-Christian beliefs and tend to be conservative in general and frequently rejecting of other viewpoints. (The direction of scoring on this scale, with religious orientation indicated by low scores, was based chiefly on the correlation between these items and the first four scales, which measure a general intellectual disposition.)

7. Social Extroversion (SE)--40 items: This measure reflects a preferred style of relating to people in a social context. High scorers display a strong interest in being with people, and they seek social activities and gain satisfaction from them. The social introvert (low scorer) tends to withdraw from social contacts and responsibilities.

8. Impulse Expression (IE)--59 items. This scale assesses a general readiness to express impulses and to seek gratification either in conscious thought or in overt action. High scorers have an active imagination, value sensual reactions and feelings; very high scorers have frequent feelings of rebellion and aggression.

9. Personal Integration (PI)--55 items: The high scorer admits to few attitudes and behaviors that characterize socially alienated or emotionally disturbed persons. Low scorers often intentionally avoid others and experience feelings of hostility and aggression along with feelings of isolation, loneliness, and rejection.

10. Anxiety Level (AL)--20 items: High scorers deny that they have feelings or symptoms of anxiety, and do not admit to being nervous or worried. Low scorers describe themselves as tense and high-strung. They

may experience some difficulty in adjusting to their social environment, and they tend to have a poor opinion of themselves. (Note the direction of scoring on this scale: a high score indicates a low anxiety level, and vice versa.)

11. Altruism (Am)--36 items: The high scorer is an affiliative person and trusting and ethical in his relations with others. He has a strong concern for the feelings and welfare of people he meets. Low scorers tend not to consider the feelings and welfare of others and often view people from an impersonal, distant perspective.

12. Practical Outlook (PO)--30 items: The high scorer on this measure is interested in practical, applied activities and tends to value material possessions and concrete accomplishments. The criterion most often used to evaluate ideas and things is one of immediate utility. Authoritarianism, conservatism, and non-intellectual interests are very frequent personality components of persons scoring above the average.

13. Masculinity-Femininity (MF)--56 items: This scale assesses some of the differences in attitudes and interests between college men and women. High scorers (masculine) deny interests in esthetic

matters, and they admit to few adjustment problems, feelings of anxiety, or personal inadequacies. They also tend to be somewhat less socially inclined than low scorers and more interested in scientific matters. Low scorers (feminine), besides having stronger esthetic and social inclinations, also admit to greater sensitivity and emotionality.

14. Response Bias (RB)--28 items: This measure, composed chiefly of items seemingly unrelated to the concept, represents an approach to assessing the student's test-taking attitude. High scorers are responding in a manner similar to a group of students who were explicitly asked to make a good impression by their responses to these items. Low scorers, on the contrary, may be trying to make a bad impression or are indicating a low state of well-being or feelings of depression.

APPENDIX B

DEFINITIONS OF THE THIRTEEN GROUP DIMENSIONS DESCRIPTIONS SCALES

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DEFINITIONS OF THE THIRTEEN GROUP DIMENSIONS DESCRIPTIONS SCALES

1. Autonomy is the degree to which a group functions independently of other groups and occupies an independent position in society. It is reflected by the degree to which a group determines its own activities, by its absence of allegiance, deference and/or dependence relative to other groups.

2.* Control is the degree to which a group regulated the behavior of individuals while they are functioning as group members. It is reflected by the modifications which group membership imposes on complete freedom of individual behavior and by the amount of intensity of group-derived government.

Hemphill, 1967, 2-4. Reproduced by permission.

*This study is particularly concerned with these dimensions since they are specifically included in the testable hypotheses.

3.* Flexibility is the degree to which a group's activities are marked by informal procedures rather than by adherence to established procedures. It is reflected by the extent to which duties of members are free from specification through custom, tradition, written rules, regulations, codes of behavior, or even unwritten but clearly prescribed ways of behaving.

4.* Hedonic Tone is the degree to which group membership is accompanied by a general feeling of pleasantness or agreeableness. It is reflected by the frequency of laughter, conviviality, pleasant anticipation of group meetings, and by the absence of griping and complaining.

5. Homogeneity is the degree to which members of a group are similar with respect to socially relevant characteristics. It is reflected by relative uniformity of members with respect to age, sex, race, socio-economics status, interests, attitudes, and habits.

6.* Intimacy is the degree to which members of a group are mutually acquainted with one another and are familiar with the most personal details of one another's lives. It is reflected by the nature of

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topics discussed by members, by modes of greeting, forms of address, and by interactions which presuppose a knowledge of the probably reaction of others under widely differing circumstances, as well as by the extent and type of knowledge each member has about other members of the group.

7. Participation is the degree to which members of a group apply time and effort to group activities. It is reflected by the number and kinds of duties members perform, by voluntary assumption of non-assigned duties and by the amount of time spent in group activities.

8. Permeability is the degree to which a group permits ready access to membership. It is reflected by absence of entrance requirements of various kinds, and by the degree to which membership is solicited.

9. Polarization is the degree to which a group is oriented and works toward a single goal which is clear and specific to all members.

10.* Potency is the degree to which a group has primary significance for its members. It is reflected by the kind of needs which a group is satisfying or has the

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potentiality of satisfying, by the extent of re-adjustment which would be required of members should the group fail, and by the degree to which a group has meaning to the members with reference to their central values.

11. Stability is the degree to which a group persists over a period of time with essentially the same characteristics. It is reflected by the rate of membership turnover, by frequency of reorganizations and by constancy of group size.

12.* Stratification is the degree to which a group orders its members into status hierarchies. It is reflected by differential distribution of power, privileges, obligations, and duties and by asymmetrical patterns of differential behavior among members.

13.* Viscidity is the degree to which members of the group function as a unit. It is reflected by absence of dissension and personal conflict among members, by absence of activities serving to advance only the interests of individual group members, by the ability of the group to resist disrupting forces, and by the belief on the part of the members that the group does function as a unit.

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APPENDIX C

STUDENT SELF-EVALUATION REPORT FORM

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STUDENT SELF-EVALUATION REPORT FORM

In what ways did the group interaction and formal content of the personal development program assist you (or fail to assist you) in the following areas:

1. team nursing and/or hospital experiences;
2. residence setting;
3. personal development.

Please explain and give examples.