THE EFFECTS OF A GROUP VOCATIONAL COUNSELING
METHOD ON SELECTED VARIABLES AMONG
COMMUNITY COLLEGE STUDENTS

DISSERTATION

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By

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The problem of this study is to evaluate the effectiveness of a group vocational counseling method among community college students. The purposes of this study are to present an application of developmental counseling to group vocational counseling with community college students, and to determine whether this vocational counseling program will have an effect upon certain selected variables.

Self-concept congruence was measured by a semantic differential, the *Personal Concept Scale*; and vocational maturity was measured by the Attitude Scale of the *Vocational Development Inventory*. Anxiety associated with the concepts "myself," "other people," "choosing a career," and "five years from now" was assessed by the *Concept-Specific Anxiety Scale*. Certainty and satisfaction with vocational plans were assessed by eleven-point rating scales included on the *Vocational Status Sheet*, an instrument designed specifically for the present study. Included on this same instrument was a check list designed to measure vocational information-gathering activity.
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CHAPTER I

INTRODUCTION

In the midst of a general reaffirmation of the need for vocational counseling, even more attention is being directed toward increased effectiveness. Authors have been predicting for some time that the process of career choice will become more difficult as our society becomes more complex. Lyon speculated, some ten years ago, that "career development theory has illuminated a great deal, but it must now reiterate the dynamic situation of career in American Society" (25, p. 153). Traditional vocational counseling methods of matching personality and occupation were considered, even then, to be insufficient because the method was time-bound and did not give enough emphasis to the explosive character of society.

In more recent speculations, the same theme is evident. From their application of some concepts of current social commentators to the vocational counseling area, Hoffman and Rollin (19) and Kuna (24) see the urgency of preparing students to deal with the transience that characterizes modern American culture. Vocational counseling must, more than ever, focus on means of self-discovery and self-affirmation through work in a tenative atmosphere.
On a more pragmatic level, the National Advisory Council on Vocational Education (8) recently issued a call for improved counseling services in relation to vocational education in high schools and community colleges. As evidence of this need it was noted that, although over seventy-five per cent of all community college students are enrolled in transfer programs, fewer than twenty-five per cent ever attain a baccalaureate degree. In addition, record numbers of high school graduates are enrolling in college at a time when unemployment among college graduates is at a ten-year high point.

These observations tend to support the counselor's experience that there is a clear need for vocational counseling services which reach a wide range of students at the college level effectively, and yet provide the personal contact which is often important if all aspects of vocational choice are to be included.

The National Advisory Council's evaluation reiterates that

In almost no setting is the counselor-counsellee ratio low enough to justify strict one-to-one counseling, but counselors still persist in their attempts to use this technique, rather than group counseling approaches, as their primary method of helping people solve their problems (8, p. 4).

A possible cause of counselor hesitancy is the shortage of tested group vocational counseling models. Outside of individual counseling, the traditional model, even at the college
level, is some variation of the guidance—occupations—careers class (4, 6, 28, 32, 33, 34). While it can obviously be structured in a variety of suitable ways, the class format has tended to result in blanket procedures, such as presentations of general information and the administration of common test batteries, which seem to assume that everyone has the same needs. Such an assumption is less applicable at the college level. Even though individual needs have been recognized in the past, as evidenced in attempts to combine individual counseling and group structure (17, 21), the group structure itself has not generally reflected this awareness.

There are numerous recommendations in the literature that vocational counseling, including group approaches, begin to focus more on the process of the counselee's interaction with data about himself, the world of work, and our changing society. Pritchard suggested this focus as one of his "directions for progress" when he spoke of guiding the kinds of interaction between the counselee and occupational stimuli . . . more than a comparison of classical worker characteristics and job requirements (31, p. 677).

Prediger seems to have been saying something similar when he stated:

Counselors have the primary responsibility for transforming [test] information into experience, although this responsibility is shared with . . . the counselees themselves (30, p. 1).
In like vein Daly asserted:

... vocational counseling must help the client gain access to vocationally relevant information resident within ... Occupational information and the results of psychological tests are not a sufficient base for adequate vocational counseling (11, p. 170).

Widespread indications are that vocational counselors must employ more group approaches in serving the needs of community college students today and that traditional group approaches are inadequate to serve these needs.

Statement of the Problem

The problem of this study was to evaluate the effectiveness of a group vocational counseling method on selected variables among community college students.

Purposes of the Study

The purposes of this study were (1) to present an application of developmental counseling to group vocational counseling with community college students, and (2) to determine whether this counseling method would have an effect upon certain variables--vocational maturity, self concept, specific anxiety, certainty and satisfaction with plans, and vocational information-seeking activity--as determined by the specific measures employed.

Hypotheses

The following hypotheses were tested:

1. Following treatment, the experimental group will show significantly greater positive change in maturity of
vocational attitudes, as measured by the Vocational Development Inventory, than will either the placebo-control or the time-control group.

2. Following treatment, the experimental group will show significantly greater positive change in congruence of self-ideal self-concept, as measured by the Personal Concept Scale, than will either control group.

3. Following treatment, the experimental group will show significantly greater reduction in level of anxiety associated with four selected concepts, as measured by the Concept-Specific Anxiety Scale, than will either control group. The four concepts selected were:
   a. "myself"
   b. "other people"
   c. "choosing a career"
   d. "five years from now"

4. Following treatment, the experimental group will show significantly greater positive change in certainty of, and satisfaction with, vocational plans, as measured by the Vocational Status Sheet, than will either control group.

4. Following treatment, the experimental group will show significantly greater increase in vocational information-seeking activity, as measured by the Vocational Status Sheet, than will either control group.
Definition of Terms

1. **Anxiety**—the score derived from the **Concept-Specific Anxiety Scale**. The instrument was employed to measure specific anxiety conditioned to four concepts: "myself," "other people," "choosing a career," and "five years from now."

2. **Developmental Counseling**—the dynamic process of facilitating development of the individual through helping efforts designed to assist him in assuming the responsibility for his own behavior and focusing on present and future growth by choosing goals and making decisions, in the context of developmental tasks, that lead to maximized personal freedom and human effectiveness (3, pp. 4-8).

3. **Self-Ideal Self-Concept Congruence**—the score derived from the **Personal Concept Scale**: a semantic differential designed to yield a comparison of self-evaluations with respect to the concepts "self" and "ideal self."

4. **Vocational Attitudes**—"the attitudinal or dispositional response tendencies in vocational maturity which may mediate both choice behaviors and choice aptitudes" (9, p. 7). These response tendencies include orientation, preference, involvement, independence, and conception.

5. **Vocational Maturity**—the score derived from the **Attitude Test of the Vocational Development Inventory**.

6. **Certainty and Satisfaction of Vocational Plans**—the rating derived from the appropriate eleven-point scales
on the Vocational Status Sheet. The scale is modeled after a measure used by Hoyt (21) and Hewer (17) to evaluate vocational counseling procedures. Following a statement about his vocational plans, the subject is asked to rate his certainty and satisfaction with this stated plan.

7. Information-Seeking Activity—the score derived from the Information Source Check List included on the Vocational Status Sheet. The check list names eleven sources of vocationally related information from which the subject is asked to identify those sources he has used during the previous six weeks.

Limitations of the Study

In generalizing the results of this study the following limitations should be considered:

1. The sample employed in the study was limited to a group of students at one community college.

2. The sample included only those students who requested help with vocational decisions; no attempt was made to identify and include those students who may have needed help but were not inclined to seek it through group vocational counseling at the time this sample was being selected.

Basic Assumptions

The following assumptions should be considered in analyzing the results of this investigation:
1. It was assumed that all subjects responded honestly to the measuring instruments employed.

2. It was further assumed that extraneous independent variables would have a non-selective effect on the dependent variables measured in this study.

Background and Significance

Vocational guidance and counseling efforts employed throughout much of the history of the guidance movement have generally tended to spring from the vocational psychology initiated by Parsons in 1909. The format was basic.

In the wise choice of a vocation there are three broad factors: (1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations and their cause; (2) a knowledge of the requirements and conditions of success, advantages and disadvantages, compensations, opportunities, and prospects in different lines of work; (3) true reasoning on the relations of these two groups of facts (29, p. 5).

This outline can be seen in descriptions of group activities related to vocational planning (4, 28) as well as in the individual counseling process (40).

Within this framework, the progress of guidance has been characterized by development and refinement of methods of objective data gathering and dissemination. With this emphasis it is not surprising that group guidance activities often took on classroom--even instructional--formats. Hoppock (20, p. 5) considered the terms "group instruction" and "group guidance" practically synonymous. Froehlich
saw group procedures as the most efficient method of providing information services (13, pp. 110-111). While he included social mores, attitudes, and self-understanding along with occupational information in the concept, his focus on providing information seems evident.

In a review of research relating to the facilitation of career development, fifty per cent of Tennyson's citations pertain to information processing. Illustrating the same focus, Gazda described group guidance:

The typical setting is the classroom which ranges in size from approximately twenty to thirty-five. Providing accurate information for use in improved understanding of self and others is the direct emphasis in group guidance, whereas attitude change frequently is an indirect outcome or goal (14, p. 7).

Group activities are equated with group guidance and carry a heavy emphasis on the informational aspect of helping.

A second characteristic of the Parsonian framework is that it concludes with a single culminating event, the choice of a vocation. "... each student is helped to work out a profile of his vocation and self, and as a result is generally able to make a wise choice of vocation" (28, p. 267). The development and presentation of information about the world of work, the assessment and profiling of the person, and the reasoned matching of these data, concluding in "the wise choice of a vocation" imply a singularity of concept and purpose in vocational psychology and vocational counseling intervention which has generated a great deal of
dissatisfaction. Crites (9, p. 1) referred to the "static nature" of this conceptualization of vocational choice, and Borow spoke of "a radical departure from this older, sterile, trait-measurement model" (5, p. 22).

Such references serve to highlight the evolution of a contrasting theoretical framework which has gained considerable stature during the past two decades. Crites traced this evolutionary process in a recent treatment of vocational psychology (10, pp. 12-13), attributing the inception of this new trend essentially to the work of Ginzberg and associates (15). Super carried on much of the early work in synthesizing the various orientations (37, 38) into what has become a generally accepted, comprehensive Vocational Development Theory. Noting that this new framework is characterized by the shift of emphasis from conceiving choice as a single act to conceiving it as a developmental sequence of acts, Beilin (2, pp. 53-57) described the principles of general development which are applied to vocational development. It is a continuous, irreversible process which can be differentiated into patterns. Within this continuous process, certain aspects are pre-eminent at certain periods in life. The process results in varied levels of maturity and tends to be most rapid early in the life span. It is characterized by differentiation and integration of elements as well as interaction and interdependence of elements. Finally,
it is a movement from dependent to independent behavior
and from egocentric to social behavior.

These characteristics contain certain implications for
vocational counseling and guidance programs. Super pre-
sented the central implications some ten years ago (35).
Rather than viewing the counseling goal as choice of an
occupation, counselors must think in terms of patterns of
occupations or careers. Individuals do not typically ad-
here to one job; rather it is very common to have "unstable
or multiple-trial careers." Such instability needs to be
considered in counseling.

The developmental concept of "life stages" provides
further guidelines for vocational counseling. By subdivid-
ing the process of vocational growth into stages (Super [36]
suggested Buehler's stages of growth--exploration, establish-
ment, maintenance, and decline.), counseling may be focused
more readily on the specific pre-eminent needs (developmental
tasks) of counselees at each stage. Hewer remarked, for
instance, that the counselor's realization of the fact that
college students are in the exploratory stage leads to the
communication of a more realistic attitude toward changing
plans (18). Analysis of life stages in vocational develop-
ment, in fact, can provide a variety of tentative goals for
counseling.

Gazda (14, p. 149) and Zaccaria (41) presented three
basic vocational developmental tasks to be used as
guidelines in working with college students: crystallizing a vocational preference, specifying a vocational preference, and implementing a vocational preference. Looking at these tasks as sources of counseling goals, Zaccaria suggests that a helpful distinction might be the range of the goal--ultimate, long range, intermediate range, and short term. Ivey and Morrill (22) distinguished between intellectual, social, and personal tasks. Thus, a given counselee may need to find new motivations for working, to develop better relationships, or to change some attitudes about work itself. Zimpfer (42, p. 330) pointed out that "even such limited outcomes as a simple commitment to examine the possibility of change in one's conception of self, his relationship with other persons, his behavior in school, and the like . . . are worthy in themselves as goals of developmental counseling."

The contrasts between current vocational development theory and its precursor and between the approaches to counseling implied by each serve to underline the incompleteness of the traditional individual and group models of vocational counseling and guidance. While it can include the functions of traditional approaches, counseling within the developmental model is a more dynamic process which seems better able to help . . . "those searching for a career . . . not as individuals hunting for a place in a stable society, but as changing organisms engaging in a
series of career-related developmental tasks that enable them to adapt themselves to a changing society" (22, p. 645).

Yet, as Morrill and Forrest (27) stated, the actual practice of vocational counselors does not generally reflect the evolution in underlying theory. At the same time, not enough efforts have been made to facilitate the vocational development process through group counseling (1) even though studies of individual versus group vocational counseling have indicated comparable effectiveness (21, 17, 16, 23). This study, then, recognizing the need to deal more effectively with larger numbers of students seeking help with the vocational choosing process at the college level, represented an attempt to present an effective group vocational counseling procedure which would have a format capable of incorporating those emphases which current vocational psychology requires.
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CHAPTER II

REVIEW OF THE LITERATURE

The definitions of and the distinctions between group guidance and group counseling are fairly standard; there is little disagreement about them (22, p. 7; 42, p. 593; 33). Group guidance is seen as a large group process directly concerned with information and other general procedures that can be accomplished with large groups, whereas group counseling is seen as a process which is therapeutic in nature and focuses directly on the personality, attitudes, and behavior. Following these conceptualizations, group efforts relating to vocational choice tend to take the shape of, and follow the model of, the classroom setting. (The danger, as Goldman suggests [23], is that the process level will not differ greatly from the level of functioning in the average classroom.) Likewise, typically, small group counseling has generally tended to deal with "personal problems." It seems implicit in this context that group guidance efforts have their primary efficacy in elementary and high school situations where large groups can be captured in classroom settings and presented with programs which are generally applicable to all students. When similar group efforts are applied at the college level
they tend to follow the same format, the difference being that they are not applied to the entire population, but are made available for students who wish to enroll. Gaymer (21), while listing weaknesses in the general practice of vocational counseling, agreed that college career counselors have generally been employing procedures designed for high school guidance programs.

Arguments have been presented that the group counseling process can be applied to problems of educational and vocational choice. Hewer (33) pointed out that controversies between guidance counseling and therapy are largely academic because a client chooses his helper, whether counselor or psychologist, and presents problems which cannot be readily categorized as vocational choice or personal problems, neurotic fears or psychotic tendencies. Samler (57), reviewing trends in vocational counseling which differ from patterns of the past, predicted that past commitments in vocational counseling to the one-to-one relationship will change. Beyond the orientation and information-giving group processes, he suggested that more intensive group methods should be applied in vocational counseling and recommended that this more intensive group procedure should include the entire counseling process from start to finish.

Although the idea of dealing with vocational choice in a small group counseling setting is not new, its acceptance as a regular practice has been slow. The present contention
is that the application of the small group counseling format is an important answer to the problem of vocational counseling at the college level, particularly at the community college where there is a greater need than can be handled in the one-to-one setting, and where the age and experience level of the student varies so greatly as to warrant other than the traditional group guidance procedures.

Group Approaches to Vocational Counseling

A number of studies exist which present methods of vocational counseling within the small group counseling format at the college level.

One of the earlier articles in the literature, by Calia (11), typified the conflict between the traditional group guidance model and the perceived need for a means of dealing more effectively with individual differences in the group. Calia devised a group guidance program at Boston University Junior College which was composed of three facets. The first, and predominant part of the program, was a college course in which the content was presented in outline form through a lecture method. Within the overall program, however, two further modes were used. There was a team psychologist seminar, held in large groups also, but including demonstrations by panels of students and instructors using role playing, skits, case studies, and audio visual aids. Finally, of pertinence to the present study, was a third section of
the program—small group discussion. A need was apparently felt to personalize the heavily instructional flavor of the lecture and seminar and to begin to help the students on a more individual level. No evaluation of this program was presented.

Gruen described a group career counseling program (25, pp. 228-233) instituted in 1960 at Brooklyn College which attempted to go beyond "orientation or information-giving sessions." Although not labeled psychotherapy, the program involved dynamically oriented group activity, together with unstructured group interaction which evolved into discussion on such problem areas as: reasons for being in college, dynamics of choice, personal considerations in planning, parental pressures, sources of pertinent, specific information, implementation of self concept in career choice, and the expression of suppressed feelings about stress in the college experience. While assessment of interests, values, and ability was included, such testing was done only where appropriate. The groups met for eight to twelve weekly, one-hour sessions and ultimately were limited to ten members. No objective evaluations of the program were offered.

Graff and associates (24) compared the effectiveness of individual, group, and self-instructional methodologies on seven criteria relating to career choice. Two hundred nineteen freshmen and sophomore students, selected from drop-ins at a university counseling center who sought aid
with educational-vocational problems, were assigned to one of the three treatment groups or a no-treatment control group. Individual treatment consisted of two or three, one-hour meetings with a counselor following an eclectic approach. Group treatment consisted of three to four, ninety-minute sessions in which general problems of choosing a vocation were discussed. Efforts were made to focus on underlying feelings concomitant to the choosing process. Students in the programmed self-instruction group met for an introductory session and were then given three weeks to complete the instructional booklet which followed a problem-solving format. On all criteria the treatment groups showed significantly greater progress than the control group. In addition, the self-instruction group was significantly higher than both the individual and the group treatment groups in three of the seven areas: information about opportunities, learning to make decisions, and setting up appropriate goals. While the study's results leaned in favor of a self-instructional mode on some criteria, its group treatment represented a successful departure from traditional group guidance modes.

Ware (71) reported on a pilot study of a vocational workshop for college students which met twice a week in ninety-minute sessions, for three weeks, and was designed on a decision-making model. The workshop combined instructional and discussion modes with an emphasis on voluntary involvement in information-seeking activity, testing,
discussion, and other activities. Eighteen students were enrolled in the program and compared with an eighteen-member, no-treatment control group. Covariate analysis of pre- and posttest results on the self-diagnostic rating scale yielded significant gain, for the experimental group on three of the items: knowledge of decision-making approach, use of the decision-making approach, and knowing sources of occupational information.

Biersdorf (6) studied the effect of two group vocational guidance treatments on a variety of variables. One treatment was a limited group format, consisting of only a group interpretation of tests taken by the subjects, and the other was an extended group format that included group discussion of relevant factors of vocational choice in addition to a testing program. Seventy-one male university student recruits were randomly assigned to one of the treatments or the control group. Treatment was conducted in small subgroups of eight. Significant gain was found, in favor of the extended group treatment, on only one of several variables included—reduction in number of vocational problems about which there had been concern—as measured by the Mooney Problem Check List. Mean trends for four of the other criteria were in the predicted direction.

Medvene and Del Beato (47) reported a group-oriented intake counseling program which included a "problem resolution group" for university students seeking help with
educational-vocational problems. The groups met two hours weekly for four weeks and included test interpretation as well as group interaction. No evaluation of the program was presented.

Recently a commercially offered group vocational counseling program has gained attention. Designed for trained peer leadership, the **Vocational Exploration Group** is fashioned as a small group procedure which can be followed in a single meeting of two hours or five separate one-hour meetings. The first phase looks at the world of work in a simplified two-fold matrix of job function and preparation. Then members are involved in activities which foster the sharing of information about jobs. In the third phase, job demands and job satisfiers are considered along with training requirements. The next phase relates jobs that are similar in demands and satisfactions to the experience of individuals in the group. Feedback is given to the members by one another concerning impressions each has of the others. Finally, group members help each other plan the appropriate next step in their progress toward job selection. Daane (17) reported a large scale evaluation of the program which included 1700 subjects over an eight-state area through the United States Department of Labor using employment service applicants. The **Vocational Exploration Group** subjects exhibited twice as many job placements as the control group, and in addition some significant differences were reported
in categories relating to employment perceptions (job-personalization and self-recognition of work potential) and alienation perceptions (social distance, trust in others, and flexibility).

Many of the small group vocational counseling approaches cannot readily be identified with any particular vocational theory. In fact developmental group counseling cannot yet be characterized by any certain set of techniques or procedures. Katz (40) presented a model applicable to developmental theory which is based primarily on decision-making theory. Jensen (38) described a general model for dealing with vocational development within a systems approach. Woody (76), in applying various behavioral techniques to vocational counseling, specified a procedure which is applicable within a developmental context. Hershenson (32) proposed a model in which various counseling theories can uniquely be applied to the different stages of vocational development. While none of these presentations specifically deal with group counseling in their application, there are no reasons to suggest that they could not be implemented in a group context. At this time it seems clear that the application of small group methods to vocational developmental situations is in an initial but viable stage.

Several group vocational counseling studies are available which may be viewed as developmental in nature, and
their characterization as such rests primarily upon recognition of the counselee as being a normal person involved in an on-going process of a developmental nature as he seeks to define his vocational self. This developmental process consists of several stages involving related tasks. Criteria for evaluation of these studies tend to go beyond the traditional questions of whether a person has made his choice and whether that choice is realistic.

Within the developmental context, Kuehn (43) reported a pilot project in which eighteen students were involved in two structured small group experiences. The groups met for three, two-hour sessions which included activities and discussion related to self-knowledge and values, information sources, and learning to make choices. She reported that fourteen students made choices, seventeen gave positive personal reactions to the process, and that one of the latter group asked for more time in such activities. Because there were no experimental comparisons, tentative suggestions were limited to favorable student reactions to this type of approach.

Smith and Evans (61) reported a study comparing the effectiveness of group guidance and individual counseling as facilitators of vocational development among undergraduate university students. Sixty-six freshmen and sophomore students seeking assistance with vocational choice were assigned
to three groups so that a balanced representation of sexes and walk-ins versus volunteers was achieved. One treatment received the five-week experimental group guidance program reflecting a decision-making paradigm. Each weekly meeting included an independent assignment, a large group presentation, and a small counseling group. These three weekly activities reflected that week's topic. Weekly topics were decision-making, values, interests, behavioral traits, and social influences. The second group received individual vocational counseling, and the third group served as a no-treatment control group. Statistically significant treatment effects were reported for the group guidance treatment over individual treatment and no treatment on both subscales and the total scale of Harren's Vocational Decision Check List. No significant effects were reported for the reactions-to-counseling form between the two experimental treatment groups. No sex effects or counselor bias were found.

Citing the fact that there have been no explicitly described procedures for group career counseling consistent with vocational development theory, Healy (30) recently presented such a group method derived from the principles of Super's vocational theory. Healy's procedure was designed for small groups to be run in four, two-hour sessions. The first session was introductory with respect to client role, group procedure, and elicitation of work-relevant qualities.
as content for future activities. The second session looked at an organized list of occupations and evaluated groupings of these occupations using previously identified qualities as criteria. Relevant occupations were selected by group members and rated on the criteria; then means of obtaining further information on the occupations were discussed. During the third session, counselees rated themselves on the same criteria and computed differences between self and occupational ratings. Means of self-appraisal were presented. The fourth session was divided into two meetings and included examining implications of difference ratings, drawing up consistent plans of action, reporting on implementation of plans, and considering strategies for overcoming obstacles. The method was field tested in an uncontrolled study on thirty-five junior college students in seven groups of four to seven members. Twenty-two of the twenty-five returned questionnaires indicated that the students felt they had been helped. In addition, pre-post responses to questions showed significant increases in certainty of choice about work, goals, majors, and occupational preference.

Hawer (34) reported a study in which a method of developmental group counseling, called the case study approach, was compared with individual counseling as a supplement to a vocational guidance class. In this approach, each student
gathered a variety of information about himself and presented himself as a case study to the group. She found group counseling over eight weeks equally as effective as individual counseling, but used no control group, thus making it impossible to attribute the results to counseling rather than to the guidance class from which the subjects were drawn.

Sprague and Strong (62) modified Hewer's case study method, focusing on the problem-solving aspects, and applied it apart from a guidance class for nine, weekly, one-hour sessions. They reported positive reactions from the college students involved, but they used no comparison group at all and termed the results as "preliminary findings" only.

Kinnick (41) discussed a problem-solving approach in terms of group discussion and group counseling and recommended its use in either mode as a component of education, but he did not study its effectiveness.

Vocational Counseling and Vocational Maturity

As suggested above, moving away from the trait-factor theory of vocational counseling necessitates the use of evaluative criteria other than whether students have made a choice and whether that choice seems realistic. Super pointed out the obvious, that "... the criterion to be used in the evaluation of development is maturity, or the normality of behavior in a peer group" (64, p. 55). Because the population for the present study was characterized
by a common factor of seeking help with selection of vocational or educational goals—defined by the developmental framework as developmental tasks—then the facilitation of development is a consistent aim for counseling, and a measure of vocational maturity is an appropriate criterion of success.

Several previous studies have employed measures of vocational maturity as a dependent variable. In order to evaluate the Developmental Career Guidance Project, Vriend (69) developed an instrument to rate the vocational maturity of second semester seniors in an inner city high school. The scale included six maturity indicators: agreement between vocational aspiration and expectation, vocational and educational planning, participation in activities, vocationally related self-knowledge, and job knowledge. The instrument yields a subscore for each indicator and a total score. The project was a program of structured career-related activities. The students in the experimental group were exposed to these activities and tested. In a posttest only control group design, these subjects were then compared with a control group consisting of second semester high school seniors at another school who had not been exposed to the structured career-related activities of the project. The major hypothesis, that students in the experimental school would show higher mean vocational maturity ratings than
students in the control school, was supported at the .001 level for all six subscores of the instrument used.

Martin (45) reported a study using as subjects 135 adult women enrolled in post high school vocational training programs in which he studied the effect of group counseling upon vocational maturity and the relationship of self concept to the chosen vocation concept. One group of women was enrolled in a four-month vocational training program, and another group was engaged during that time in remedial academic work preparatory to entering the training program. Out of each of these groups, an experimental subgroup was selected to receive group counseling, and the remainder were identified as a control group. At the end of the four-month period involved in the study, those women out of both groups that received vocational counseling showed change, though not significant change, in the relationship of self concept to chosen vocation concept; however, there was no significant difference between the groups in growth of vocational maturity as measured by the Vocational Developmental Inventory.

Nichol (48) studied the effects of small group vocational discussions on the vocational maturity of ninth-graders in a junior high school. In the study, seventy ninth-graders were selected for an experimental group, and seventy for the control group. The experimental group
subjects were further subdivided into seven subgroups of ten students each. These subgroups were involved in vocational discussions and met one period a week for eight weeks. Nichol found no significant results and suggested that the components of vocational maturity need to be more completely identified so that better instruments of measurement can be developed.

Hanley investigated the effects of short-term counseling upon the self concept of ability, the academic achievement, and the vocational maturity of tenth- and eleventh-grade underachieving students (26). Thirty-six underachievers of average ability were randomly assigned to an individual counseling group, a group counseling group, and a no-counseling control group. Individual and group counselees participated in six fifty-minute counseling sessions involving structured discussion. All subjects were administered the Vocational Development Inventory and the Self Concept of Ability Index; a grade point index was also used before and after treatment. Hanley found that neither short-term individual nor group counseling enhanced either the vocational maturity of the subjects or their self concept of ability and academic achievement.

Stenson (63) studied the effects of multi-type, short-term counseling with ninety high school sophomore boys in vocational training programs. The boys were matched and
randomly assigned to experimental and control groups. The experimental treatment consisted of three monthly, one-hour group sessions with eight to ten boys assigned to each group. Following these information-oriented group sessions, the experimental subjects were seen individually three more times. Control subjects were engaged in several very general discussion sessions. Stenson reported significant results, at the five per cent level, on Crites' *Vocational Development Inventory* and, at the .01 level, on Gribbons-Lohnes' *Readiness for Vocational Planning Scales*.

Jackson sought to determine "whether the introduction of a short-term program of career exploration into the lives of first-quarter college freshmen would result in an increase in their vocational maturity" (37). Eighty volunteers were subdivided into groups. Experimental groups were subjected to a treatment consisting of eight weekly ninety-minute sessions following a combined discussion and programmed unit format covering eighteen areas traditionally related to career choice. Neither instrument of maturity employed in the study indicated that the experimental treatment produced statistically significant results.

Likewise, Das (18) reported non-significant, but positive, change on the vocational maturity of "potential dropouts" from junior high school, following counseling. Two experimental treatment methods, group discussion and
individual counseling, were designed to realize the same four objectives (nature and importance of life planning, awareness of environmental opportunities, and assessment of personal capabilities). Each method was applied to two groups of eight to ten students. There were two no-counseling control groups of like size. The four treatment groups were exposed to an average of 3.8 to 4 sessions lasting thirty-five minutes over a period of three and one-half months. Maturity was measured by the **Vocational Development Inventory**. Das further found no difference between the effectiveness of individual or multiple counseling.

It seems clear that no definite trend has been established with respect both to the ability of various counseling and guidance procedures to influence maturity level (Results range from significance to no significance.) and to the ability of measures of vocational maturity to assess adequately the results of counseling and guidance procedures designed to influence vocational development. Until a more extensive body of literature exists with respect to the ability of various counseling procedures to influence maturity, however measured, it will be difficult to draw specific conclusions. There is room, certainly, for the application of additional counseling procedures to vocational choice counseling. Conversely, as many writers state (5, 72, and 51), the development of measures of
vocational maturity is definitely still in early stages of progress. Existing measures are tentative and incomplete, in the sense that many of the factors involved in maturity are not measured by existing instruments. There seem to be in the literature, however, enough studies which present positive influence on vocational maturity, even in some cases, significant influence, to justify additional effort both with respect to development of further vocational counseling methods and better measures of vocational maturity.

Vocational Counseling and Self Concept

A central element in Super's formulation of a developmental theory of vocations has been the construct of "self concept." Among his theoretical propositions the following were included:

Vocational preferences and competencies, the situations in which people live and work, and hence their self concepts, change with time and experience.

and

The process of vocational development is essentially that of developing and implementing a self concept (65, p. 186).

A variety of studies have been done relating certain aspects of self-perception to personality adjustment and vocational choice. The present study was concerned with the congruence or discrepancy between perceived self and ideal self concepts.
The landmark study of Butler and Haigh evolved from Rogers\'ian theory of client-centered therapy and hypothesized that "(a) client-centered counseling results in a decrease of self-ideal discrepancy and that (b) self-ideal discrepancies will be more clearly reduced in clients who have been judged, on experimentally independent criteria, as exhibiting definite improvement" (10, p. 59). Their hypotheses were affirmed at a significant level, following a minimum of six weekly client-centered counseling sessions. Subjects who asked for counseling exhibited less self-integration, perhaps providing the motivation to seek counseling, and this self-integration was shown to improve in relation to improvement on other independent variables.

In order to investigate the validity of the self-ideal self discrepancy as a criterion measure for success in psychotherapy, Varble and Landfield (68) implemented a replication of the Butler-Haigh study using a variation of the treatment and measuring method. The study compared thirty-six clients involved in individual psychotherapy over an average of eight interviews with a normal population control group composed of thirty-five students in a formal, didactic course entitled Personality Adjustment. Subjects in both groups were administered the Kelly Role Construct Repertory Test and a self-ideal self-concept discrepancy measure before and after the treatment period. By means of
self-rankings on the role constructs and judges' ratings, subjects in both groups were divided into improved and unimproved cases. Results of the replication were only partially supportive of the original Butler-Haigh study. The self-ideal self-concept discrepancy scores of the therapy group were significantly lower than those of the control group following treatment; however, the same measure did not yield a significant difference between the improved and the unimproved subject groupings at the end of therapy.

Thus, while the Butler-Haigh and Varble-Landfield studies agreed in their suggestion that short-term therapy produces a decrease in discrepancy between self and ideal self concept, there was some conflict between the results of those studies in terms of the relationship between maladjustment and self-concept discrepancies. Attempting to verify experimentally this relationship, which has become a common assumption among psychologists, Calvin and Holtzman (12), shortly after the Butler-Haigh study, designed a further study of this relationship between adjustment and self-concept discrepancy. Working with four intact groups of male students who belonged to four fraternities, these researchers collected self-rankings on each individual on the personality traits of leadership, tolerance, drive, adjustment, tactfulness, gregariousness, and social understanding. In addition, they gathered rankings of each member of the
group by each of the other group members. From these rankings they derived a composite group ranking of each individual on the same personality traits. Then a comparison between an individual's self-ranking and his composite group ranking on each of the seven traits was carried out and defined as a discrepancy score between self concept and inferred self. After adjustment for technical bias of the procedure, discrepancy scores on each trait were compared with an objective external measure, the Minnesota Multiphasic Personality Inventory. The results of this study supported the relationship between self-concept discrepancy and degree of adjustment. Specifically, the study concluded that there is a tendency to enhance the self in an inverse relationship to the degree of maladjustment. Furthermore, individuals who manifest poor insight regarding their own levels of adjustment, perhaps as reflected by self-report measures, are more likely to be maladjusted.

Using a population of seventy-eight male high school seniors, Hanlon, Hofstaetter, and O'Connor (28) reported further validation of the relationship between self-ideal self-congruence and personality adjustment. The sample was tested, with the California Test of Personality used as the independent measure of adjustment and a modified Q-sort technique as a measure of congruence, and the following pertinent conclusions were drawn: The correlation between self-ideal congruence and total adjustment is positive and
highly significant; intelligence and age show no significant relationship with congruence nor with measures of adjustment, and finally that signs of maladjustment may already begin to appear at low levels of positive self-ideal self-concept relationships.

A study of the relationship between self-ideal self-concept congruence and level of creativity was carried out by Fletcher (20) using a population of 606 suburban high school seniors. He found a significant positive relationship between high levels of congruence and high levels of creativity among seniors. The high originality group was significantly higher than the low originality group on measures of verbal intelligence, grade average, and achievement and aptitude scores; thus if the high originality group is assumed to be made up of better adjusted students, further support is lent to the relationship in question.

Hay (29) used self-ideal self-congruence measures in an industrial setting in an attempt to determine the relationship of the variable to personality, job performance, and position level. The sample included sixty-two engineering managers at four levels of management; and the instruments included a Q sort of real-ideal self concept, a leadership opinion questionnaire, the Myers-Briggs Type Indicator, the 16 Personality Factor test, a survey of interpersonal values, and a judges’ rating of management effectiveness. Each of the variables on these instruments was correlated with the final instrument measuring job success and the initial
instrument measuring congruence. "The most significant finding of this study was that self-ideal self-congruence was directly related to effectiveness in the job" (29, p. 1087).

These studies lend credence to the hypothesis of Rogers (55) that congruence of self concept and ideal self concept is a valid measure of an individual's personal adjustment. In addition, this relationship has been validated with a variety of instruments, populations, and procedures. While the relationship seems adequately supported, its nature remains in question. The previously cited studies suggest, for example, that this relationship is linear. There have been some indications in the literature that this relationship may be non-linear (18, 19, 8). In this view individuals with extremely high congruence scores may be viewed as overly integrated and, therefore, less flexible and resilient.

Levy (44) suggested that actual-ideal discrepancy scores having the self as reference may in reality be a characteristic of an underlying discrepancy between real and ideal views of the person's entire environment. However, Wilcox and Fretz (73) tested this hypothesis in limited fashion and found it untenable. Apparently in this area of research additional work needs to be done.

In accord with the view of self-concept clarification and implementation as a central aspect of vocational development, Super pointed out that vocational and personal
counseling cannot be separated at this level. Reconciliation of self-ideal self concepts, a better self-integration, or more self-acceptance is an essential task in the process of vocational choice (66, p. 90). Osipow and Gold, for instance, experimentally tested whether self-integration was related to the career development of freshmen at Pennsylvania State University. Forty-two students requesting personal adjustment counseling were compared to a group of randomly selected freshmen. Information used in the comparison was derived from case folders held on all students. The researchers hypothesized that "the career development of students who request personal adjustment counseling is more disrupted than that of students who do not request personal adjustment counseling" (52, p. 439). Although the results were not consistent in all categories of comparison, the data revealed that the personal adjustment counseling group had fewer primary patterns of interest on the Strong Vocational Interest Blank, thereby suggesting that the control group exhibited a more mature level of career development.

Studying the relationship between congruence of self and ideal self and the ability to make realistic choices of occupational goals, Anderson and Olesen (3) selected a random sample of ninety-six senior high school students and administered the Planagan Aptitude Classification Test and
a paper-pencil Q sort, containing self-referent items, to all subjects. Subjects then identified their first and second occupational choices. Using the minimum median percentile scores for each occupational field provided by the publishers of the Planagan Aptitude Classification Test to judge realism of the subjects' occupational choices, researchers concluded that a greater number of subjects chose occupational goals above their aptitude level and in inappropriate occupational areas than chose occupational areas below their aptitude level. They were unable, however, to demonstrate a significant relationship between congruence scores and realism of occupational choice.

Pallone (53) reported a study of self-definition in male college students during their freshman year. Working with a sample of 110 freshmen enrolled in the areas of arts, sciences, and commerce, he measured changes in self-ideal congruence with respect to the influence of the "generic college experience" which included formal guidance services and vocationally oriented part-time work experience. To measure perceptual and aspirational self, he used a Q-sort device prepared for the study. Due to the nature of the comparisons, no conclusions can be drawn with respect to the effect of the guidance activities themselves. In general the study found that the generic college experience does influence the development of more congruence between self and ideal. Art students, who tended to be less congruent initially than science or commerce students, reached higher
degrees of congruence by the end of the year. The author concludes that this greater flexibility is probably due to the more exploratory character of their academic experience as compared to that of the science and commerce students. In all three groups, vocationally oriented work experience tended to accelerate a greater relationship between self and ideal self concept.

Schutz and Blocher (59) did a correlational study using male senior high school students from a suburban area. Their purpose was to investigate Holland's contention that a person's aspiration in terms of level of occupational choice, reflects that person's perceptions as to his level of competence, potential, and worth. All subjects were administered the Strong Vocational Interest Blank and the Occupational Level Scale was used as an index of occupational choice level. In addition, another scale was specifically designed to elicit self-ratings on a number of personality traits. Subjects also attributed each trait to his self or ideal self concept. A difference score was computed and defined as a self-satisfaction measure. After self-satisfaction scores were found to be distributed non-normally, they were transformed to a standard normal distribution and compared with the Occupational Level Scale score. A correlation of 0.34 was obtained and determined to be significant at the .01 level. The researchers concluded "that a person's level of occupational choice and aspiration reflects his
evaluation of himself, his feelings about his personal worth, and his satisfaction with himself" (59, p. 597). It was noted that, given this relationship, there is additional support for those theories which suggest that personal and vocational counseling cannot be separated.

Trends in the literature tend to support a relationship between self-ideal self-concept congruence positively and, thereby, the adjustment of individuals. Likewise, trends in the literature have suggested that self-ideal discrepancy scores are related to vocational adjustment. It seems logical, then, to assume that vocational counseling should also influence congruence of individuals.

Noting that little attention has been given to the study of this assumption, Williams (74) compared forty-five students who received individual vocational counseling in a university counseling center with a group of forty-six clients held from counseling during the treatment period and a second, non-client control group of thirty psychology students. Treatment consisted of an initial interview during which the counselees' problems were assessed and testing was prescribed, two to four weeks of testing, and a final interview in which these testing results were analyzed and discussed with the client relative to the counseling objective. During these sessions, exploration of educational-vocational problems was pursued, and detailed exploration in the personal-social sphere was de-emphasized, occurring only when it bore
directly on the vocational problem at hand. He found that, prior to counseling, the clients showed less overall self-concept congruence and that, following counseling, the experimental group exhibited significantly greater self-acceptance, as measured by his self-ideal discrepancy instrument, than did the control groups.

In order to specify what factors contributed to the observed concept changes in the preceding study, two further studies have been done using comparable subjects and the same treatment and instrumentation. In the first of these, Williams and Hills (75) modified the design by post-testing after the subjects had completed the counseling-related tests, but prior to the final interview when counselor-prescribed test results were interpreted and discussed. Non-significant changes in self-ideal self-concept congruence led the researchers to conclude that the critical factors were events occurring in the final client-counselor contact when the counseling test results were discussed.

In the second subsequent study, Hills (31) modified the design further to determine whether it was the test information which effected change. He compared subjects who had completed the entire counseling procedure with another group who were posttested before they had their final counseling interview, but after they had been given written interpretations of their counseling related test results. The
former experimental group showed significant change in self-concept congruence when compared with the latter group, thus suggesting that elements of contact with a counselor, rather than test results alone, contributed to self-concept change.

A further study of the relationship between vocational counseling and self-concept congruence was conducted. Catron (13) matched forty-six pairs of high school students and entered the experimental subjects in varied-sized groups which met fourteen times during a five-week period. Beyond the initial introductory meeting, approximately six sessions were spent in testing and test interpretation, two in listening to and discussing a taped case presentation, and five sessions in general discussion. He found significant positive change in the experimental group subjects' perceived self-ideal self-concept scores, when compared with those of the control group subjects.

Vocational Counseling and Anxiety

The relationship of anxiety to specific aspects of the vocational development has been studied less than the relationship of self concept to vocational development. Hall (27) investigated the interrelationship between scores on the Taylor Manifest Anxiety Scale and the subjects' self-expression of certainty about vocational choice and the effect of these two variables upon occupational choice
and a rating of the certainty of that choice. Fourteen occupations were then selected from the Strong Vocational Interest Blank for Men and presented verbally to each subject in a forced choice paired format. Ninety-one choice pairs were derived, using high and low preference occupations as defined by each subject. This procedure allowed the researcher to investigate choice behavior with respect to speed of choice response and kind of choice response for the various occupations as well as high-high, low-low, and high-low pairs. The results indicated that high anxious students, as measured by the Taylor Manifest Scale, were relatively slower in their choice behavior when more conflict was involved; that is, their choice reaction time was slower on high-high and low-low choice pairs than on high-low choice pairs. It was discovered that a greater degree of certainty also led to faster choices. Neither variable, anxiety or choice certainty, appeared to influence kinds of choices. The results of this study yielded another pertinent conclusion: Measures of certainty and anxiety were uncorrelated; therefore, changes in one were not produced by variations of the other.

A similar investigation was conducted by Sharf (60) on the ability of the Taylor-Spence drive theory to predict vocational choice behavior. Citing Hall's success in extending the Taylor-Spence drive theory to success in
predicting performance on a vocational choice task, Sharf hypothesized that high-anxious subjects would respond more slowly "to competing response tasks and faster to non-competing response tasks than low-anxious subjects" (60, p. 344). His design was similar to Hall's except that he added a high-low ability variable to the high-low interest variable which Hall had originally used. Sharf's results indicated that anxiety was not a significant factor in performance of the choice task but that practice was. All subjects were found to choose faster on the non-competitive tasks than on the competitive tasks. Explaining the difference between his results and Hall's, Sharf acknowledged that there may be difficulties in extending the Taylor-Spence drive theory to vocational choice. However, he noted that the difference between the stress and the non-stress conditions of the two studies may explain the difference in their results. The influence of manifest anxiety, therefore, on the speed of choice in relation to the difficulty of choice remains unclear.

Hountras, Williams, and Williams (35) hypothesized that intellectual personality types—determined according to Holland's six categories—might be less anxious than conventional, artistic, and realistic personality types. Using the Taylor Manifest Anxiety Scale with 145 randomly selected male graduate students at the University of North Dakota who
were drawn from various departments reflecting Holland's six classifications, the researchers were unable to support their hypothesis.

Conflicting results were reported by Meachum (46) concerning willingness to accept limitations and levels of anxiety among vocationally decided and undecided college freshmen. One hundred fifty-one freshmen at Oklahoma State University, sixty-one males and ninety females, were tested using the Scale for Willingness to Accept Limitations and the Taylor Manifest Anxiety Scale. These subjects were divided into two groups of decided and undecided males and females, using the vocational choice portion of the student profile section on the American College Test. A series of comparisons were made between definite and undecided students in relation to their scores on the two scales employed. For both males and females, there was no significant difference in willingness to accept limitations between definitely decided and undecided subjects. It was reported, however, that there was a significant difference in level of anxiety between vocationally decided college freshmen who were more willing to accept their limitations and vocationally decided freshmen who were less willing to accept their limitations. While these results were considered tenative, they seem to suggest that the differences in characteristics between the vocationally decided and undecided freshmen
were predominantly apparent with respect to level of anxiety rather than to the other variable used in the study, willingness to accept limitations.

The evidence available that vocational counseling can be effective in reducing anxiety is very limited, but results tend to be positive. Clements (14) randomly selected 180 students from a population of 225 college town high school seniors and assigned sixty students to experimental treatment and sixty students to a no-counseling control group. The sixty experimental students were subdivided into subgroups of ten each. Three of these groups were involved in small group discussion regarding attitudes, fears, and aspirations relating to educational planning. The other three groups were similarly involved; however, an attempt was made to include parents in the educational planning of their children. Six weekly fifty-minute sessions were conducted during the spring semester of the subjects' senior year in high school. Following this six-week treatment, all subjects were administered an adaptation of the Bills' Index of Adjustment and Values and an unpublished self concept inventory as measures of anxiety concerning self. During the following fall, all subjects were again contacted and invited for further counseling after they had enrolled in college. Thirty-three of these students entered counseling in the fall; these students together with thirty control
students were again administered the two criterion instruments. At both testings, the experimental group exhibited less anxiety concerning self at a statistically significant level than did the control group. It was concluded that group counseling in the spring resulted in significantly less anxiety about self and that minimal counseling in the fall was helpful in sustaining this lower level of anxiety.

The relationship of anxiety to specific aspects of the vocational development of college students has been studied less. Two studies are available, however, which are pertinent. Wade and Shertzer (70) studied the effects of vocational counseling on forty-seven students at the University of Evansville. The treatment was described as routine counseling sessions—typically three or four in number—with students who sought assistance in choosing or changing a major field of study. A control group of forty students enrolled in a physical science class was employed. The researchers found that after counseling the experimental group had a significantly lower level of anxiety, as measured by the Institute for Personality and Ability Testing's Self-Analysis Form-Anxiety Scale Questionnaire. Before counseling the experimental group had a significantly higher level of anxiety than did the control group at both pretesting and posttesting. It was concluded that the results lent support to the hypothesis that college students with
vocational problems have higher anxiety levels than those who do not, and that vocational counseling can be effective in reducing anxiety.

Birney, Thomas, and Hinkle (7) reported a non-controlled evaluation of the effects of the "Life Planning Workshops," as utilized at Colorado State University, on a sample of forty male and female volunteers. The workshops are an ongoing program of career process counseling, carried out in small groups of six hours' duration, typically in one day, and theoretically based upon a developmental view of career choice process. The study was an initial attempt to identify salient variables, in which the value and the anxiety attached to specific concepts were measured by a values scale and the Concept-Specific Anxiety Scale. The researchers found significant difference, between pretesting and posttesting, on specific anxiety attached to four concepts: "myself," "other people," "five years from now," and "getting a job."

These studies suggest that anxiety may be a pertinent subjective variable in assessing growth in the area of career development, just as it appears to be in emotional and performance areas.

Vocational Counseling and Certainty and Satisfaction with Vocational Choice

The college student, especially early in his college career, is seen within vocational developmental theory as
being involved in the developmental task of crystallization as reported elsewhere in this study. Scales of certainty and satisfaction with vocational choice have appeared at various times in the literature as criteria for the evaluation of vocational choice counseling. The assumption of Resnick, Fauble, and Osipow (54), that vocational certainty and satisfaction may be a reflection of crystallization seems justified. Satisfaction with college major appeared as a variable in a study of the effectiveness of Holland's theory of vocational choice by Morrow (49). Three hundred twenty-three upperclassmen majoring in mathematics and sociology at the University of North Carolina in Chapel Hill were given the Vocational Preference Inventory to categorize their personality types according to Holland's categories. These students were also given a local questionnaire which measured their expressed satisfaction with their college major choices. Using personality types as assessed by the Vocational Preference Inventory, and chosen major, as determined by enrollment, the subjects were grouped around Holland's three dimensions of congruence-incongruence, consistency-inconsistency, and homogeneity-heterogeneity. The experimental design developed a series of comparisons between dimensional groupings and satisfaction scores. The results of these statistical comparisons indicated partial success in the ability of Holland's three dimensions to
predict satisfaction with chosen major. For instance, in the mathematics department, where the congruent group was intellectual personality type, it was shown that this group obtained significantly higher satisfaction scores than four out of the remaining five incongruent groups (social, enterprising, conventional, and artistic). In the sociology department, the congruent group (social) scored higher, but not significantly higher, than four of the five incongruent groups (realistic, conventional, enterprising, and artistic). Notably less success was achieved in supporting the hypothesis that consistent and homogeneous groups would show significantly greater satisfaction than inconsistent and heterogeneous groups.

One study of the variable choice certainty has already been reported (See Hall, p. 45). The significant relationship discovered in this study between a greater degree of certainty and an ability to deal with choice faster suggests that, if vocational counseling efforts can lead to increased client certainty about career plans, then the client may approach or arrive at a better state from which to deal with upcoming, perhaps more specific, choices as well as increase his level of vocational development. The Resnick-Fauble-Osipow study mentioned above proposed two measures reflecting crystallization--vocational certainty, measured by one item on a biographical information questionnaire on which the
subject was asked to rate his vocational certainty on a scale of one to four, and higher level of interest development, as measured by the number of scores above the seventy-fifth percentile on the Kuder Preference Record. Because the study was a test of Super's position that self concept influences the nature of progress in the individual through various developmental tasks, the researchers hypothesized that subjects with higher self esteem, and thus a better self concept, should have progressed further through the adolescent developmental task of crystallization. To test the hypothesis, 114 male and 102 female Ohio State University students, predominantly freshmen, were measured on the Kuder Preference Record and the biographical information questionnaire as well as the Tennessee Self Concept Scale. The top third of the scores on the Self-Esteem Scale of the Tennessee Self Concept Scale were compared with the bottom third on both criterion variables, number of Kuder Preference Record scores greater than seventy-fifth percentile and certainty. It was found that, for both sexes, high self-esteem scores were positively related to greater certainty of vocational choice. The hypothesis with respect to level of interest development, however, was not supported.

Able (1) used certainty of vocational goals to predict attrition in college. Judges' ratings classified eighty-nine
male freshmen as certain or uncertain with respect to their plans. Semester grade point averages were ascertained; then subjects were placed in four groups according to these two dimensions. It was discovered that the combined groups of low academic achievement and lack of certainty yielded an attrition rate, to time of graduation, of seventy-five percent, compared to an average loss of thirty-seven percent in all other groups. This was a significant difference.

Low performance, certain and uncertain groups were also compared, resulting in the conclusion that lack of certainty about vocational plans was significantly related to attrition among low performance students.

A study by Ashby, Wall, and Osipow (4) in 1966 provided some interesting data concerning characteristics of vocationally certain college freshmen as compared to tentative and uncertain freshmen. The vocationally certain or decided group was composed of eighty-one male and twenty-seven female first-term freshmen at Pennsylvania State University who were enrolled in relatively clear curricular fields. The undecided group, composed of twenty-six male and three female entering freshmen, were students enrolled in the counseling division for the purpose of achieving greater flexibility in their scheduling during their early college work. A third group, called the tenative group, was identified; it included seventy-nine males and twelve females. These subjects were also enrolled in the counseling
division but had expressed tenative choices, although they were clearly not so prepared to commit themselves to these goals as were the subjects in the decided group. Subjects in each of these groups were compared on a variety of information routinely collected at Pennsylvania State University, and several pertinent areas of statistically significant differences were discovered. In relation to achievement variables, the decided group had significantly higher high school grades, academic abilities test scores, and Scholastic Aptitude Test Verbal Test scores. No significant differences appeared among the groups on a series of family-school variables such as school size, parental income, parental education, number of siblings, and birth order. The vocationally decided group appeared significantly higher in intellectual and artistic personality ratings following the Holland classification, and the vocationally uncertain group appeared significantly higher on a dependence variable derived from the Bernreuter Personality Inventory than the other groups. In discussing their conclusions, the authors noted that, while vocationally uncertain groups are capable enough, they apparently, as a result of the dependency, require more support and encouragement in making plans. It was further concluded that, as a result of the Strong Vocational Interest Blank to discriminate among groups, lack of certainty cannot be attributed to lack of clarity of interest, although that assumption
appears to be common when general test batteries are routinely incorporated into vocational counseling as the primary mode or procedure.

Hoyt (36) reports an evaluative study of a group vocational guidance program at the University of Minnesota in 1955 which was designed to accomplish four objectives: "(a) satisfaction with vocational choice, (b) certainty of vocational choice, (c) realism of vocational choice, and (d) appropriateness of certainty in terms of realism" (36, p. 26). Sixty students were identified from a student information sheet who had expressed lack of decision about vocational plans, had responded to an announcement about the availability of vocational counseling, and were able to participate at the times required. Of the sixty students in the sample, thirty were randomly assigned to the experimental group, fifteen were randomly assigned to receive individual counseling, and fifteen were randomly assigned as control and received no counseling during the experimental period. Subjects in the individual counseling experimental group received individual counseling at the student counseling bureau following the typical counseling methods of the bureau. The average number of contacts with these students was 2.6. Subjects assigned to the group counseling experimental group were involved in a program which essentially consisted of an initial introductory
meeting of all students, followed by small group discussions in groups of five to seven during which results of the Strong Vocational Interest Blank and short questionnaires were used as stimuli for discussion. The groups met an average of 2.3 times after the initial introductory session. All subjects were tested six weeks after the last counseling contact. Certainty and satisfaction were measured by a quantitative rating on an eleven-point scale—the procedure followed by the present study. Realism of vocational choice was measured by the use of critical judgments by experienced vocational counselors using scores on the Strong Vocational Interest Blank, scores on a psychological examination, student high school rank, Cooperative English Test scores, college grade point averages, and any other tests taken by individual subjects. Appropriateness of certainty was measured through comparison of scores on the certainty variable with judgment ratings of the individual's vocational choice. Increases in certainty were scored positively when the subject's vocational choice was judged appropriate and negatively when the subject's vocational choice appeared inappropriate. Group counseling experimental subjects scored significantly higher than the control subjects on both certainty and satisfaction as well as on realism of choice. Appropriateness of certainty in terms of realism yielded results which were not significant.
Individual counseling experimental subjects were also significantly higher on certainty, satisfaction, and realism than control subjects. This group also did not show a significant difference for appropriateness of certainty. When both experimental groups were compared, no significant differences were found. It was concluded that, on these criterion variables, group vocational guidance procedures are comparable in effectiveness to ordinary individual vocational counseling.

These studies, relating certainty and satisfaction of vocational choice to crystallization of interests, greater facility in dealing with choice problems, degree of academic success, and independent functioning, do suggest that higher degrees of certainty and satisfaction may indicate increasing vocational development.

Vocational Counseling and Information-Seeking Behavior

The need for information about vocations is, of course, a commonplace aspect of problem-solving. Behavioral counseling theory has effected a change in emphasis in the manner in which this element of vocational choice has been studied so that in recent years considerably more attention has been focused on the information-seeking behavior of the counselee than on the acquisition of a specific body of information which might have been presented in a traditional guidance
class. The trend seems consistent with developmental theory because a measure of a person's appreciation of need for vocational information and his willingness to seek it is a more dynamic element than is a measure of the presence of a generalized body of facts about the world of work. Involvement in the process of seeking vocational information, in other words, seems more descriptive of progress in vocational development. A number of studies have investigated this variable in a variety of ways.

Cochran (15) used a behavioral check list to measure occupational information seeking as a criterion of success in a group vocational counseling study. Other criteria included vocational maturity, occupational alternatives, and self-ratings of strength related to vocational and educational planning ability. The treatment was a developmental outreach program consisting of an eight-hour workshop composed of a series of structured, small-group exercises, such as Holland's Self-Directed Search. A sample of sixty male volunteers was gathered from the residence halls at the University of Arizona and randomly assigned to four groups. Two groups received the experimental treatment, and two groups were used as control subjects. Significant results were obtained on the occupational information-seeking and the vocational alternatives measures, but non-significant results were obtained on the other measures. It was
concluded that the outreach treatment was effective on overt measures and ineffective on measures of covert behavior.

Schroeder (58) studied the effect of reinforcement and model-reinforcement counseling on the frequency of information-seeking behavior among students. Fifty-four male and female eleventh-grade students were randomly assigned to one of the three experimental conditions—reinforcement, model reinforcement, and control. All counseling in the treatment groups was individual and lasted two sessions. External information-seeking behavior was measured two weeks after the final session through self-reports elicited during a follow-up interview. Internal information-seeking behavior, that is, references to such behavior occurring within the counseling session, was also measured through the use of session recordings. Control subjects received no counseling. The major pertinent findings were that both types of counseling produced significant increases in the variety and quantity of external information-seeking behavior carried out by the subjects. There were no significant differences between the treatment groups in terms of number or rate of internal information-seeking responses. Finally, ratio of target responses within the sessions to other responses was positively related to both variety and quantity of external information-gathering behavior.
Assuming that an essential prerequisite of vocational decision-making is the gathering of relevant information, Thoresen (67) reported a study in which the criteria of frequency and variety of information-seeking were used in an experimental comparison of two behavioral counseling techniques. One hundred ninety-two high school juniors who had expressed interest in future planning were randomly assigned to four equal size groups--a reinforcement counseling group, a model reinforcement counseling group, a film-discussion control group, and an inactive control group. The forty-eight students in the first group were subdivided into three group settings and six individual settings, and were provided positive reinforcement for verbal responses which indicated an intention to seek information about future plans. Treatment lasted for two sessions. The second group was subdivided in the same fashion, and in their two sessions were provided with a fifteen-minute taped interview of a discussion of specific ways to seek information; after these sessions, verbal information-seeking responses were verbally reinforced. The placebo-control group viewed and discussed a film on some aspect of college or careers for one session. No contact was made with the control group. General conclusions of the study were that reinforcement and model reinforcement counseling both produced a greater frequency and variety of information-seeking behavior than
either control group. Group and individual settings, likewise, were equally effective in causing this information-seeking behavior. Finally, it was concluded that the more a student could be brought to emit verbal information-seeking responses in counseling through reinforcement, the more he sought relevant information outside the interview.

Mickelson (48) investigated the effect that the possession of high or low levels of facilitative conditions would have on information-seeking behavior in reinforcement counseling. A group of counselors was formed from graduate students enrolled in beginning counseling courses, and classified as facilitative or non-facilitative persons. Only counselors were used who had had no previous counseling experience. Three subjects were assigned to each of the counselors, from a pool of volunteers expressing interest in obtaining additional vocational information. Each counselor conducted one session with each of his clients. Findings were statistically significant. Between facilitative and non-facilitative counselors, no statistically significant biases as to frequency of reinforcement nor length of interview were found. This result led to the conclusion that since frequency of reinforcement did not differ, then increased information-seeking behavior was a function of the potency of reinforcement. Facilitative counselors were more effective reinforcers. It was further discovered that the longer the interview lasted with a
facilitative counselor, the more the effect was observed in increased information-seeking behavior. Results were just the opposite for non-facilitative counselors.

Jones and Krumboltz (39) studied the effect of film-mediated problems on the stimulation of vocational exploratory activities. The study was taken from a series of research activities designed to involve students in realistic problem-solving situations encountered by employees in given situations. Specifically, the goal of this study was to compare the effectiveness of this procedure when different degrees of participation were included in the simulated problem-solving process. There were three experimental groups. They all saw the same film, which presented a series of problems derived from the banking industry. The active-overt participation film was accompanied with a workbook which the students followed. The film was stopped prior to the solution of each problem, and the subjects were asked to write down their own solutions in the workbook before the film was continued. A second experimental group saw the same film, but was not provided with workbooks. The film was stopped at the same point; however, the subjects were asked only to think about their solutions. A third group viewed the same problems and solutions, but no questions were presented nor solutions elicited. The film ran non-stop for thirty minutes. Three other treatment groups
were also formed and received more traditional means of stimulating exploratory behavior, such as regularly published banking career films, printed banking career information, and printed general career information. A control group viewed a film that was unrelated to vocational choice. Two hundred eighty tenth-grade students were involved in the study from two culturally different schools. While some significant results were obtained on other criterion measures, none of the experimental groups were observed to have produced significantly greater scores on the Vocational Exploratory Behavior Inventory. The authors concluded that a more effective design or a better instrument may have brought the results expected.

Noting that the literature has given positive support to the effectiveness of behavioral counseling in increasing vocational information-seeking behavior, and conversely, that very little such support has been given to the effectiveness of the more traditional method of advice-giving, Samaan and Parker (36) experimentally compared the effectiveness of persuasive advice-giving and behavioral (reinforcement) counseling in an extremely well designed study. The dependent variable was information-seeking behavior within and following counseling. The variable of self-esteem was controlled in the subjects as well as the effectiveness level of the counselors on variables of
worth, understanding, acceptance, persuasiveness, advising, and rewarding. A series of hypotheses were presented which covered all relationships between treatments, subject self esteem level, and counselor effectiveness. The counseled groups engaged in significantly more and more varied information-seeking than the control group. Moreover, analysis of variance revealed that reinforcement counseling produced significantly higher information-seeking activity than did persuasive advice-giving subjects. Counselor differences between both treatments were not significant. The results of this study serve to strengthen the relationship between the reinforcement and client information-seeking behavior.

Aiken and Johnson (2) used group vocational reinforcement counseling, of two or three sessions lasting one and a half hours, to study whether the results of reinforcement counseling on information-seeking behavior varied with the type of client involved. Freshmen and sophomore males at the University of Missouri who classified themselves as vocationally undecided and who volunteered were tested on Holland's \textit{Vocational Preference Inventory} and Crites' \textit{Vocational Development Inventory} in order to divide them according to consistency-inconsistency and maturity-immaturity dimensions. Within the experimental group, subgroups of vocational maturity and immaturity were used, as
well as inconsistent maturity and inconsistent immaturity. Subjects were randomly assigned to treatment and control groups within each of these four categories. Counseling groups were composed of four to six subjects. The experimental treatment consisted of discussion about content areas of self knowledge, choice process, motivation, choice independence, job knowledge, goal attainment awareness, time factors, and self and the world of work. Within the counseling sessions, as group members interacted about the content, experimental counselors who had been trained specifically for the study positively reinforced, either verbally or nonverbally, any indication from the subjects that they were seeking, considering, or intending to seek any information about their own career plans. Control group subjects met and were given a series of research questionnaires to answer. No discussion was involved. A vocational check list, yielding scores on behavioral information-seeking and cognitive consideration of information-seeking was used in a pretest, posttest, post-posttest design. Again, the results of analysis of covariance indicated the ability of the treatment incorporating reinforcement counseling to affect information-seeking behavior significantly more than the control group. It was discovered, however, that by post-posttest time (three weeks following posttest time), this significance had disappeared. Comparison of counselee
dimensions yielded results showing that vocationally inconsistent and consistent students differed significantly in their active behavioral information-seeking responses. Vocationally consistent personality profiles positively identified students who increased their information-seeking responses. No significant differences were found in the comparison between students on the vocational maturity-immaturity dimension on any of the behavioral or active information-seeking variables. Results of this study further suggest that cognitive information-seeking responses were easier to influence than behavioral exploration responses. Moreover, the study suggests that the maturity variable and information-seeking variable are different.

Another study of the effects of individual reinforcement counseling on information-seeking behavior by Borman (9) identified another subject variable which may influence the effectiveness of counseling intervention upon information-seeking behavior. A ten-item questionnaire was developed in order to group experimental subjects on the variable of motivation for career planning. Thirty-six ninth-grade subjects were identified in each category and randomly assigned to individual counseling over a period of five thirty-minute counseling sessions, to an active control group which listened to vocational guidance tapes for an equal period of time, or to an inactive control group which received no treatment. The dependent variable in the study,
information-seeking behavior, was measured one week after the treatment period on a ninety-item questionnaire designed for the study. An analysis of variance technique did not reveal significant differences on a variety of information-seeking behavior among the three groups in the study. However, inspection of the data revealed that there was a significant difference at the .01 level between the more and less motivated groups on the dependent variable. While this study was inconclusive in its main purpose, it does serve to point out, along with some previous studies mentioned above, that while vocational counseling methods—especially of a reinforcement nature—can be effective on the developmental task of information-seeking, there are potent subject and counselor variables which may significantly influence the effect that such counseling intervention may have.

In summary, then, the present chapter has reviewed the literature pertinent to the present study. This literature reveals in general that there have been isolated efforts to develop group vocational counseling methods and that, on a variety of criteria, there have been some positive results. The literature also reveals that, while results are often conflicting and inconclusive, the criterion variables selected for the present study can be affected by vocational counseling procedures, that these criterion variables
are pertinent and essential variables in the study of vocational counseling procedures, and in general that these variables are basically independent of each other.


35. Hountzas, Peter T., Constance M. Williams, and John D. Williams, "Manifest Anxiety and Vocational Preference Among Male Graduate Students," Psychological Reports, XXX(June, 1972), 886.


CHAPTER III

PROCEDURES OF THE STUDY

Subjects

During the 1973 fall semester a counseling center pro-
gram of vocational counseling groups was offered to the
student body of Mountain View Community College. The program,
designed to assist with career choice problems, was presented
through distribution of mimeographed announcements at orien-
tation, registration, and a variety of high traffic locations
on campus early in the semester. Referrals were also re-
ceived during the summer and early in the fall semester from
instructors, counselors, and others who had been acquainted
with the program during the previous year. The general
nature of the program was explained to interested students
during their initial interviews, and data were collected,
including names, addresses, phone numbers, and free time
periods during which they would be able to participate.
They were also asked to complete the pretest battery, which
included the Vocational Development Inventory, the Personal
Concept Scale, the Concept-Specific Anxiety Scale, and the
Vocational Status Sheet. The students were not informed of
the research being conducted, and the pretest instruments
were presented as program evaluation instruments.
One hundred twenty-seven students completed this phase of the program. Then pretest scores on the Vocational Development Inventory and the Personal Concept Scale were combined by totaling the number wrong on the first test and the raw discrepancy score on the second. On the basis of a ranking of these combined scores, 105 students with the highest scores were chosen as subjects for the study.

A comparison of descriptive data of the subject group and the general student body at Mountain View College is presented in Table I. Mountain View College, one of four campuses in the Dallas County Community College District, had an enrollment of approximately 4,200 students at the time of the study.

**TABLE I**

**COMPARATIVE DESCRIPTION OF SUBJECTS TO STUDENT BODY**

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage of Males</th>
<th>Percentage of Freshmen</th>
<th>Percentage of Minorities</th>
<th>Average Age</th>
<th>Average ACT Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain View College Student Body</td>
<td>68</td>
<td>73</td>
<td>15</td>
<td>26</td>
<td>16</td>
</tr>
<tr>
<td>Research Subjects</td>
<td>55</td>
<td>76.2</td>
<td>12.7</td>
<td>23.75</td>
<td>16.5</td>
</tr>
</tbody>
</table>
Counselors

The experimental treatment was facilitated by four professional members of the counseling staff and one doctoral student in counseling who worked part-time at the college. Each had at least three years professional experience and had been regularly involved in group work as part of his professional duties.

In addition to having been involved in a pilot program of group vocational counseling the previous year at the college, the counselors were further involved in an orientation program designed to train them in the specific counseling procedures employed in this study. The training required that each counselor study developmental rationale provided by Blocher (1, pp. 3-12 and pp. 169-176), study the treatment format provided in Appendix A of this paper, and participate in a training session with the experimenter during which the developmental counseling theory was discussed and the experimental procedure was demonstrated and role-played. A continuous monitoring process was maintained with the group leaders during which every effort was made to standardize specific procedures, answer questions, and promote a well-managed program.

In order to reduce the possibility of counselor bias and to increase the chances of generalization of results, the experimenter worked with only the placebo groups and did not facilitate any of the experimental groups.
Procedures for Collection of the Data

This study employed the experimental pretest-posttest control group design. The 105 students selected for the study were assigned to one of three groups by means of a table of random numbers. The three groups were then randomly designated experimental, placebo-control, or time-control by draw.

The experimental subjects were further subdivided into five subgroups of seven members each, on the basis of the time periods they had indicated they were available to participate. No other selective criteria were employed in the subdivision process except that care was taken to achieve a balanced sex representation across subgroups. The experimental group subjects were then notified of their scheduled time to begin group counseling.

The experimental treatment consisted of twelve weekly one-hour group vocational counseling sessions which began during the third week in September and were held between 9:00 A.M. and 2:00 P.M. Counseling followed structured procedures (outlined in Appendix A) designed according to a developmental theory of the vocational choosing process. During the first phase, introductory procedures were implemented for the purposes of initiating the development of group awareness, commitment, trust, and cohesiveness; and of demonstrating basic principles of vocational development,
especially those relating to the dynamic nature of the process and to some of the personal elements involved in it.

In the second phase of the counseling procedure, the student systematically reassessed his vocationally related previous decisions, interests, and values for the purpose of arriving at a clarification of his current state in relation to possible long-range goals. The objective was for each student to achieve the most definite formulation possible, at his present state of vocational development, of his potential choices. The assumption was that, until further information and understanding were gained, this formulation was the student's only current guide for action.

The final phase of the program was essentially action oriented. With his more definite understanding of long-range goals, the student was asked to begin identifying specific steps that would facilitate movement toward achievement of these goals. Critical items were isolated for immediate attention, methods of accomplishing the tasks were discussed, and reinforcement was given for task completion. The posttest battery, which was identical to the pretest battery, was given immediately following the final session.

The placebo-control group subjects were subdivided following the same procedures employed in subdividing
experimental group subjects. They were then scheduled and notified. These groups received a pseudo-treatment consisting of a series of group discussions initiated by a series of tapes and films (see Appendix B) which were not directly related to the career development process. The basic rationale guiding the discussion part of each session was that improved involvement in personal and academic learning would lead to understanding in vocationally related areas as well. Consequently, indirectly related topics such as problem solving were discussed, but no direct applications to vocational choice were attempted. The pseudo-treatment also lasted for twelve weekly one-hour sessions, concurrent to the experimental treatment; and posttesting was administered immediately following the final session.

After all counseling sessions had begun, time-control group subjects were informed that the groups were full presently, but that contact would be made with them later in the semester. During the week that the groups were being posttested, the no-treatment groups were again contacted and asked to come in for appointments in the counseling center relative to their previously expressed interest in vocational counseling. During their interviews, they were asked to complete the posttest battery and were offered individual or group vocational counseling.

Attendance at eight of the twelve group sessions and completed posttesting were set as the criteria for inclusion
of experimental and placebo group subjects in the study; completed posttesting was set as the criterion for inclusion of time-control group subjects. After attrition, final group N's were the following: experimental group, twenty-seven; placebo-control group, twenty-six; time-control group, twenty-five.

Instruments

The Attitude Test of the Vocational Development Inventory (Form III) was used as the maturity measure in this study. Following his multi-faceted theory of vocational maturity, Crites developed this instrument through the Vocational Development Project at the University of Iowa to measure one subgroup of elements in the theory: "... the attitudinal or dispositional response tendencies in vocational maturity which are non intellective in nature, but which may mediate both choice behaviors and choice aptitudes" (4, p. 7). The instrument is a sixty-item true-false test (only the fifty-item Vocational Maturity Scale results were used in the present study) "developed from a combination of the best features of the empirical and rational methods of test construction" (4, p. 7). The score is the number of items answered the same as the predominant trend of answers of the original criterion group.

Original data were collected in 1962 and 1963 on a cross-sectional sample of nearly three thousand students ranging in age from eleven to eighteen. From this standardization the
items on the Vocational Maturity Scale were shown to be related to age and grade increases monotonically, with no significant reversals (5, p. 17). The relationship between the scale and the external criteria used in its development was demonstrated further in a test which showed that each of the fifty items was able to significantly discriminate between grade levels at the .01 level (4, p. 20).

Crites summarized the reliability studies as being limited to two types (5, pp. 41-45). Internal consistency estimates on data gathered in 1962 ranged from .65 to .84 with the average coefficient being .74. Test-retest stability coefficients ranged from .61 to .71 over the period of a year. The latter results were not expected to be high due to the maturation variables elicited by the test.

A summary of data assembled by the Vocational Development Project from studies applying the Vocational Development Inventory to college level students suggested that there were no noticeable "ceiling effects," so that the instrument was appropriate to be "used with college students as advanced as the senior year, even though the scoring key was derived from the responses of 12th graders" (5, pp. 33-34).

Congruence of self-ideal self concept was measured by means of the Personal Concept Scale (Appendix C). The instrument was developed following semantic differential methodology (9). This method purports to measure the meaning
which a concept has to a subject by having him differentiate it on a "set of bipolar adjectives" in the form of a series of seven-step scales on which he is able to indicate the direction and intensity of the items' meaning in relation to the concept in question (8, p. 20). The items, or sets of bipolar adjectives, are chosen so that they representatively sample the various factors of meaning (e.g., evaluation, potency, activity) which have been experimentally derived.

Using this methodology, Tannenbaum (10) measured the meaning of six concepts for 135 subjects and reported test-retest reliability coefficients over a period of five weeks ranging from .87 to .93 with a mean of .91. Osgood et al. (8, p. 192) reported studies in which the semantic differential scores in the measurement of attitude correlated significantly greater than chance (p < .01) with scores derived by use of Thurstone and Guttman scales. Face validity was estimated in several ways and reported good in relation to other types of scales (8, pp. 141-193).

The present semantic differential was designed to measure self-reported meaning to the individual of two concepts, "self" and "ideal self," here termed "I am" and "I would like to be," on a set of twenty pairs of bipolar adjectives. The score is derived simply by comparison of the scaled mark for each item with reference to each concept.
Koeppen (7, p. 47) reported a test-retest reliability coefficient of .79 on a form of the present scale over a two-week period, using ninety-four undergraduate psychology students at North Texas State University. The coefficient on the final revision of the scale was .70 using thirty-six rehabilitation subjects (9).

Anxiety associated with the concepts "myself," "other people," "deciding on a career," and "five years from now," was assessed by the Concept-Specific Anxiety Scale (2). The instrument was designed to measure the degree of anxiety associated with specific concepts, or stimulus situations, rather than a more or less constant "trait" associated with individuals.

The instrument consists of a set of fifteen bipolar adjectives arranged in a seven-interval semantic differential format (Appendix D). It yields a physiological score (Factor I), a mood score (Factor II), and a total score.

In an initial validation study (3) the Concept-Specific Anxiety Scale has been shown to discriminate among a set of concepts selected for their presumed ability to elicit differential responses at high positive, low negative, and neutral points with reference to anxiety. The three comparison concepts were respectively, "playing with a puppy," "handling a spider," and "thinking about going." Analysis of variance yielded significant differences among the three
concepts on each of the three scores (total, $F = 851$; physiological response, $F = 704$; mood index, $F = 191$; with df = $2/566$ in each case).

Test-retest reliability was assessed over a three-week period using 169 male and 179 female general psychology students (2, pp. 6-9). Each item on these initial testings was treated separately, and factor analyses were performed by sex and time of testing. Factors which appeared consistently on both sex groups at both testings were selected, and items which loaded most consistently on these factors were retained and included in the instrument.

The Vocational Status Sheet (Appendix E) is an instrument devised by the experimenter to provide for the collection of additional data relevant to the study. It includes the request for a statement of the subject's current vocational plan, eleven-point scales measuring the degree of the subject's reported certainty and satisfaction with his plan, and a check list structured to provide a measure of the subject's recent vocational information-seeking activity.

The certainty and satisfaction scales were modeled after similar measures used by Hoyt (6, p. 27) to evaluate group and individual vocational guidance programs. Information-seeking activity was measured by means of a list of information sources on which the respondent is asked to identify those sources he has used within the preceding six
weeks. The score was derived by totaling the number of sources identified.

The reliability of the instrument was tested by a repetition method over a three-week period using fifty-two psychology students during the summer of 1973. An overall reliability coefficient of .80 was obtained.

Procedures for Treatment of the Data

For the purpose of statistical analysis, the research hypotheses were converted to null form.

A one-way analysis of covariance procedure was used to test for significance among the pretest and posttest means of the three groups employed in the study. Posttest scores were used as the criterion variables, and pretest scores were used as the covariate in the analysis of results derived from all four instruments administered. A .05 level of significance was established as the criterion for rejection of the null hypotheses. When significance was found, the Tukey (b) test for multiple comparisons was used to determine which of the mean differences were significant.

In order to assess potential treatment biasing effects among experimental subgroups, their data were compared by a one-way analysis of covariance using pretest scores as the control variables. In evaluating the results, the .05 level of confidence was used as the criterion.


CHAPTER IV

ANALYSIS OF THE DATA

The purpose of this chapter is to present and analyze the data obtained in the study. A one-way analysis of co-variance procedure was used to test for significance among the pretest and posttest means of the three groups employed in the study. The three groups were an experimental group (N = 27), a placebo group (N = 26), and a time-control group (N = 25). Results of these tests, as well as group means and standard deviations are presented for each of the five hypotheses. When significance was found at the .05 level of confidence, the Tukey (b) test of multiple comparisons was employed to determine where the significance was. These data will also be presented.

Since the experimental and placebo treatments were carried out in subgroups, an initial analysis of covariance procedure was employed on each of these two sets of subgroups in order to determine whether significant counselor bias had occurred. The results of these initial statistical analyses revealed no significant differences beyond the .05 level. These data are displayed in the Appendix.
Results

The first research hypothesis tested dealt with a comparison of subject groups by means of a vocational maturity measure; and, stated in null form, read:

1. Following treatment, there will be no significant difference between the experimental, placebo, and control groups, in maturity of vocational attitudes, as measured by the Vocational Development Inventory.

Table II presents the group means and standard deviations obtained by the pretest and posttest batteries, as well as the adjusted group means. The experimental group achieved an average mean increase on the vocational maturity indicator of 2.40 compared to .80 and .60 increases of the placebo and control groups respectively.

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>36.67</td>
<td>4.15</td>
<td>39.07</td>
<td>4.30</td>
<td>38.95</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>35.85</td>
<td>5.44</td>
<td>36.65</td>
<td>6.77</td>
<td>37.27</td>
</tr>
<tr>
<td>Control Group</td>
<td>37.08</td>
<td>4.45</td>
<td>37.68</td>
<td>4.00</td>
<td>37.18</td>
</tr>
</tbody>
</table>

These data, derived from the Vocational Development Inventory, were treated by an analysis of covariance procedure,
using pretest scores as the covariate in order to adjust for initial group differences. These comparisons, presented in Table III, yielded an F value of 2.97. Although the results of these comparisons approached significance, the first hypothesis was retained because the probability level was .06.

TABLE III
ANALYSIS OF COVARIANCE OF VOCATIONAL DEVELOPMENT INVENTORY SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>52.45</td>
<td>26.22</td>
<td>2.97</td>
<td>0.06</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>653.30</td>
<td>8.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>705.75</td>
<td>..</td>
<td>..</td>
<td></td>
</tr>
</tbody>
</table>

The second hypothesis dealt with the variable of self-concept congruence:

2. Following treatment, there will be no significant difference in increased self-concept congruence, as measured by the Personal Concept Scale, among the experimental, placebo and control groups.

The means and standard deviations achieved by these groups on the Personal Concept Scale during pretest and posttest administrations are presented in Table IV. The experimental group achieved a mean difference from pretest to posttest
of 7.33 compared to the placebo and control mean differences of 2.38 and 2.84 respectively.

These results were compared statistically by means of an analysis of covariance procedure, with pretest scores as the covariate and posttest scores as the criterion. The $F$ ratio obtained through this procedure was 3.10, which yielded

**TABLE IV**

**MEANS AND STANDARD DEVIATIONS ON THE PERSONAL CONCEPT SCALE**

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>30.11</td>
<td>8.41</td>
<td>22.78</td>
<td>7.42</td>
<td>23.72</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>31.46</td>
<td>11.21</td>
<td>29.08</td>
<td>11.74</td>
<td>28.59</td>
</tr>
<tr>
<td>Control Group</td>
<td>30.44</td>
<td>12.26</td>
<td>27.60</td>
<td>12.55</td>
<td>27.74</td>
</tr>
</tbody>
</table>

a $P$ value at the .05 level of confidence required. Consequently, hypothesis two was rejected. These results are reported in Table V.

In order to determine where the significant difference was, the Tukey (b) statistic of multiple comparisons was applied (18, p. 193). These results, which are presented in
**TABLE V**

ANALYSIS OF COVARIANCE OF THE PERSONAL CONCEPT SCALE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>460.43</td>
<td>230.22</td>
<td>3.10</td>
<td>0.05</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>5490.42</td>
<td>74.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>5950.85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table VI, indicate that significance was associated only with the comparison between the means of the experimental and the placebo groups. In this case the studentized range value of 3.240 exceeded the value of 3.115 required for significance at the .05 level.

**TABLE VI**

TUKEY (B) TEST OF MULTIPLE COMPARISONS ON THE PERSONAL CONCEPT SCALE

<table>
<thead>
<tr>
<th>Groups</th>
<th>Experimental</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>3.240*</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>2.733</td>
<td>-0.507</td>
</tr>
</tbody>
</table>

*A studentized range value of 3.115 required for .05 level*
The third hypothesis concerned the variable of anxiety associated with four specific concepts as follows:

3. Following treatment, there will be no significant difference in the reduction of level of anxiety associated with four selected concepts, as measured by the Concept-Specific Anxiety Scale, among the experimental, placebo and control groups. The four concepts selected were

a. "myself,"
b. "other people,"
c. "choosing a career,"
d. "five years from now."

The means and standard deviations obtained by the three research groups on the Concept-Specific Anxiety Scale administered in relation to 3a are displayed in Table VII. The experimental group achieved a mean difference over treatment of 4.52 compared to mean differences of 1.52 and 1.56 for the placebo and control groups. Following adjustments for

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>52.26</td>
<td>11.54</td>
<td>47.74</td>
<td>11.51</td>
<td>47.67</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>51.19</td>
<td>10.62</td>
<td>49.62</td>
<td>10.15</td>
<td>50.21</td>
</tr>
<tr>
<td>Control Group</td>
<td>53.00</td>
<td>10.80</td>
<td>51.44</td>
<td>12.28</td>
<td>50.90</td>
</tr>
</tbody>
</table>
initial differences, posttest means for the three groups respectively were 47.67, 50.21, and 50.90.

These data were tested for significance by means of a one-way analysis of covariance procedure using pretest scores as the covariate. The F value obtained through this procedure was 0.937 with 2 and 74 degrees of freedom. Since this value did not approach that required by the study, the third hypothesis, with respect to the concept "myself," was retained. The residuals of this procedure are reported in Table VIII.

**TABLE VIII**

ANALYSIS OF COVARIANCE OF THE CONCEPT-
SPECIFIC ANXIETY SCALE APPLIED TO
THE CONCEPT "MYSELF"

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>152.72</td>
<td>76.36</td>
<td>0.94</td>
<td>0.40</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>6033.98</td>
<td>81.54</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>6186.70</td>
<td></td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

Results of pretest and posttest administrations of the Concept-Specific Anxiety Scale in relation to 3b are summarized in Table IX. The experimental group achieved an average mean difference of 4.30. Whereas the difference between the pretest and posttest means for the placebo and control groups were 1.88 and 0.20 respectively.
TABLE IX
MEANS AND STANDARD DEVIATIONS ON THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "OTHER PEOPLE"

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>53.56</td>
<td>11.36</td>
<td>49.26</td>
<td>12.21</td>
<td>50.01</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>55.42</td>
<td>9.61</td>
<td>53.54</td>
<td>11.93</td>
<td>53.03</td>
</tr>
<tr>
<td>Control Group</td>
<td>55.08</td>
<td>12.03</td>
<td>54.88</td>
<td>10.50</td>
<td>54.60</td>
</tr>
</tbody>
</table>

When these results were treated by the analysis of covariance formula, an F ratio of 1.80 was obtained. The probability thus derived did not match the .05 level required; consequently, the third hypothesis, in relation to the concept "other people," was retained. The results of this statistical comparison are presented in Table X.

TABLE X
ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "OTHER PEOPLE"

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>264.21</td>
<td>142.11</td>
<td>1.77</td>
<td>0.18</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>5941.48</td>
<td>80.29</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>6225.69</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>
The means and standard deviations achieved by the research groups at pretest and posttest administrations of the Concept-Specific Anxiety Scale applied to 3c are presented in Table XI. As measured by this instrument, the experimental group scores indicate a mean reduction in concept anxiety of 10.00, while the placebo group and the time control group achieved mean differences of 1.88 and 3.84 respectively.

**TABLE XI**

**MEANS AND STANDARD DEVIATIONS ON THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "CHOOSING A CAREER"**

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>64.00</td>
<td>12.18</td>
<td>54.00</td>
<td>12.31</td>
<td>53.43</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>62.62</td>
<td>12.92</td>
<td>60.73</td>
<td>12.11</td>
<td>60.85</td>
</tr>
<tr>
<td>Control Group</td>
<td>61.88</td>
<td>12.40</td>
<td>58.04</td>
<td>12.13</td>
<td>58.53</td>
</tr>
</tbody>
</table>

These data were treated by a simple analysis of covariance procedure using pretest scores as the covariate; the results are presented in Table XII. An F value of 3.43 was obtained; since the corresponding probability exceeded the .05 level required, the third hypothesis in relation to the concept "choosing a career" was rejected.
TABLE XII

ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "CHOOSING A CAREER"

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>762.77</td>
<td>381.39</td>
<td>3.43</td>
<td>0.038</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>8236.80</td>
<td>111.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>8999.57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since significance was found, the Tukey (b) test of multiple comparisons was applied in order to determine the significant comparisons. The test yielded a studentized range value of 3.58 in the comparison between the experimental and the placebo group and a value of 2.46 in the comparison between the experimental and control groups. Since a value of 3.115 is required for significance at the

TABLE XIII

TUKEY (B) TEST OF MULTIPLE COMPARISONS ON THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "CHOOSING A CAREER"

<table>
<thead>
<tr>
<th>Groups</th>
<th>Experimental</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>3.58</td>
<td>..</td>
</tr>
<tr>
<td>Control</td>
<td>2.46</td>
<td>1.12</td>
</tr>
</tbody>
</table>
.05 level, it was determined that the only significant comparison was between the experimental and placebo-control groups. These results are displayed in Table XIII.

Finally, the Concept-Specific Anxiety Scale was employed in relation to 3d. The experimental group achieved a mean difference from pretest to posttest of 4.07, whereas the placebo and control groups' corresponding values were 2.73 and 2.96 respectively. The means and standard deviations are presented in Table XIV.

**TABLE XIV**

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Means</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Means</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>56.63</td>
<td>13.17</td>
<td>52.56</td>
<td>14.50</td>
<td>52.47</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>56.81</td>
<td>13.78</td>
<td>54.08</td>
<td>12.55</td>
<td>53.88</td>
</tr>
<tr>
<td>Control Group</td>
<td>56.00</td>
<td>12.24</td>
<td>53.04</td>
<td>12.38</td>
<td>53.33</td>
</tr>
</tbody>
</table>

When the data were treated by a simple analysis of covariance procedure, an F value of less than 1.0 resulted; consequently, the third hypothesis in relation to the concept of "five years from now" was retained. The results of this procedure are presented in Table XV.
The fourth hypothesis concerned the variables of certainty and satisfaction of vocational plans.

4. Following treatment, there will be no significant difference in certainty and satisfaction of vocational plans, as measured by the Vocational Status Sheet, among the experimental, placebo and control groups.

The means and standard deviations achieved by these groups on the Certainty Scale of the Vocational Status Sheet are presented in Table XVI. As measured by this scale, the experimental group achieved a mean increase in level of certainty associated with their vocational plans of 2.37. This result compares with average increases over the treatment period of 0.92 for the placebo group and 1.28 for the control group.

These data were then treated by an analysis of covariance procedure in order to adjust for pre-treatment differences using pretest scores as the covariate and posttest scores.
TABLE XVI
MEANS AND STANDARD DEVIATIONS ON THE CERTAINTY SCALE OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Means</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Means</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>5.30</td>
<td>3.06</td>
<td>7.67</td>
<td>2.40</td>
<td>7.68</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>5.58</td>
<td>2.50</td>
<td>6.50</td>
<td>2.40</td>
<td>6.485</td>
</tr>
<tr>
<td>Control Group</td>
<td>5.40</td>
<td>2.65</td>
<td>6.68</td>
<td>2.46</td>
<td>6.68</td>
</tr>
</tbody>
</table>

as the criterion. With 2 and 74 degrees of freedom, an F value of 1.85 was derived. Since this was less than the 3.12 needed for the .05 level of confidence required, the fourth hypothesis, concerning certainty of vocational plans, was retained. These results are presented in Table XVII.

TABLE XVII
ANALYSIS OF COVARIANCE OF THE CERTAINTY SCALE OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>21.72</td>
<td>10.86</td>
<td>1.85</td>
<td>0.16</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>434.54</td>
<td>5.87</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>456.27</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>
On a second eleven-point scale of the *Vocational Status Sheet*, the experimental group subjects achieved a mean increase in satisfaction with vocational plans of 2.22. Placebo and control group subjects attained 0.58 and 0.84 mean increases respectively. Means and standard deviations attained on this Satisfaction Scale are presented in Table XVIII.

### TABLE XVIII

**MEANS AND STANDARD DEVIATIONS ON THE SATISFACTION SCALE OF THE VOCATIONAL STATUS SHEET**

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Means</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Means</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>5.19</td>
<td>2.90</td>
<td>7.41</td>
<td>2.53</td>
<td>7.48</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>5.50</td>
<td>2.39</td>
<td>6.08</td>
<td>2.70</td>
<td>6.04</td>
</tr>
<tr>
<td>Control Group</td>
<td>5.48</td>
<td>2.52</td>
<td>6.32</td>
<td>2.48</td>
<td>6.29</td>
</tr>
</tbody>
</table>

These results were then treated by means of an analysis of covariance procedure in order to determine whether there were significant differences. The residuals of this statistical procedure are presented in Table XIX. An F value of 2.70 was derived. The probability approached, but did not reach, the .05 level of confidence required by the study; consequently, the fourth hypothesis in relation to the variable of satisfaction with vocational plan was retained.
TABLE XIX

ANALYSIS OF COVARIANCE OF THE SATISFACTION SCALE OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>31.44</td>
<td>15.72</td>
<td>2.70</td>
<td>0.074</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>431.12</td>
<td>5.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>462.57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fifth hypothesis dealt with the variable of vocational information-gathering activity.

5. Following treatment, there will be no significant difference in the amount of information-gathering activity, as measured by the Vocational Status Sheet, among the experimental, placebo and control groups.

Table XX presents the means and standard deviations achieved by the research groups at pretest and posttest administrations of the information sources check list on the Vocational Status Sheet. When their scores were adjusted for initial group differences, the experimental, placebo, and control groups achieved posttest means of 3.99, 3.08, and 3.33 respectively.

An analysis of covariance procedure applied to the data yielded an F value of 2.10, which was insufficient to reject the fifth hypothesis by the standards adopted for the study. The results of this analysis are presented in Table XXI.
TABLE XX
MEANS AND STANDARD DEVIATIONS ON THE INFORMATION-
GATHERING ACTIVITY CHECK LIST OF
THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Research Group</th>
<th>Pretest Mean</th>
<th>Pretest Standard Deviation</th>
<th>Posttest Mean</th>
<th>Posttest Standard Deviation</th>
<th>Adjusted Group Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>3.00</td>
<td>1.69</td>
<td>4.00</td>
<td>1.98</td>
<td>3.99</td>
</tr>
<tr>
<td>Placebo Group</td>
<td>3.04</td>
<td>1.82</td>
<td>3.12</td>
<td>1.58</td>
<td>3.08</td>
</tr>
<tr>
<td>Control Group</td>
<td>2.88</td>
<td>1.89</td>
<td>3.28</td>
<td>2.09</td>
<td>3.33</td>
</tr>
</tbody>
</table>

TABLE XXI
ANALYSIS OF COVARIANCE OF THE INFORMATION-
GATHERING ACTIVITY CHECK LIST OF
THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>11.62</td>
<td>5.81</td>
<td>2.10</td>
<td>0.13</td>
</tr>
<tr>
<td>Within Groups</td>
<td>74</td>
<td>204.27</td>
<td>2.76</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>215.88</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

Discussion

The analysis of the results of this study will consider each of the five major variables specified in the hypotheses. These variables are: vocational maturity, self-concept
congruence, concept-specific anxiety, certainty and satisfaction of vocational plans, and information-gathering activity.

It was predicted in the first hypothesis that the group vocational counseling treatment, which was designed using concepts of developmental counseling set forth by Blocher (3), would effect a significantly greater increase in vocational maturity than would appear in the pseudo-treatment and time-control groups. The instrument employed was designed to measure attitudes which have been shown to change in relation to progress through the developmental process of career choice (5). The results of the study did not support the prediction, although they did approach the .05 level used as the criterion.

As reported above, it is difficult to ascertain any trends in the related literature. Several studies (16, 17, 14, 4, 8) report significant effect on vocational maturity using a variety of vocational counseling formats with different populations, whereas a number of other studies (13, 14, 10, 7) of the relation of counseling to vocational maturity have produced non-significant results. The fact that most of these studies were carried out with subjects at or below the twelfth grade makes it even more difficult to find any sources of illumination on the present results. It might be observed that the Jackson (12) and Martin (13) studies which used post high school subjects were both
inconclusive, but this fact certainly constitutes no trend. Age would seem to be an important variable in a study of maturity, but whether increased age would reduce the chances of increasing vocational maturity through counseling is not known. After reviewing the various attempts to increase vocational maturity, Crites (6, p. 56) concludes that methodological and statistical flaws greatly limit the generalizations that can currently be made and that more research needs to be done in this area.

Of the variables considered in the present study, the maturity variable may be the one most likely to require longer periods of time for significant change to occur. While it does not seem really practical to provide longer treatment formats for students in a community college where more than eighty per cent of the student body hold down regular jobs and the return rate each semester is not high (drop out rate in the present study exceeded twenty-five per cent), it may be feasible to incorporate a post posttest period. Since the experimental format of the present study was primarily aimed at teaching an ongoing process and acquainting students with existing resources for continuing exploration, rather than arriving at a "permanent" career choice, it might be reasonable to predict that maturation among the experimental subjects might continue beyond the treatment period at an increased rate. Indeed, many of the
subjects did return occasionally to the counseling center for further discussions during the weeks following the treatment period, but whether this phenomenon occurred more often in the case of the experimental subjects is not known.

There is also an uncontrolled variable which may help explain the lack of significance on this first hypothesis. All of the normal resources were available to the research subjects during the treatment period, including instructor contact and a complete counseling program. Since all subjects in the study were selected from a student group that sought help with a vocational choice problem, it could reasonably be assumed that some of them may have sought out additional help. This phenomenon may have occurred more often among pseudo-treatment and time-control subjects who were less likely to have felt their needs were being satisfied.

The second hypothesis expressed the prediction that the group vocational counseling treatment would cause a significantly greater increase in self-concept congruence among experimental group members than would be found in the pseudo-treatment and no-treatment groups. The findings indicate that the experimental treatment was successful in influencing self-concept congruence significantly in a positive direction, since significance at the .05 level was found.

Positive results lend support to the value of group vocational counseling in dealing with vocational choice
problems at the community college level, as well as to a commonly perceived relationship between self-concept development and career selection. However, more questions seem to have been raised than answered by the present study. No data exist, for instance, to explain that significance difference on the present variable was located between the experimental and placebo groups but not between the experimental and time-control groups as well. Although the difference between the two comparisons is not great (studentized range values of 3.24 and 2.73 respectively), their reverse would have been expected, and there are no data to suggest an explanation. Subjective observations and reflections during and following the study suggest relevant factors (particularly in the areas of subject variability with respect to age, type of vocational problem, expectations and level of success with personal growth); but it would have to be stated that a deficiency of the present study is that it did not provide for the analysis of interaction among some of these pertinent variables. In addition, the design of the experiment contains a source of systematic bias which may help explain these results. The experimenter led all of the placebo subgroups and none of the experimental subgroups. In this non-blind experimental situation, negative influences may have been introduced which caused a depressive effect on the posttest scores of the placebo-control group subjects alone.
The third hypothesis predicted that following the treatment period, the experimental group would show significantly greater reduction in concept-specific anxiety than would the pseudo-treatment and time-control groups. Of the concepts chosen ("myself," "other people," "choosing a career," and "five years from now"), the findings were significant with only one concept, "choosing a career."

The findings of the study appear to suggest that anxiety about the process of career choice itself may be an important variable when dealing with vocational counseling among community college students, if not with all vocational counseling. Pretest anxiety score means were approximately fifteen per cent higher on this concept and were more affected by treatment than were other means.

The experimental treatment emphasized the continuing, developmental nature of the vocational choice process, and a lot of group interaction was generated around this concept. Another idea, that an individual could be successful and happy in many different vocational pursuits, also seemed extremely helpful to the students. These concepts apparently seemed to counter entering attitudes relating to being behind "others" in deciding on a career and to feeling less than confident in returning to school successfully.

Non-significant results on the Concept-Specific Anxiety Scale in relation to the concepts of "myself" and "other
people" was surprising, especially since positive change was achieved on these variables in the Birney, Thomas, and Hinkle study (2) with a similar vocational counseling program. There are two basic differences, however, which may explain the variation in outcome.

In the earlier study, the experimental treatment was organized around a series of activities designed to focus group interaction more on personal elements underlying vocational choice and, therefore, might be expected to be more powerful in affecting anxiety associated with such concepts as "myself" and "other people." This type of activity comprised only approximately one-third of the experimental treatment format in the present study.

A comparison of results between the two studies is tenuous, also, because they were implemented using different populations. The previous study used subjects from a university setting while the present study was conducted with community college students. Factors such as age, heavy schedules due to employment, and educational experience, may tend the community college student toward the more pragmatic aspects of vocational counseling, as represented in the last half of the present treatment format. Indeed, some experimental subjects asked for more rationale for the life line and role stripping activities during treatment and in some cases found it difficult to get appropriately involved in these experiences.
A final caution should be expressed with regard to test results pertinent to this hypothesis. The Concept-Specific Anxiety Scale requires a fairly complex process of recalling isolated anxiety manifestation and associating them with specific concepts. More vivid anxiety-producing concepts would seem to produce more valid item responses. There is some hesitation on the part of the experimenter to accept the fact that all subjects were able to, or did, satisfactorily visualize all of the concepts included in the study and the isolated anxiety responses clearly enough to make valid associations (item responses). Following posttesting a few students were queried in a general way, but their reactions were not convincing in either direction.

The fourth hypothesis stated that experimental subjects would show a significantly greater increase in certainty and satisfaction with vocational plans than would placebo and control group subjects. This hypothesis was not supported by the study; however, results on the Satisfaction Scale did approach significance with probability measured at the .07 level of confidence. Results on the Certainty Scale were less meaningful, at the .16 level of significance.

Previously cited studies have supported a relationship between certainty of vocational plans and the developmental tasks of career planning (crystallization [14] and efficiency of choosing [9]), and demonstrated the capability of vocational counseling to influence certainty and satisfaction
with career plans of clients (11); consequently, the inability of the present developmental group vocational counseling format to produce significantly increased certainty and satisfaction among experimental subjects is disappointing.

The evaluation suggests that students in this group counseling program may have been helped to be more comfortable or satisfied with their position in the developmental process, but were not led to a sufficiently improved certainty with their plans. These results are not entirely inconsistent with the theory on which the present counseling format was based. A better understanding of the developmental process, with the flexibility and fluidity it incorporates, may lead to a degree of satisfaction with one's present formulation of a career plan, in spite of a lack of certainty as to future outcomes. Yet there remains a valid desire to be able to help students attain greater certainty as well, as a basis for stronger commitment.

Discussion of the results of these measures, furthermore, is hampered by an element of ambiguity embedded in the instrumentation. The Certainty and Satisfaction Scales are referenced on the subject's statement of his/her current vocational plans, and this reference point changed in many cases over treatment, thus confounding pre- to posttesting comparisons on the scales. A better design would have allowed for categorization of these changes as a basis
for more meaningful analysis of post treatment observations.

The last hypothesis predicted that, following treatment, experimental subjects would show a significantly greater increase in vocational information-gathering activity than would placebo and control group subjects. This hypothesis was not supported by the study, since probability was measured at the .13 level of confidence.

The review of pertinent literature indicates that application of behavioral modification techniques can be successful in producing change in information-seeking behavior. Results of the measurement of this variable in the present study seem to indicate that in the design of the experimental treatment format, insufficient emphasis was placed on the inclusion of these techniques. An improved format might include more specific information-seeking assignments and built in reinforcement consequent upon completion of these assignments between group sessions.

In summary, the study supported only the second hypothesis, dealing with self-concept congruence and one part of the third hypothesis concerning anxiety associated with the concept "choosing a career." However, results approached statistical significance on the first variable of vocational maturity, and on part of the fourth hypothesis dealing with satisfaction of vocational plans. Statistically, the findings
suggest only limited effectiveness of the developmental group vocational counseling format implemented. Specific aspects of the design and instrumentation were cited as additional limiting factors.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Background and Purposes

Observers of the educational process have noted that the explosive nature of society today has made the process of career choice increasingly more difficult. Observations tend to bear out this assertion. Many community college students are selecting educational majors leading to careers in which limited opportunity currently exists, and extremely high percentages of these students drop out before completion of their chosen degrees. Observations like this suggest a need for vocational counseling services which reach a wide range of students at the college level, effectively, and yet provide the personal contact which is often important.

Since counselor-counselee ratios are seldom low enough to justify a one-to-one strategy for vocational counseling, one answer seems to be the employment of group vocational counseling approaches. Yet a review of the literature yielded few group vocational counseling models that were specifically designed to deal effectively with the varied needs of students at the community college level.

The purposes, then, of this study were to present an application of developmental counseling to group vocational
counseling with community college students and to determine whether this vocational counseling program would have an effect upon certain selected variables--self concept congruence, vocational maturity, concept-specific anxiety, certainty and satisfaction with vocational plans, and vocational information-gathering activity--as determined by the specific measures employed. Self-concept congruence was measured by a semantic differential, the Personal Concept Scale; and vocational maturity was measured by the Attitude Scale of the Vocational Development Inventory. Anxiety associated with the concepts "myself," "other people," "choosing a career," and "five years from now" was assessed by the Concept-Specific Anxiety Scale. Certainty and satisfaction with vocational plans were assessed by eleven-point rating scales included on the Vocational Status Sheet, an instrument designed specifically for the present study. Included on this same instrument was a check list designed to measure vocational information-gathering activity.

Summary of Procedures

This study was conducted during the fall semester of 1973 at a large metropolitan community college. A group vocational counseling program, designed to assist with career choice problems, was offered to the student body through distribution of announcements at orientation, registration, and a variety of high traffic locations on
campus early in the semester. Referrals were also received. Interested students were directed to the counseling center, where they were introduced to the general nature and purpose of the program. From these initial inquiries, 127 students signed up for the program and completed the pretest battery described above.

A predetermined number of subjects were drawn from this pool, based upon a definition of greater objective need. This determination of need for counseling was made by combining each individual student's scores on the Vocational Development Inventory (the number wrong) and the Personal Concept Scale (total score) and ranking these combined values. Those 105 students with the highest combined values (indicating lower vocational maturity and poorer self-concept congruence) were selected as subjects for the study and randomly divided into three groups of thirty-five subjects each.

An experimental pretest-posttest control group design was employed. The three groups were randomly designated as experimental, placebo-control, and time-control groups. Then the experimental group was further subdivided into five subgroups for treatment based on the time periods the individuals had indicated they would be free for counseling. These subgroups were then involved in a twelve-week group vocational counseling program following the experimental treatment format. The placebo group was subdivided in the
same manner. These subjects were simultaneously involved in a twelve-week group discussion process following the pseudo-treatment plan. The third group, designated the time-control group, received no treatment during the experimental period.

Following the twelve-week experimental period, the post-test battery (identical to the pretest battery) was administered. A one-way analysis of covariance procedure was used to test for significance among the pretest and posttest means of the three groups employed in the study. Posttest scores were used as the criterion variable, and pretest scores were employed as the covariate in the analysis of results derived from all measurements employed. The .05 level of confidence was required for significance.

Summary of Findings

In Chapter IV, data collected pertinent to each hypothesis were analyzed and discussed. A summary of these findings follows:

1. The first hypothesis dealt with the variable of maturity of vocational attitudes. Statistical analysis of the results derived from the Vocational Development Inventory revealed that there was no significant difference among the research groups on this variable. The experimental group achieved an average mean increase of 2.40 compared to .80 and .60 increases of the placebo and control groups.
respectively. Even though these results (measured at the .06 level of confidence) fell short of the .05 level required for significance by the study, it was felt that the experimental treatment format implemented showed sufficient effect on this variable to warrant further study.

2. The second hypothesis dealt with the variable of self-concept congruence. Inspection of the data collected on the Personal Concept Scale revealed that the experimental group achieved a mean difference from pretest to posttest of 7.33 compared to the placebo and control mean differences of 2.38 and 2.84 respectively. By means of a one-way analysis of covariance procedure, it was determined that there was statistical significance at the .05 level of confidence. Further statistical analysis indicated that the subjects who participated in the experimental group vocational counseling treatment achieved a significantly greater increase in self-concept congruence than did the placebo-control group; however, the increase was not significantly greater than that of the no-treatment control group. This hypothesis, then, was only partially supported. It was suggested that a more likely result would have been for significant difference to have occurred between the experimental and no-treatment control groups. No certain cause for the finding was identified.

3. The third hypothesis concerned the variable of concept-specific anxiety. Anxiety associated with four selected concepts was measured. The experimental group
achieved a somewhat greater reduction in anxiety associated with the first concept "myself" than did the placebo or control groups (mean differences of 4.52, 1.52, and 1.56 respectively); however, the one-way analysis of covariance procedure yielded an F value of less than 1.0. Consequently, no evidence existed to suggest that the experimental group vocational counseling format employed was effective in alleviating specific anxiety that may have been attached to the concept "myself."

Similarly, the experimental group achieved a somewhat greater reduction in anxiety associated with the concept "other people" than did either the placebo or control groups (mean differences of 4.30, 1.88, and 0.20 respectively). Here again, statistical analysis revealed a non-significant difference with probability measured at the .18 level of confidence. The experimental treatment apparently was not effective in respect to anxiety associated with this concept.

In relation to a third concept, "five years from now," the data collected on the Concept-Specific Anxiety Scale showed that students in the experimental group achieved a mean difference from pretest to posttest of 4.07. This difference represented a reduction in anxiety only slightly greater than those of the placebo and control groups, whose corresponding values were 2.73 and 2.96. These differences, again, were not statistically significant.
The experimental treatment group subjects achieved a significantly greater reduction in concept-specific anxiety associated with the fourth concept, "choosing a career," than did the placebo group subjects; however, statistical significance did not extend to the comparison between experimental and no-treatment control group subjects. The experimental group mean difference over treatment was 10.00 compared to 1.88 and 3.84 for the placebo group and the control group.

4. The fourth hypothesis was concerned with the variables of certainty and satisfaction with vocational plans. On the eleven-point Certainty Scale of the Vocational Status Sheet, the experimental group achieved a mean increase in level of certainty associated with their vocational plans of 2.37. Average increase for the placebo group was 0.92; for the control group, it was 1.28. Statistical comparison revealed no significant differences.

On the second scale, the experimental group subjects achieved a mean increase in satisfaction with vocational plans of 2.22. Placebo and control group subjects attained mean increases of 0.58 and 0.84 respectively. Probability was measured at the .07 level, but was not judged statistically significant. Consequently, it was determined that this hypothesis was not supported.

5. The last hypothesis dealt with the variable of vocational information-gathering activity. Although the
experimental group achieved slightly greater increases in vocational information-gathering activity, the differences were not statistically significant with probability measured at the .13 level.

Conclusions

Upon examination of the research findings, it was concluded that

1. The developmental group vocational counseling treatment employed was not effective in producing increased maturity of vocational attitudes.

2. The group vocational counseling format employed may significantly effect change in self-concept congruence.

3. The group vocational counseling format employed did not generally tend to effect change in concept-specific anxiety; however, concept-specific anxiety was significantly reduced in relation to one concept, "choosing a career."

4. The group vocational counseling format did not bring about a significantly increased perception of certainty about, and satisfaction with, vocational plans.

5. The group vocational counseling format did not effect a significant increase in vocational information-gathering activity.

Recommendations

The following recommendations are made based on a consideration of the results of this study:
1. Further research should be carried out to explore more effective group vocational counseling procedures. While the present group format was only partially successful in effecting change on the variables studied, there remain many group procedures and variables to be tested. Furthermore, a review of the literature suggests that the serious application of group interaction techniques to the solution of vocational choice problems has lagged far behind their application to other problem areas. At the same time, numbers of community college students are growing, the relative size of counseling staffs is decreasing, and the milieu in which the career choosing process is carried out grows more complex. The need for more efficient group procedures seems increasingly urgent.

2. Vocational counseling for the community college student should include consideration of the vocational decision-making process. Informal assessment of subject response suggested that insight in this area was very helpful to many students in the experimental group. In addition, initially elevated pretest scores on concept-specific anxiety in relation to the concept "choosing a career" (compared to the other selected concepts), and the subsequent, significant reduction produced by the experimental treatment suggests that more attention be directed toward an understanding of the process of career choice itself as an objective of career counseling.
3. Vocational counseling interventions based on the developmental process, and using maturity of vocational attitudes as a criterion should employ follow-up test periods to measure long term gains. While it does not seem feasible to design vocational counseling treatments of more than a semester duration, assessment of gain in maturation of up to a one-year period seems logical and perhaps more feasible.

4. Student characteristics may have changed greatly in recent years and may vary greatly from one campus to another. It is recommended that more descriptive studies of current community college student needs relative to vocational choice be carried out, and that the design of group vocational counseling formats relate to these needs.

5. Because of the diversity among community college students, outside demands on their time, and the suddenness with which they are faced with basic decisions upon entering a community college, practical assessment procedures and related differential treatments should be considered, perhaps compressed into six-weeks duration.

6. When vocational counseling is employed in a group setting, the students' self concepts should be considered a pertinent factor.

7. Experimental studies of vocational counseling procedures in the community college should control, or attempt
to assess, counseling or advice from outside sources, particularly when subjects are selected from students seeking help.

8. Further evaluations of the present vocational counseling format should not be made in the community college until a design can be implemented which allows for an evaluation of the interaction of such pertinent variables as age, previous level of success with personal growth and career development, type of vocational problem, expectations from counseling on the part of the student, number of working hours outside school, and academic sophistication.

9. Further studies of the present vocational counseling format should not be undertaken without improvements in instrumentation. Specifically, use of the Concept-Specific Anxiety Scale should be carefully monitored; certainty and satisfaction with vocational plans should be assessed only in relation to assessment of change in the plans themselves, and, finally, the criterion of vocational information-seeking should not be considered unless sufficient behavioral modification techniques are built into the format, so that such change can more reasonably be expected.

10. Immediately prior to and during the 1973-1974 academic year, when the literature was reviewed for the present study, when the experimental treatment was conceptualized, developed, and piloted, and when the evaluative data were collected, a great deal of interest was beginning
to develop in the field of vocational counseling. This movement has continued to grow, and many models have surfaced in the literature since that time. It is regretted that the present study does not adequately reflect these most recent, noteworthy efforts to develop a variety of means to help college students deal with their vocational decision-making problems more effectively. Consequently, it is recommended that the present counseling method be viewed in its proper context with regard to current developments in vocational counseling; and further, that more experimental evaluations of all these proposed counseling methods be undertaken.
APPENDIX A

EXPERIMENTAL TREATMENT FORMAT

I. Counselor Function

A. The counselor will view vocational choice within the framework of developmental theory.

B. The counselor will consider group members, concerned with vocational choice, as being involved in a developmental process.

C. The counselor will view the group process as being problem-solving in nature, concerned with clarification of immediate and long-range vocational goals.

D. The counselor will act as a consultant concerning options, sources, and learning experiences available to the student involved in the choosing process.

E. The counselor will facilitate the establishment of rapport among group members.

F. The counselor will facilitate exchange and interaction among group members.

G. The counselor will facilitate each group member in the clarification and communication of the present developmental state of his long-range vocational goals.

H. The counselor will facilitate each member in specifying immediate goals (tasks) that he needs to complete pursuant to the attainment of his long-range objectives.

II. Group Structure

A. Introductory Sessions

1) Objective: The general purposes of this phase of treatment are to get the group members acquainted, introduce the developmental concept of career choice, and facilitate subsequent activities.
2) Structure: Implementation of these purposes will be carried out as follows.

Session 1

a) In order to facilitate interaction and sharing, this session begins with the following introductory activities:

1 Member one introduces himself to the group, mentioning an interest or hobby as well as a career or college major he is considering. Member two repeats member one's name and data, then introduces himself in like manner. Member three repeats the preceding members' name and data before introducing himself. This procedure continues around the group.

2 Following this activity, the group is encouraged to react to anything mentioned by the others.

3 The counselor should be alert to directing the ensuing interaction into a discussion of the members' individual expectations from the group.

b) The facilitator concludes this session with a brief discussion about the theory and purposes of these group sessions. The statement is informal and conversational in nature but minimally makes the following points.

1 Choosing a career is a continuing process, rather than a single final choice.

2 A great deal of this development has already occurred in the growth of each person in the group.

3 This developmental process is characterized by a series of intermediate decisions and activities.

4 During the remaining meetings the group is involved in clarifying group members' current long-range goals (possible vocational choices).

5 The group will be concerned with specifying some immediate goals (intermediate decisions) involved in their vocational developmental process.
The experiences and insight of each group member could be as beneficial to others in the group as those of the group leader; so all should feel free to offer them to each other.

Session 2

a) In order to illustrate the process nature of development, the participants will graphically illustrate their lives by drawing a "life line," dividing it into ten-year segments, and separating it at the point of their present position on this line. The line may then be filled in by noting, at representative positions, significant occurrences or expectations relative to career decisions, personal affiliations, or roles taken on.

b) Discussion of the activity focuses on the present and future, especially with reference to the length of the line representing the future and the expectations noted there.

c) In order to lead into the following activities, the various roles (husband, father, student, son) are considered.

Sessions 3 and 4

This segment is designed to help the student consider his future goals from a personal frame of reference and to recognize the influence or expectations of others on his decisions.

a) Building on the preceding session, the students complete the identification of the roles they play and arrange these roles in a hierarchy.

b) Each student is asked to lay aside each role and communicate the feelings resulting from the loss of each role. After removal of the final role, each student is asked to fantasize about himself in relation to his present and future. Again, discussion of feelings involved in this exercise is of central importance.
Session 5

a) Participants re-evaluate their roles and re-assume them in their order of importance. Discussion centers on any differences which might appear in the importance they might now wish to attach to certain roles and the influence these roles should play in their future decisions.

b) Group members are given a Kuder Preference Record--Vocational to take home, complete, and score before the next group session.

c) The counselor distributes the "Long-Range Goals" work sheets (See below, pp. 137-138) and asks the students to consider their long-range plans before the next session. The work sheets and the Kuder Preference Record--Vocational allow them to view their plans in terms of specific fields, work-related values, and vocational interests. The students should circle those items on the work sheets which have the most meaning for them.

B. Problem I--Long-Range Goals

Sessions 6, 7, and 8

1. Objective: The counselor's purpose is to assist each student in clarifying his potential long-range career goals--in defining his choice problem.

2. Definition: The common concept "career choice" is here termed "long-range goal" and the related problem is taken to mean the most definite formulation possible, at the student's present developmental level, of his potential choices. The formulation may be in a variety of terms, such as:

a) one or more specific careers (architect or nurse)

b) broad field, training level (medical field, technician level)

c) value, interest, or life-style related (working with people, making money)
LONG-RANGE GOALS

Educational Fields
Counseling
Administration
Elementary Education
Physical Education and Recreation
Secondary Education
Special Education

Social Sciences
History
Home Economics
Library Science
Police Science
Psychology
Social Work
Sociology
Religion
Ethnic Studies

Business, Political Fields
Accounting
Advertising
Business Administration
Data Processing
Economics
Finance
Hotel, Motel and Restaurant Mgt.

Industrial Relations
Law
Military
Political Science
Foreign Service
Salesmanship
Secretarial Science
Mid-Management

Science Fields
Anatomy
Anthropology
Archaeology
Astronomy

Biology / Genetics
Chemistry
Geography
Geology
Mathematics
Meteorology
Oceanography
Physics
Physiology

Agriculture and Forestry Fields
Agriculture
Forestry
Soil Conservation
Wildlife Mgt.

Health Fields
Dentistry
Dental Hygiene
Dental Technology
Medicine
Medical Technology
Nursing
Occupational Therapy
Optometry
Osteopathy
Pharmacy
Physical Therapy
X-Ray Technology
Veterinary Medicine

Arts and Humanities
Arts and Sculpture
Architecture
Architectural Tech.
Creative Writing
Drama and Theater
English Literature
Foreign Language and Literature
Journalism
Liberal Arts
Music
Philosophy
Photography

Engineering
Aeronautical
Agricultural
Architectural
Automotive
Chemical
Nuclear
Civil
Electrical
Engineering Tech.
Geological
Industrial
Mechanical
Mining
Petroleum

Other Technical Fields
Air Conditioning
Auto Body Repair
Auto Mechanics
Diesel Mechanics
Aviation
pilot tech
electronics
administrative
Clothing
Construction Trades
Drafting
Electronics
Industrial Arts
Metal and Machine

Plumbing
Printing
Upholstering
Plastics
Watch Repair and Jewelry Design
Welding
## Occupational Values*

<table>
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<tr>
<th>Internal Variables</th>
<th>External Variables</th>
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<td>Use of abilities</td>
<td>Job title</td>
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<td>Sense of accomplishment</td>
<td>Glamor</td>
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<td>Challenge</td>
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<td>Creative or aesthetic outlet</td>
<td>Pay</td>
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<td>Intellectual stimulation</td>
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<td>Working with things</td>
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<td>Working with others</td>
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<td>Service to others</td>
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<td>Control over others</td>
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<td>Independence</td>
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<td>Working by oneself</td>
<td>Age and sex requirements</td>
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<td>Visible results</td>
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<td>Variety</td>
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<td>Excitement</td>
<td>Social contacts</td>
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<td>Risk or adventure</td>
<td>Way of life</td>
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d) family-oriented (something I can do part-time while my family is growing up)

e) educationally oriented (study a variety of areas now and decide on a career later)

3. Structure: In order to focus the group process directly upon the objective at hand, the following steps are followed.

a) The counselor assists the group members in interpreting their results on the Kuder Vocational Inventory.

b) Each member is asked to explain to the group those interests and values he has circled on the work sheets. He may wish to include the highest interests from the Kuder. The individual should present them with as much structure as possible by noting related items, pointing out conflicts, and specifying his present priorities. The group is encouraged to look for relevant themes or expression of predominant interests and react with whatever questions, observations, or personal identifications that arise.

c) The counselor facilitates meaningful interaction, is alert to each person's apparent conflicts, and leads the group in helping each presenter clarify his present position. For example, he might probe in areas that are vague, suggest groupings of values or interests, question relative degree of interest, and, finally, point out specific problem areas to be dealt with in the final phase of the program.

C. Problem II--Immediate Goals

Sessions 9, 10, and 11

1. Objective: The counselor's purpose is to help the group members specify, in functional terms, what steps each must take in order to advance his vocational development in reference to the long-range goals.
2. Definition: "Immediate goals" are taken to mean specific activities related to attainment of a person's long-range career objectives. These activities are designed to meet specific difficulties the person has at this point in his developmental progress. The activities are designed, in other words, to facilitate the accomplishment of specific vocational developmental tasks. Some examples might be

a) seeking additional individual or group counseling
b) settling a personal matter
c) gathering pertinent vocational information
d) taking some vocational tests
e) talking to certain people in a given field
f) taking steps to change major fields of study
g) seeking specific experiences

3. Structure: The following procedures are designed in order to facilitate attainment of the present objective.

a) Each student is given the work sheets entitled "Immediate Goals" (See below, pp. 143-145.) with instructions to consider the statements on the first page and check those which seem to apply. Space is provided for addition of any other problem areas which might have become evident in preceding sessions.

b) Each member presents to the group one or two of the most predominant difficulties which currently hinder his ability to proceed satisfactorily toward career development.

c) Using page two of the work sheet as a guide, the group helps each member determine specific activities which might help resolve the questions that have been defined. The counselor facilitates interaction and serves as a resource person for the group.
d) Before termination each member should select, as an immediate goal, to initiate at least one activity before the next session.

Session 12

a) Each participant reports on the activity or short-term goal achieved since last session.

b) Participants reevaluate immediate goals and specify what they plan to implement next.

c) The counselor concludes by emphasizing his availability to each member in the future.

d) The counselor arranges for posttesting during the following week.
IMMEDIATE GOALS 1

A. "I like so many things."
   "I really hate the thought of starting to work in a full-time career and knowing I'll have to work for the rest of my life."
   "I really don't like to work."
   "I have a hard time keeping my mind on studying in every course."
   "I'd like to be a mechanic but my Dad wants me to go into business with him."
   "I just don't have the money to get where I want to go."
   "I have a real fear of choosing the wrong occupation and getting stuck with it for life."
   "I really don't think I have what it takes."
   "The question is not 'What am I going to do?' but, 'Who am I?'"
   "I want to be both a career woman and a mother."
   "Everybody says I can't, but I think I can."

B. "How do I know that I can get a job? What if there aren't any jobs in my field?"
   "How much money will I make?"
   "Do I really need to go to college?"
   "I like the outdoors. What jobs would allow me to work outside?"
   "What are the chances for advancement?"
   "What kind of people will I be working with?"
   "What are the opportunities for advancement?"
   "Who would hire a person with this kind of training?"
   "What are some other possibilities that I haven't considered?"
   "I just don't know enough about my field."

C. "What college major will get me where I want to go?"
   "My major is psychology but it just doesn't interest me like I thought it would."
   "I really don't think I want to go to school for four years."
   "Will my credits transfer?"
“Am I taking the right courses for business?”
“How many credits can I get at a community college?”
“Do I need an associate degree?”
“Do I need physical education courses?”
“Do I need a degree plan?”

IMMEDIATE GOALS 2

A. Career decisions are often hindered by personal questions or difficulties. In order to answer these questions it may be necessary to clarify values, resolve conflicts, learn specific skills (study skills, decision making skills, etc.), settle personal matters, evaluate significant relationships, or deal with certain feelings. Some potential sources of help in these areas are:
1. Parents or friends in whom you have confidence.
2. Professionals—counselors or instructors
3. Human development courses
4. Group encounter experiences
5. SIP program

B. Successful decision making always involves getting the right information. Some resources are:
1. The counseling center
   a. Dictionary of Occupational Titles
   b. college catalogs
   c. current pamphlets and program announcements
2. Library materials at Mountain View
   a. Encyclopedia of Careers and Vocational Guidance HF 5381 E52
   b. Occupational Outlook for College Graduates HF 5381 U5
   c. Cowles Guide to Careers and Professions HF 5382.5 U5 M37
   d. Occupational Outlook Handbook HF 5381 E52 and HD 8051 A62
   e. Chronicle Guide Career Kit
3. United States Department of Labor
4. Texas Employment Commission
5. Persons in an occupational field you are considering
   a. friends and family in the field
   b. clerk or receptionist employed in the field
   c. an instructor in the field at Mountain View College
   d. a personnel manager in the field
C. Specific questions about your current educational program can usually be answered by the counselors at Mountain View College or an advisor from the college to which you intend to transfer.
APPENDIX B

PLACEBO TREATMENT FORMAT

Discussions in the placebo subgroups were based upon the following presentations:

1. Film entitled, "Is It Always Right to Be Right"

2-3. Video tape of a presentation by Dr. Carl Faber on the subject, "Challenges in Higher Education Today"

4. Audio tape entitled, "Creative Thinking 1" (Side 1)*

5-6. Audio tape entitled, "Creative Thinking 1" (Side 2)*

7. Audio tape entitled, "Creative Thinking 2" (Side 1)*

8-9. Audio tape entitled, "Creative Thinking 2" (Side 2)*

10. Audio tape entitled, "Creative Thinking 3"*

11. Administration of Cognitive Mapping Instrument +

12. Interpretation and discussion of cognitive mapping results


+Adapted from the work of John Hill, by Mountain View College, Dallas, Texas, 1972.
APPENDIX C

PERSONAL CONCEPT SCALE

INSTRUCTIONS

The purpose of this scale is to identify the meaning that various concepts have for you by having you rate them against a series of descriptive scales. Place an "x" on each line according to what the concept means to you. For example:

If you consider yourself very talkative, you would place your "x" as follows:

```
talkative X:__:__:__:__:__:__ quiet
```

If you feel you are mostly quiet, you would mark as follows:

```
talkative ___:__:__:__:__:X__:__ quiet
```

If you see yourself as slightly talkative, mark this way:

```
talkative ___:__:__:X:__:__:__ quiet
```

If you think you are equally talkative and quiet, mark this way:

```
talkative ___:__:__:X:__:__:__ quiet
```

Be sure you mark every scale. Do not skip any. Never put more than one "x" on a single line. Make each item a separate and independent judgment. Place your marks in the middle of the space.

```
THIS NOT THIS
```

```
talkative ___:__:__:__:X:__:__ quiet
```

Your first impressions are generally the most accurate, so work quickly, but do not be careless.
plain ___:___:___:___:___:___:___:___ sexy
feminine ___:___:___:___:___:___:___:___ masculine
warm ___:___:___:___:___:___:___:___ cool
unaware ___:___:___:___:___:___:___:___ aware
tense ___:___:___:___:___:___:___:___ relaxed
deep ___:___:___:___:___:___:___:___ shallow
certain ___:___:___:___:___:___:___:___ uncertain
accepted ___:___:___:___:___:___:___:___ rejected
cautious ___:___:___:___:___:___:___:___ adventuresome
talkative ___:___:___:___:___:___:___:___ quiet
close ___:___:___:___:___:___:___:___ distant
disturbed ___:___:___:___:___:___:___:___ contented
active ___:___:___:___:___:___:___:___ passive
down ___:___:___:___:___:___:___:___ up
powerful ___:___:___:___:___:___:___:___ weak
following ___:___:___:___:___:___:___:___ leading
loose ___:___:___:___:___:___:___:___ tight
early ___:___:___:___:___:___:___:___ late
conservative ___:___:___:___:___:___:___:___ liberal
clear ___:___:___:___:___:___:___:___ hazy
I WOULD LIKE TO BE

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<td>loose</td>
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<tr>
<td>liberal</td>
<td></td>
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<tr>
<td>hazy</td>
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</tbody>
</table>
APPENDIX D

CONCEPT-SPECIFIC ANXIETY SCALE

WE WANT YOU TO TRY SOMETHING DIFFERENT. SOMETIMES, BECAUSE OF YOUR EXPERIENCES, A WORD OR A SITUATION WILL EVOKE NEGATIVE AND/OR POSITIVE FEELINGS.

ON THE FOLLOWING PAGE, SEVERAL CONCEPTS HAVE BEEN PRESENTED ABOVE A SET OF SCALES THAT CAN BE USED TO INDICATE HOW THE CONCEPT MAKES YOU FEEL. FOR EXAMPLE, THE STIMULUS CONCEPT "SNAKE" WOULD BE PRESENTED IN THE FOLLOWING MANNER:

HOW I FEEL WHEN I SEE A SNAKE

(TENSE)

RELAXED

(FARE)

SHALLOW

DEEP

(AUXETY)

CLEAR

HAY

NOW, IMAGINE YOU ARE FACED WITH A SNAKE. HOW WOULD YOU CHECK THE ABOVE SCALES? WHEN YOU SEE A "SNAKE", HOW WOULD YOU USE THE FIRST PAIR OF ADJECTIVES TO DESCRIBE YOURSELF (ME)? ARE YOU TENSE OR RELAXED? ARE YOU JUST A LITTLE ONE WAY OR THE OTHER—OR ARE YOU NEITHER? (YOU'D CHECK THE MIDDLE POSITION IN THAT CASE.) NEXT HOW ABOUT (FEAR)? DOES IT SEEM TO BE SHALLOW, OR DEEP? HOW ABOUT (ANXIETY) IN "SNAKE" SITUATIONS? WOULD YOU DESCRIBE (ANXIETY) AS CLEAR OR HAZY?

THIS IS A VERY DIFFICULT TEST, BECAUSE SOME OF THE CONCEPTS YOU ARE TO RATE MAY HAVE VERY LITTLE MEANING FOR YOU—PERHAPS YOU'VE HAD FEW EXPERIENCES IN WHICH THEY WERE INVOLVED. (FOR EXAMPLE, IF YOU'VE NEVER SEEN, HEARD ABOUT OR READ ABOUT "SNAKES", YOU PROBABLY HAVE FEW FEELINGS ABOUT THEM ONE WAY OR THE OTHER.)

IT IS A DIFFICULT TEST FOR ANOTHER REASON ALSO: YOU WILL HAVE TO USE YOUR IMAGINATION TO PROJECT YOURSELF INTO SITUATIONS THAT MAY HAVE LITTLE TO DO WITH YOUR PRESENT LIFE—BUT DO THE BEST THAT YOU CAN. USE YOUR IMAGINATION; THEN LOOK AT EACH WORD IN PARENTHESES AND CHECK THE SPACE BETWEEN THE ADJECTIVES BELOW THAT BEST INDICATES YOUR OWN RESPONSE.
The way I feel when I think about

**MYSELF**

(FEET)

FEET ______________ PEACEFUL

(NAILS)

NAT ______________ WET

(FINGERS)

STIFF ______________ RELAXED

(TODAY)

LOOSE ______________ TIGHT

(HANDS)

FINGERS ______________ RELAXED

The way I feel when I think about

**MYSELF**

(BREATHING)

LOOSE ______________ TIGHT

(WORDS)

COLD ______________ HOT

(ME)

BREATHE ______________ CAREFREE

(TODAY)

FEAR ______________ FAR

(ANXIETY)

MANY ______________ CLEAR

The way I feel when I think about

**MYSELF**

(ME)

JITTERY ______________ CALM

(YESTERDAY)

CLEAR ______________ NAGY

(BREATHING)

CAREFUL ______________ CAREFREE

(HANDS)

GOOD ______________ BAD

(ME)

HELPLESS ______________ SECURE
The way I feel when I think about

OTHER PEOPLE

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The way I feel when I think about

OTHER PEOPLE

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The way I feel when I think about

OTHER PEOPLE

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HELPLESS  | SECURE  |
The way I feel when I think about

CHOOSING A CAREER

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The way I feel when I think about

CHOOSING A CAREER

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The way I feel when I think about

CHOOSING A CAREER

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The way I feel when I think about FIVE YEARS FROM NOW

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The way I feel when I think about FIVE YEARS FROM NOW

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The way I feel when I think about FIVE YEARS FROM NOW

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APPENDIX E

VOCATIONAL STATUS SHEET

NAME ________________________________ DATE ________________

1.) What is your present career plan?

_____________________________________________________________________

2.) How certain are you of this plan?
(Circle the mark on the line below which best indicates the degree of your certainty.)

Very Certain

_____________________________________________________________________

3.) How satisfied are you with this plan?
(Circle the mark on the line below which best indicates the degree of your satisfaction.)

Very Satisfied

_____________________________________________________________________

4.) Which of the following sources have you used in the past six weeks while you were investigating career opportunities? Please check those you have consulted.

- a pamphlet about careers
- a library resource book about careers
- a college catalog
- an employment service
- a visit to a business establishment or institution
- a family member
- a knowledgeable friend or acquaintance
- someone employed in a field you are considering
- an instructor at Mountain View College
- an instructor, administrator, or counselor at another school
- other
APPENDIX F

RESIDUALS OF A ONE-WAY ANALYSIS OF COVARIANCE OF THE VARIABLES TESTED AMONG THE FIVE EXPERIMENTAL TREATMENT SUBGROUPS

TABLE XXII
ANALYSIS OF COVARIANCE OF THE PERSONAL CONCEPT SCALE SCORES

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<td>Between Groups</td>
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<td>26.98</td>
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TABLE XXIII
ANALYSIS OF COVARIANCE OF THE VOCATIONAL DEVELOPMENT INVENTORY SCORES

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TABLE XXIV

ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "MYSELF"

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TABLE XXV

ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "OTHER PEOPLE"

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### TABLE XXVI
ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "CHOOSING A CAREER"

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### TABLE XXVII
ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "FIVE YEARS FROM NOW"

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### Table XXVIII
**Analysis of Covariance of the Certainty Scale of the Vocational Status Sheet**

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<td>23.18</td>
<td>5.79</td>
<td>1.24</td>
<td>0.32</td>
</tr>
<tr>
<td>Within Groups</td>
<td>21</td>
<td>98.09</td>
<td>4.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>121.27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table XXIX
**Analysis of Covariance of the Satisfaction Scale of the Vocational Status Sheet**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>15.52</td>
<td>3.88</td>
<td>0.63</td>
<td>0.65</td>
</tr>
<tr>
<td>Within Groups</td>
<td>21</td>
<td>129.82</td>
<td>6.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>145.34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE XXX

ANALYSIS OF COVARIANCE OF THE INFORMATION-GATHERING ACTIVITY CHECK LIST OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>1.16</td>
<td>0.29</td>
<td>0.09</td>
<td>0.98</td>
</tr>
<tr>
<td>Within Groups</td>
<td>21</td>
<td>64.30</td>
<td>3.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>65.46</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
APPENDIX G

RESIDUALS OF A ONE-WAY ANALYSIS OF COVARIANCE OF THE VARIABLES TESTED AMONG THE FIVE PLACEBO TREATMENT SUBGROUPS

TABLE XXXI
ANALYSIS OF COVARIANCE OF THE PERSONAL CONCEPT SCALE SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>200.22</td>
<td>50.05</td>
<td>0.75</td>
<td>0.57</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>1338.06</td>
<td>66.90</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>1538.27</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

TABLE XXXII
ANALYSIS OF COVARIANCE OF THE VOCATIONAL DEVELOPMENT INVENTORY SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>6.66</td>
<td>1.66</td>
<td>0.11</td>
<td>0.97</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>302.10</td>
<td>15.11</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>308.76</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>
### TABLE XXXIII

**ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "MYSELF"**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
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<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>225.41</td>
<td>56.35</td>
<td>0.68</td>
<td>0.61</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>1656.27</td>
<td>82.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>1881.68</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE XXXIV

**ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "OTHER PEOPLE"**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
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<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>278.92</td>
<td>69.73</td>
<td>0.58</td>
<td>0.68</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>2394.52</td>
<td>119.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>2673.44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE XXXVI

**ANALYSIS OF COVARIANCE OF THE CONCEPT-SPECIFIC ANXIETY SCALE APPLIED TO THE CONCEPT "FIVE YEARS FROM NOW"**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>277.96</td>
<td>69.49</td>
<td>0.51</td>
<td>0.73</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>2737.65</td>
<td>136.88</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>3015.61</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

### TABLE XXXVII

**ANALYSIS OF COVARIANCE OF THE CERTAINTY SCALE OF THE VOCATIONAL STATUS SHEET**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>15.31</td>
<td>3.83</td>
<td>0.60</td>
<td>0.67</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>128.19</td>
<td>6.41</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>143.50</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>
### TABLE XXXVIII
ANALYSIS OF COVARIANCE OF THE SATISFACTION SCALE OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
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<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>17.96</td>
<td>4.49</td>
<td>0.61</td>
<td>0.66</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>147.04</td>
<td>7.35</td>
<td>..</td>
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<tr>
<td>Total</td>
<td>24</td>
<td>164.99</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>

### TABLE XXXIX
ANALYSIS OF COVARIANCE OF THE INFORMATION-GATHERING ACTIVITY CHECK LIST OF THE VOCATIONAL STATUS SHEET

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4</td>
<td>8.85</td>
<td>2.21</td>
<td>0.97</td>
<td>0.45</td>
</tr>
<tr>
<td>Within Groups</td>
<td>20</td>
<td>45.73</td>
<td>2.29</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>54.58</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
</tbody>
</table>
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Reports


Unpublished Materials


