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An investigation of the effects of two career counseling interventions upon psychological well-being, self-efficacy, and locus-of-control

Denson, Eric Lamar, Ph.D.

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An Investigation of the Effects of Two Career Counseling Interventions

Upon Psychological Well-Being, Self-Efficacy, and Locus of Control

by

Eric L. Denson

A dissertation submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

University of Washington

1992

Approved by Gerald E Smith

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Date March 5, 1992

Doctoral Dissertation

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Abstract

An Investigation of the Effects of Two Career Counseling Interventions Upon Psychological Well-Being, Self-Efficacy, and Locus of Control

by Eric L. Denson

Chairperson of the Supervisory Committee: Professor Ronald E. Smith
Department of Psychology

Individuals who are uncertain about their choices of majors/careers are believed to also experience various psychological concerns (decreased feelings of well-being; decreased self-esteem and self-efficacy; externalized locus of control). In this study it was hypothesized that efforts to reduce the level of major/career choice uncertainty (i.e., career counseling) would provide psychological benefits in addition to benefits in the target domain. Two treatment groups and a waiting list control group were established from a sample of (n = 71) college undergraduates. Different variations of Forster's (1985) career counseling intervention were administered to each treatment group. Treatments differed in their inclusion ("breadth") or exclusion ("depth") of a values clarification component. Treatment impact was compared using several psychological measures. Multivariate analyses revealed significant post-treatment gains, and improvement relative to the control group, for the two treatment groups on most measures. Treatment impact differed significantly only on psychological well-being. Results support the hypothesized relationship of major/career uncertainty and psychological functioning, and suggest that career counseling provides important psychological benefits. Implications for the delivery of career counseling services and future research are discussed.

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Introduction

The study described in this dissertation represents an effort toward the integration of career counseling and psychological variables. Interest in this relationship was stimulated during the course of reading about the psychological effects of unemployment and by working with college students who seemed clearly distressed by their difficulty in formulating their major and career plans. Because so many students appeared to experience a range of psychological effects beyond the scope of simply wondering what to do with their lives, it seemed logical and important to better understand the nature of the relationship between careers and mental health. Further, it seemed reasonable that efforts undertaken to reduce major and career uncertainty might have positive effects beyond the target domain.

A second source of stimulation for this work came from coursework in career development and pratica in the Clinical Services and Research Center at the University of Washington, under the direction of Dr. Jerald Forster, whose multisession model of career counseling served as the basis for the treatments used in this study.

The study described herein was an initial effort to assess some of the effects of major and career choice uncertainty, measure changes in psychological functioning as a result of career counseling, and to compare two variants of Forster's career counseling model. The ultimate goal of this research was to contribute to the improved deilvery of career counseling services and to help those who struggle with the important developmental task of choosing a major and career.

Chapter I: Purpose

The primary purpose of this study was to explore an expanded domain of the effects of vocational counseling. Vocational counseling interventions have had well-documented effects upon decision-making in their target area (Krumboltz, Becker-Haven, & Burnett, 1979; Oliver & Spokane, 1988; Spokane & Oliver, 1983). The effectiveness and impact of career counseling upon other areas of psychological functioning is less clear. In the present study, it was hypothesized that vocational counseling interventions extend beyond the realm of vocational decision-making and occupational selection into other domains, such as general psychological functioning. The present study attempted to validate the hypothesis that participation in vocational counseling interventions will, in fact, result in enhanced feelings of psychological well-being, increased perceptions of self-efficacy, greater self-esteem, and a shift toward a more internalized locus of control, in addition to enhancing the appropriateness of career decision-making.

A secondary goal of this study was to examine the effects of the individual components which comprise the intervention modules. The intervention packages to be used in the present study represent adaptations of Forster's (1985) six-session career exploration program. Each of the intervention components focuses upon a unique aspect (values, skills, interests, and self-presentation) of the career exploration process and is also linked with specific outcome measures. Additionally, because two adaptations were utilized, the differential effectiveness of the two versions will also be explored. The study also attempted to specify the point at which any differential treatment effects occur.

The major assumption underlying the present study is that feelings and beliefs about one's vocational prospects have a major impact upon psychological well-being. It is assumed that failure to engage in directed activities designed to reduce vocational uncertainty will have an unfavorable impact upon well-being. Conversely, participation in activities designed to reduce uncertainty, such as career counseling, should have a positive impact. It has been claimed that vocational status has a significant impact upon variables such as self-esteem, self-image, and well-being (Price, 1985). People who are satisfied with their vocational situations and choices often tend to view themselves in a more positive light than do those who are dissatisfied. Studies have shown that unfavorable changes in vocational status (such as unemployment) often have dramatic negative effects upon these variables as well (Denson, 1986). Following this line of reasoning, it is likely that vocational uncertainty or indecision has similar effects and might also be a critical determinant of psychological health.

One of the most important developmental tasks of the college-aged population is preparation for, and selection of, a college major and a career (Chickering, 1975; Havighurst, 1952). Vocational indecision may be a particularly salient factor within a population that is faced with the task of forming vocational plans by assessing skills and interests, articulating goals, and integrating these variables in the process. If these suppositions are valid, then it is also reasonable to predict that interventions designed to enhance the career selection process will also indirectly affect general psychological functioning.

Within the context of the present study, two adaptations of the multicomponent vocational intervention developed by Forster and his associates (Forster, 1985; Haldane

& Forster, 1988) were employed. This module has been designed to facilitate and enhance the vocational exploration and decision-making processes. The critical areas addressed by the intervention package include a detailed examination of the client's key work, academic, and life values; identification and assessment of vocational interests; the articulation of vocational and lifestyle goals; identification of dependable strengths and skills; decision-making and self-presentation of a coherent vocational plan. Ideally, if the client has profited from the vocational intervention process, he or she will have developed a more accurate picture of personal competencies, goals, and values that will be reflected in career decisions and plans that are congruent with these factors. Further, this model discourages reliance upon merely choosing occupational titles; instead it encourages flexibility, and emphasizes the need to develop alternate means of satisfying values, reaching goals, expressing interests, and demonstrating competencies.

Chapter II: Relevant Literature

Traditionally, the explicit and commonly accepted goals of career or vocational interventions (the terms will be used interchangeably here) have been to increase occupational knowledge and to provide guidance and direction into vocations that are compatible with the client's interests, values, and aptitudes (Otte & Sharpe, 1979). It has been assumed that lack of vocational knowledge limits the possibilities for occupational choices and thus decreases the likelihood of making sound vocational choices. Numerous outcome studies assessing the role of career counseling in achieving these goals have been conducted since the 1950's (for a summary of this literature see Oliver & Spokane, 1988; Spokane & Oliver, 1983). For example, in their meta-analysis of outcome studies in career counseling, Spokane and Oliver (1983) concluded that the outcome status of clients receiving career counseling exceeded that of 80-87% of untreated controls, depending upon the nature of the intervention. Oliver and Spokane (1988) expanded upon these findings and reported that among the various treatment modalities employed, individual and structured group formats were the most effective. They also suggest that effectiveness increases with greater intensity of treatment (i.e., longer or more frequent sessions). Krumboltz, Becker-Haven and Burnett (1979) and Fretz (1981) also concluded that most career counseling interventions seem to result in detectable gains across divergent treatment methods. It is clear then, that vocational interventions are effective in their traditional target domain.

Alternatively, the current study sought to assess the effects of vocational intervention upon measures of psychological well-being. In this sense, career

interventions may be viewed more generally as a form of counseling or perhaps even as a psychotherapeutic approach, which is specifically intended to address vocationally related affects, behaviors, and cognitions (Rounds & Tinsley, 1984). Although there has been little work directly assessing the effects of vocational intervention on the variables of interest in the present study, namely locus of control, self-efficacy, and psychological well-being, considerable attention has been given to the related areas of self-concept, self-esteem, and psychological adjustment.

The work of Williams (1962) and Williams and Hill (1962) focused upon changes in self-esteem/self-concept resulting from career counseling. Williams (1962) investigated the effects of vocational counseling upon self-perception, perceptions of others, and general adjustment following a two session educational/vocational counseling program. Subjects consisted of three groups of college students: an experimental group, a non-client control group and a client waiting list control group that received counseling after the experimental phase of the study. A modification of the Self-Ideal (Self)-Other Q-sort technique derived from Butler and Haigh (1954) and Dymond (1954) was used as the evaluative criterion. Following treatment, four-to-five month follow-up data were collected from 21 of the client and waiting list subjects. The counseling intervention consisted of a precounseling evaluation using the Q-sort, an initial interview in which background and presenting problem information were collected, several testing sessions conducted by an outside psychometrist and a second interview during which test results were interpreted and strategies considered. Clients were allowed to continue as long as they chose, but the vast majority terminated after two interviews. Results indicated that counseling had a significant impact on increasing the self-ideal, self-ordinary, and self-other congruence

scores of counseled clients. Similar gains were found using the adjustment index. Follow-up Q-sorts indicated that these gains were maintained, with the exception of the S-O comparison. Despite the positive results, this work has not been followed-up.

Thompson (1960) has also addressed the relationship between vocational counseling and personality factors. In a theoretical discussion, Thompson presents several interesting propositions. One of these propositions states that vocational maladjustments are both a cause and a effect of emotional difficulties. This is particularly relevant to the extent that—as Thompson notes, and Super (1955) reports—as clients demonstrate better vocational adjustment, they also tend to show improvement in other areas of life. Thompson also notes several characteristics of clients and vocational counseling which may serve to justify the use of vocational counseling to enhance general psychological well-being. In addition to discussing the general importance of work in establishing one's identity, he also points out that often vocational counseling is viewed by the client as a more acceptable guise for help-seeking behavior, although psychotherapy may be what the client actually desires. Vocational counseling may be the best entry into other realms for these clients. Second, Thompson asserts that successfully dealing with vocational issues may in fact set in motion a process that serves to improve general functioning, promote insight, and boost confidence in one's ability to handle future problems. These may all be important by-products of the vocational counseling experience.

Super (1955) reported a case study of a young man who presented with vocational maladjustment issues. Following a psychological evaluation, there was concern that long-term psychotherapy may be indicated. Alternatively, the decision was

made to address the presenting vocational issues in the hope that sufficient improvement in general psychological functioning would occur as a result of vocational counseling. Vocational counseling proved to be fruitful from both standpoints; the client found satisfying work and also demonstrated dramatic improvement in diagnosed psychopathology.

In a study examining inner-city seventh graders, Otte and Sharpe (1979), hypothesized that a semester-long career exploration program would increase scores on measures of achievement motivation, self-esteem, and occupational knowledge. Their intervention program consisted primarily of field trips to job sites and group discussions about impressions from those visits as well as general discussions of common, non-work related concerns. As expected, in comparison to a control group which received only standard classroom instruction, the experimental group demonstrated significant gains in occupational knowledge. Perhaps of greater significance is the finding that the experimental group also outperformed the control group in measures of achievement motivation and self-esteem.

In a more recent study, Slaney and Dickson (1985) examined career indecision and exploration in a group of re-entry women in an attempt to expand the realm of explored options. Results of their study indicate minimal treatment effects for their intervention. However, it should be noted that the total time spent with the clients in the intervention phase lasted less than two hours. Although the results were not significant, Slaney and Dickson found that responses to their program were favorable and that greater gains may be possible with the use of a more extensive program.

Bruyere, Stevens & Pfost (1984) developed a program designed to assess the career and life planning needs of displaced homemakers. Their program consisted of ten modules designed to stimulate self-exploration of personal and vocational needs and to facilitate planning toward meeting needs in these areas. The results of their program showed there were some gains in employment, as about 14% of those unemployed during the program were employed at 3 month follow-up. Although this intervention focused primarily upon facilitating the development of self-concept and self-worth, values clarification, and uncovering strengths and potentials, the authors did not collect any data on these factors. Unfortunately, it cannot be stated that the intervention affected any of these areas to a significant degree. The authors suggest that future research develop and utilize measures evaluating change along these psychological and interpersonal dimensions.

Preliminary data reported by Forster (1991), using the Adjective Check List as an outcome measure, indicates significant gains in Self Confidence, Favorability, and Achievement resulted from the participation by clients in his six-session career module as well as those participating only in the Dependable Strengths Articulation Process (DSAP; Haldane & Forster, 1988) workshop groups.

Rounds and Tinsley (1984) assert that the larger view of vocational interventions as psychotherapeutic interventions provides opportunities to practice and evaluate career interventions within the context of more general behavior theories, while also benefitting from methodological advances in the psychotherapy outcome literature. They suggest, along with Brown and Hosford (1981), that greater attention should be given to non-targeted, but potentially related outcomes of career intervention. Examples of such

areas include increases in life satisfaction and psychological well-being. Few recent studies, however, have addressed the potential uses of career counseling as a more general psychological intervention (Brown & Brooks, 1985). Rounds and Tinsley (1984), and Oliver and Spokane (1988) recommend that future vocational intervention research use bona fide clients randomly assigned to treatment conditions and multiple outcome criteria, with measures from various response classes and emphasizing short-term assessment.

The literature provides fairly clear support for the use of vocational interventions in enhancing client self-esteem and self-concept, two factors that appear to be relevant to the variables of interest in the present study: psychological well-being, self-efficacy, and internality (locus of control). Perceived self-efficacy is an important outcome measure in the present study because, in effect, it reflects the extent of the individual's belief that he or she is capable of implementing goal-directed plans and behaviors (Bandura, 1977, p. 79). As one considers vocational interests and values, generates vocational alternatives, gains awareness of skills, and progresses toward a realistic and meaningful career path, it is predicted that there should be a related increase in confidence about one's capabilities. In other words, greater vocational clarity and appropriateness should directly increase perceived self-efficacy within the vocational realm. Enhanced perceptions of vocational self-efficacy may possibly generalize into other areas as well. The present study provided an opportunity to examine the relationship between vocational appropriateness and self-efficacy.

The rationale for using internality (locus of control) as an outcome measure is much the same. Vocational uncertainty and inappropriateness are predicted to reflect a

more externally-oriented locus of control. Conversely, increased vocational certainty and appropriateness should result in increased internality. As clients take the necessary steps to control their vocational outcomes (presumably observing themselves while doing so), it is expected that locus of control will become more internalized. Certain components of the career counseling process—particularly those addressing individual skills and competencies—may serve to heighten the individual's awareness of their skills and abilities to exercise some control over their environment. As is the case with self-efficacy, this link remains an assumption; however, this study provides an opportunity to empirically establish its validity.

The literature on the psychological effects of unemployment has demonstrated clear negative effects caused by that particular form of vocational uncertainty. Psychological distress, negative affect (e.g., anxiety), and decreased well-being are among the most commonly reported effects (Denson, 1986). Newman, Fuqua & Seaworth (1989) review literature and present theoretical models linking anxiety and career indecision. They suggest that anxiety is integrally related to some cases of career indecision and argue for thorough assessment of psychological distress before proceeding immediately to career counseling. Their findings and proposed models provide indirect support for the inclusion of psychologically-oriented outcome measures when assessing the impact of career counseling. In the present study, the increasing vocational appropriateness and clarity resulting from the intervention process should serve to enhance feelings of psychological well-being.

Intervention Components

The interventions described below are the components comprising the vocational exploration processes used in the study. These interventions can be conceptualized as addressing four primary dimensions: (1) interest identification, (2) values and goals articulation, (3) identification of dependable strengths and skills, and (4) decision-making/self-marketing. Each of the dimensions is linked to specific interventions. As is discussed in the section describing the design of the study, one of the two experimental treatment conditions (referred to as "Treatment A") received a treatment package consisting of skills identification, interest identification, and goals and values articulation, followed by self-marketing. The other treatment condition ("Treatment B") participated in skills identification and interest identification exercises along with the self-marketing exercise. With the exception of the decision-making/self-marketing component, the order in which the intervention components are described in the following sections does not imply a sequential series.

Interest Identification. Interest identification is the process through which the individual identifies the general occupational themes, basic occupational fields, and specific occupational titles that are of interest. The key assumption underlying the interest identification process is that people derive greater satisfaction from working in occupations in which they are interested than they do from those in which they have little interest. Holland's typology illustrates this assumption. Holland (1973) has proposed the existence of six basic personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Holland suggests that people and work environments can be classified in one of these primary types. If no dominant code type emerges, such as Realistic, then classifications can be made in terms of a two- or three-

type code (e.g., RIA), which describes an individual whose interests are blend of characteristics from multiple types. Exercises such as the Strong Interest Inventory (SII) or Holland's own Self-Directed Search (SDS) yield these profile type codes (RIA, REC, etc.). The code also provides the client with information about what his or her interests and abilities are. These codes are also used to classify occupational environments as well as people. An occupation classified as RIA provides considerable information about the demands and characteristics of a given occupation and may be useful in directing the client to appropriate choices. An RIA code type, for example, suggests that the person-work environment match should be based on a combination of Realistic, Investigative, and Artistic features. Theoretically, an individual with a profile of RIA will be most satisfied working in an occupation also typed RIA, or a closely related type (e.g. IRA, RAI).

The goals of the interest identification process, as conceptualized in the present study, encompass enhanced ability to articulate interests, the development of greater specificity of interests, and increased recognition of the themes or characteristics of various types of jobs their and interaction with one's personal style.

Skills Identification. Identification of dependable and transferable skills is another component of the intervention process. Skills identification focuses upon developing the client's awareness of the skills he or she possesses that may be overlooked, underutilized, ignored, or devalued in some way. These are skills of which the client may have only a peripheral awareness, or they may be skills that the client is aware of, but has been unable to develop an appropriate context for their use in a vocational setting. Enhanced awareness of transferable skills is expected to increase the number of perceived vocational options available to the client while also increasing the likelihood that

the client will make appropriate vocational decisions. The client with only a marginal awareness of his or her transferable skills is necessarily limited in terms of options. The client who has greater awareness of transferable skills has considerably more options for attaining goals and satisfying values. Another of the predicted benefits of participation in the vocational intervention process is that it may serve as a means of esteem-building. Preliminary data collected by Forster (1991) has provided some support for this prediction. Clients may become aware of positive aspects of their lives that were hidden or devalued; they may come to see that they possess more marketable assets and qualities than they had originally believed. A major expectation of the skills identification process, as conceptualized in the DSAP, is that the self-esteem of participants will be increased through its emphasis on positive self-constructions (Mc Murrer, 1989).

There are several primary goals encompassed by the skills identification process. The process seeks to: (1) enhance client ability to identify dependable skills and strengths, (2) build client confidence in these strengths and skills, primarily through uncovering past experiences in which they were successfully utilized, and (3) identify diverse and appropriate contexts for implementation of dependable strengths and skills. The skills and interest identification components form the basis of the program used in the present study.

Articulation of Goals and Values. Another component of the intervention package focuses upon the articulation of values and goals. One of questions of interest in the present study addresses the incremental gain produced when this component is added to the skills/interest identification package. Values and goals represent the aspects of the job, the educational process, and lifestyle that are important to the

individual. It has been suggested that values and life goals play a significant role in both occupational selection and satisfaction, and that different values and goals orientations will lead to different occupational paths (Osipow, 1983). The inclusion of a goals and values articulation process recognizes the importance of their role in career counseling and is concerned with assisting the individual with identifying and explicitly stating the key vocational, academic, and lifestyle goals and values that will influence vocational decisions and pursuits. Without a clear statement of vocational and lifestyle goals, the task of identifying appropriate career paths becomes extremely problematic. Failure to explicitly articulate goals may result in an increased likelihood of dissatisfaction with career choice, particularly if the specific choice is incongruent with goals that are implicit but vague. Values articulation is also included in this phase of the intervention. It is important that the individual be able to focus upon vocational alternatives that will be congruent with the values to which the individual adheres. Obviously, congruence becomes more difficult to effect if the client is unable to articulate the important values. In short, this process seeks to enhance the client's ability to identify and express crucial values and goals and to assist the client in identifying appropriate vocational alternatives congruent with his or her goals and values.

Decision-Making/Self-Marketing. The last component of the intervention program is labeled decision-making/self-marketing. Decision-making and self-marketing represent the end of the program and involve the integration of information generated during the preceding components. As the term implies, decision-making requires the client to formulate a career plan that incorporates values and goals, interests, and skills. The client's task is to generate some specific career paths while eliminating others,

choosing among those that will maximize satisfaction of values and goals, satisfy interests, and provide an appropriate context for the implementation of skills. Self-marketing is a subcomponent of this final dimension. Self-marketing refers to the packaging or presentation of the product of the decision-making process. Once the client has made decisions about optimal career choices, then the task of the self-marketing subcomponent is to help the client positively convey this information in the form of a job objective statement, qualifications brief, or résumé.

Psychological Variables

The primary psychological variables assessed in the present study are: (1) self-efficacy (primarily in the vocational realm), (2) locus of control (internality-externality), (3) psychological well-being, and (4) self-esteem. In addition to these variables, the quality of self-perceptions of vocational attributes, and the level of self-esteem were assessed, as was career appropriateness (discussed in "Outcome Measures"), as a measure of the effectiveness of the interventions administered.

Self-Efficacy and Locus of Control. Self-efficacy refers to the degree of confidence in one's ability to behave in such a way as to produce a desired outcome (Bandura, 1977). Locus of control refers to the individual's beliefs about the causal relationships between his or her behavior or attributes and the nature of reward and reinforcement (Rotter, 1966). An internal locus of control indicates a greater degree of perceived personal control over rewards. Conversely, an external locus indicates a lesser degree of perceived personal control. To distinguish between self-efficacy and perceived control, control refers to the belief that one's behavior influences the

environment and self-efficacy refers to one's ability to implement the behaviors that could influence the environment. Successful vocational interventions should not only increase awareness of vocational strengths and skills, but also provide an objective basis for increased confidence. In the present study, it was predicted that one of the outcomes of a successful career counseling intervention would be to generate increased feelings of internal control over the environment in terms of the vocational situation (locus of control) as well as increasing the client's ability to implement effective vocational behaviors (vocational self-efficacy).

Psychological Well-Being and Self-Esteem. Psychological well-being is conceived as a state variable reflecting the degree of positive affect experienced by the individual. It is not assumed to reflect a psychological trait, nor is it conceived as simply the absence of pathology. As a state variable, psychological well-being is assumed to be influenced by situational factors such as psychosocial stressors. As mentioned previously, vocational indecision is hypothesized to be one source of stress. If vocational indecision is positively related to psychological distress, then interventions which reduce vocational indecision should also serve to reduce distress as well. Self-esteem, for purposes of the present study, is conceptualized as the positive (or negative) quality of one's self-descriptions.

Outcome Measures

It is hypothesized that indecision or dissatisfaction with one's academic/vocational pursuits will have a significant effect upon psychological well-being. The purpose of the present study was an attempt to determine what role an interactive vocational exploration

program plays in improving psychological well-being. Several outcome measures were utilized in evaluating the effectiveness of the intervention upon variables that are hypothesized to be important in psychological functioning. The psychological variables have been previously discussed. The outcome measures are briefly described here.

Six outcome measures were used in the study. The Mental Health Inventory (MHI; Veit & Ware, 1983) served as the primary measure of psychological well-being and stability of functioning. The Rotter Internal-External Locus of Control Scale (Rotter, 1966) was the index of locus of control, which was expected to become more internalized as a function of the treatment process. A modified version of Coppel's Perceived Self-Efficacy Scale (1980) was used to assess the extent of the client's belief in their capability to influence their environment. The Washington Self-Description Questionnaire (WSDQ) measured client self-esteem. The Perceptions of Vocational Attributes Scale (PVA) was designed to assess more specific effects of the treatment interventions used in the study. The PVA elicited client responses to items addressing the client' s beliefs about their own vocationally-related attributes. The Career Plans and Past Experiences Profile (CPPEP) elicited biographical information as well as information about future plans.

Chapter III: Method

Subjects

The subjects (N = 71) were undergraduate student clients at a university counseling center. Participants were selected from the pool of all clients seeking any type of counseling services at the Center. They were initially screened by the intake counselors—doctoral level psychologists and interns—who determined: (1) whether the presenting concern of the client was related to their choosing a major or career, and if so, (2) whether or not their schedule availability coincided with the time that the career counseling groups were being conducted. Intake counselors had access to each client's schedule and the group meeting time prior to meeting the intake. Subjects meeting both criteria were included in the final samples used in the study. The age of the subject population ranged from 18 to 23, with an average age of 18.64 (SD = .9504). The majority of the participants were female (83%). Some participants were in the process of changing majors, while most were undeclared. For the Control Group, the final n = 25; for Treatment Condition A, n = 25; for Treatment Condition B, n = 21.

Design

There were two principal questions of interest in this study. The first question is: Do the intervention packages have an observable impact upon measures of psychological well-being, perceived self-efficacy, internality, and self-esteem when compared to a waiting-list control group? Second, the study sought to determine if participation in the entire intervention package (skills identification, interest identification

and goals/values articulation; Treatment A) leads to outcomes different from those produced by participation in a skills identification and interest identification treatment (Treatment B). The critical difference between the two conditions being the inclusion of Forster's Career Attribute Clarifier (1988) as a means of exploring goals and values. This question may also be framed as one of depth versus breadth of treatment. A third question of interest was to determine, if there were differences in the effectiveness of the two treatments, at which point in treatment did these differences between the two groups emerge?

In order to address these questions, subjects were randomly assigned to either one of two treatment conditions or to the control condition. In the experimental conditions, subjects participated in five 75 minute treatment sessions, conducted weekly. One half of the experimental subjects were assigned to Treatment A, a treatment package consisting of a skills and abilities identification exercise (Dependable Strengths Articulation Process), a goals/values articulation exercise (Career Attribute Clarifier) and an interest identification exercise (completion and interpretation of the Strong Interest Inventory). These exercises were carried out over three sessions, with one session devoted to each. The remaining experimental subjects were assigned to Treatment B, a treatment package consisting of skills identification and interest identification exercises, with approximately 1 1/2 sessions devoted to each. The final component, decision-making/self-marketing, by necessity was presented at the conclusion of the intervention process for all experimental subjects. Self-marketing was viewed as the capstone of the vocational exploration process and required the client's integration of all material generated during the previous three sessions. The fifth session was used for post-

treatment assessment. The content of the individual sessions is described separately for the two treatments. Prior to sessions 1-4, subjects in both of the experimental conditions completed abbreviated versions of the Washington Self-Description Questionnaire, the Perceived Self-Efficacy Scale, the Rotter Internal-External Locus of Control Scale, and the Mental Health Inventory.

PROTOCOL FOR TREATMENT A

Session 1. Subjects were introduced to the Dependable Strengths Articulation Process. Initial stages of the process were completed during the session. Subjects were requested to complete the remainder of the exercise prior to the next session.

Session 2. The first part of the session was devoted to follow-up from the DSAP. The Career Attribute Clarifier was then introduced and described. Subjects were requested to complete the exercise prior to the next session.

Session 3. The first half of the session was spent processing the CAC. Interpretation of the results of the Strong Interest Inventory was initiated. Subjects were assigned the Self-Directed Search and were also instructed to research appropriate occupations of interest (based on SII results) in the career library prior to the next session.

Session 4. This session was devoted to completion of SII interpretation and a discussion of unresolved questions about the SDS. The purpose and process for the qualifications brief were addressed. Subjects were requested to develop a qualifications brief prior to the final session.

Session 5. Qualifications briefs were discussed and subjects' remaining questions were addressed during the first few minutes of the session. Subjects completed post-treatment testing during the final half of the session.

PROTOCOL FOR TREATMENT B

Session 1. Subjects were introduced to the Dependable Strengths Articulation Process. Initial stages of the process were completed during the session. Subjects were requested to complete the remainder of the exercise prior to the next session.

Session 2. The first half of the session was devoted to follow-up from the DSAP. The second half of the session was spent initiating the interpretation of the Strong Interest Inventory.

Session 3. The session was devoted to interpretation of the results of the SII. Subjects were assigned the Self-Directed Search and were also instructed to research appropriate occupations of interest (based on SII results) in the career library prior to the next session.

Session 4. This session was devoted to completion of SII interpretation and a discussion of the results of the SDS and career library research. The purpose and process for the qualifications brief were addressed. Subjects were requested to develop a qualifications brief prior to the final session.

Session 5. Qualifications briefs were discussed and subjects' remaining questions were addressed during the first few minutes of the session. Subjects completed post-treatment testing during the final half of the session.

Procedures

Subjects who met both of the selection criteria were included in the final samples. Subjects were assigned to one of the treatment or control conditions based on their schedules. Participants whose schedule matched the group times were assigned to the treatment group. Those whose schedules conflicted with the times that the groups were offered were assigned to the control group. Thus, the only variable affecting condition assignment (treatment vs. control) was the participant's schedule. Treatment for subjects participating in the experimental conditions was conducted in a small group format, with five to eight subjects in each group. All participants read and signed the informed consent for which stated that their participation was voluntary and that they were free to withdraw at any time. Their ability to receive services offered by the Center was not be affected by their decision to withdraw from the study.

Control Subjects. Clients assigned to the control condition were asked by the intake counselor to participate in the study while they waited to receive career counseling services. These individuals were informed that services would be available in approximately four weeks. While waiting for services, they were asked to complete several questionnaires at the Center, as soon as possible after their intake appointment. Those who agreed to participate then completed the seven instruments that were used in assessing levels of: (1) general psychological well-being (Mental Health Inventory; MHI); (2) beliefs about personal self-efficacy as related to career-related issues (Perceived Self-Efficacy Scale; PSES); (3) global self-esteem (Washington Self-Description Questionnaire; WSDQ); (4) internal or external locus of control (Rotter Internal-External

Scale; I-E); (5) beliefs about personal attributes related to career issues (Perceptions of Vocational Attributes Scale; PVA); (6) educational, vocational, and avocational history and future career plans (Career Plans and Past Experiences Profile; CPPEP); and vocational interests (the Strong Interest Inventory; SII). Subjects assigned to the control condition were informed that they would receive a second set of questionnaires in approximately 3-1/2 weeks. This second set of measures, the post-treatment measures, was identical to the pretreatment measures except for the SII. Subjects were instructed to complete the second set of measures and bring them to their scheduled career counseling session.

Treatment Group Subjects. Clients whose schedules were open were assigned to the treatment group being offered at the time of their intake interview. Due to the flow of clients into the agency, treatment groups were staggered throughout the semester. Treatment group intervention conditions (A or B) were matched to time slots which were predetermined prior to the beginning of the study. However, neither the intake counselor nor the prospective subject knew which treatment they would be receiving. Those who were assigned to a treatment condition were asked to complete the same pre-treatment measures described above at the Center a week prior to the beginning of the group to which they were assigned. At the end of the intervention process, subjects in both of the treatment conditions completed the post-treatment measures described previously.

Each week at the beginning of the session, participants in treatment conditions A and B completed abbreviated versions of four of the pre-treatment measures: the Mental Health Inventory (MHI), the Washington Self-Description Questionnaire (WSDQ), the Perceived Self-Efficacy Scale (PSES) and the Rotter Internal-External Locus of Control

Scale (I-E). The purpose of the abbreviated measures was to determine at which points in the intervention process (i.e., with which specific activities or treatment components) the two treatment groups would begin to diverge. It was hypothesized that any differences between the two treatment groups would emerge at the point in which the CAC was completed. If the hypothesis was supported, it would then provide more compelling evidence for the importance of this instrument in the career counseling process, while also addressing the "breadth of treatment versus depth of treatment" issue. If no differences were found, then it is likely that the cumulative effects of treatment transcended the individual treatment components, or that the consolidation of treatment gains occurred in the final stages of the treatment process.

Treatment Components

Treatments for Condition A and Condition B contained virtually identical components, except for the addition of the Career Attribute Clarifier (CAC), a career-oriented goals and values exercise completed only by those in Treatment A. For Treatment A, treatment consisted of completion and processing of the Dependable Strengths Articulation Process (DSAP), completion and processing of the CAC, interpretation of the Strong Interest Inventory, research in the Career Library, and development of a career objective statement /qualifications brief. Treatment B consisted of completion and processing of the DSAP, interpretation of the SII, research in the Career Library, and development of a career objective statement/qualifications brief.

Dependable Strengths Articulation Process (DSAP). The Dependable Strengths Articulation Process (DSAP), adapted from Haldane and Forster (1988), represented the

intervention focused upon identification of important skills. In this four-step process, the subjects first listed and ranked several (approximately 15) important positive life experiences ("Good Experiences").

In the second step of the DSAP, subjects were asked to analyze these Good Experiences and to list the activities initiated or facilitated by them that contributed to the experience. This list (List A) describes some of the potential dependable strengths that the individual can call upon. Subjects then ranked a subset (the ten most important) of the significant experiences and identified relevant skills used in them. In other words, the subject is asked to describe (in a sentence or short paragraph) as clearly as possible what he or she actually did that made the experience positive and significant. The more detailed the description, the more likely it is that one's dependable strengths will be elicited. The counselor's task is to assist the individual in uncovering and accurately assessing these strengths. This technique is useful in revealing typically overlooked skills and abilities. The subjects were then asked to study a listing of sixteen skill clusters (provided by the DSAP) and to underline any of the skills in the clusters that characterize personal talents and skills. Particular attention is paid to clusters in which several skills are underscored. Any underlined skills not previously noted by the client in List A are added to the individual's list of dependable skills. The final process of Step Two requires use of the "Dependable Strengths Exploration Chart" to check off skills and talents that were used in each of the top ten Good Experiences. After considering each experience, any words with several checks are added to the client's listing of dependable skills.

Step Three involves the organization and prioritization of dependable strengths. The client selects 5-9 of the most significant dependable strength descriptors from List A.

This subset, List B strength descriptors, must describe strengths that have been used in at least one positive experience and could be used to describe activities that would be desired in future work.

In Step Four, the client writes a brief paragraph for each of the List B strengths that describes how that dependable strength was used in past experiences. Haldane and Forster (1988) describe this as the reality testing phase for dependable strengths. Ideally, the listed activities should be characterized by enjoyment of life, high performance, and low stress. The material generated during this entire intervention serves as a major foundation for the decision-making/self-marketing process.

Strong Interest Inventory (SII). The SII fulfilled a dual purpose in this investigation. It was assigned as a pre-treatment exercise along with the psychological measures, while the results were interpreted during the treatment phase. It also provided an objective measure of client interests for use by the raters assessing the appropriateness of career plans. The SII represents the Interest Identification component of the intervention package. Initially published in 1927, the SII has been the most widely used and researched of all interest inventories and is an integral component of Forster's career exploration module. The SII is a 325-item inventory to most of which the client responds either "like," "indifferent," or "dislike." The remaining items are forced choice or "yes"-"no." The SII yields three primary sets of scales for interpretative and guidance purposes. General Occupational Themes are the first scale to emerge from the SII. These themes (Realistic, Artistic, Investigative, Social, Enterprising and Conventional) reflect Holland's typology of personalities and work environments as noted above.

The Realistic, or R-Theme, describes individuals who prefer work environments emphasizing nature and the outdoors, mechanics, construction, and military activities. Realistic people are attracted toward action and concrete problems rather than cognition and abstract problems. Investigative (I-Theme) individuals are strongly oriented toward the sciences and demonstrate a preference for gathering information and analyzing and interpreting data. Typically, Investigative individuals value independent work, creativity, and originality. Artistic (A-Theme) persons place considerable value on aesthetics and self-expression. These individuals enjoy creating artwork of various types. In contrast with the other types, high A-Theme scores may reflect enjoyment of observation and consumption of art, rather than its creation. Therefore, cautious interpretation is necessary. In general, however, Artistic types value non-conformity, beauty, sensitivity, intuition, and flexibility.

The remaining three pure types, Social, Enterprising and Conventional, differ from the first three in their interpersonal—rather than independent—social orientation. Social (S-Theme) individuals, as the name implies, orient their lives and work toward other people. As such, they place considerable value on expressing feelings, assuming leadership roles, sharing responsibilities and helping others in an altruistic fashion. Enterprising (E-Theme) individuals also share an interpersonal orientation. In contrast, however, these individuals seek leadership, prestige, and power positions as a means of achieving organizational goals and material success. Enterprising individuals value environments which permit them to be competitive, dominant, adventuresome, and energetic. The final theme type, Conventional (C-Theme), describes persons who value subordinate roles rather than leadership positions, activities that require persistence,

accuracy, and attention to detail. They also value order and conventionality, caution, practicality and self-control. Pure theme types are the exception, rather than the rule, and typically, the individual is most accurately described by a combination of the pure types.

The SII also generates Basic Interest Scales as well as specific Occupational Scales for further exploration. The Basic Interest Scales are an extension of the General Occupational Themes and cluster under the themes. Each of the themes is comprised of several Basic Interest Scales. Examples of basic interests include: Mechanical Activities (Realistic), Science (Investigative), Writing (Artistic), Teaching (Social), Sales (Enterprising), Office Practices (Conventional). Occupational Scales represent specific occupational titles correlated with the Basic Interest Scales and the General Occupational Themes. Standard scores are reported for each of the General Occupational Themes, Basic Interest Scales, and Occupational Scales. The SII also permits the client to compare his or her interests with those of each sex, the general public and most importantly with those involved in specific occupations.

Self-Directed Search (SDS). The SDS (Holland, 1990) uses the Holland code typology to allow clients to formulate their own code type without the assistance of a professional, based upon responses to a series of items about competencies, preferences, and interests falling within the six code types. The code types are further broken down in more specific subareas.

Career Library. In this phase, subjects were asked to spend time (outside of the group meeting time) in the Center's extensive Career Library. They were instructed to read about any of the careers and occupations they were interested in or ones potentially of interest that were suggested by the SII or SDS. Subjects were directed to, and shown

how to use, the Occupational Outlook Handbook, the Dictionary of Occupational Titles, and various other publications housed in the Career Library.

Qualifications Brief. In this final exercise, which represents the Self-Marketing component of the intervention process, the subjects integrated the material generated during the previous three phases and developed a qualifications brief, or résumé. The purpose of the brief, in contrast to a standard résumé, is to emphasize the client's personal skills and strengths in a format tailored to the individual, rather than a standard format which may not present the most accurate portrait of the client's interests and skills. The identification of relevant important goals, values, and interests are assumed to create a general framework for the person's vocational plan. The analysis of dependable skills and strengths provides the raw input for the qualifications brief. The writing of the brief is the coherent presentation of this raw input. The brief should result in a polished product which the individual can use to enhance self-awareness, self-esteem, and the prospects for a career which will satisfy life goals and values.

Career Attribute Clarifier (CAC). The CAC represents the differential treatment component in the study. The CAC, a modified version of Forster's Job Attribute Clarifier (JAC; Forster, 1982), is goals and values articulation process developed for this intervention program. Like the JAC, the CAC utilizes repertory grid technique. It is one of the most crucial elements of Forster's program. In the CAC, the client is first asked to provide job titles that satisfy nine general categories of jobs as provided in the instructions. Six more titles are provided by the inventory itself; the provided titles represent the six vocational types in Holland's RIASEC typology. After selecting job titles appropriate to the descriptors, the client uses Step Two of the "Attribute Worksheet" to

discriminate within twelve pre-determined triads of jobs, choosing two that are similar to each other while simultaneously different from the third job along a single important attribute or construct, which is generated by the client. Positive and negative poles of the attributes are listed on the worksheet.

As an example, from the pre-determined triads of job title descriptors, the titles "professor," "accountant," and "forest ranger" may be grouped together. "Professor" and "accountant" may differ from "ranger" in that the first two typically occur in an indoor versus outdoor setting, thus the location of the work environment may be a highly salient vocational construct for the client. An infinite number of constructs are available for use by the client. The critical assumption behind this technique is that clients will choose constructs that are reflective of salient personal and vocational values. In the above example, it would be assumed that the indoor-outdoor dimension is relevant to the client, and that the client may value working in one of these settings more than the other.

After recording the twelve job-related attributes on the worksheet, the client then engages in a similar process using academic/avocational activities as the basis for generating another set of attributes. In the CAC, the client lists ten activities in response to a set of descriptors (e.g., "the most satisfying college or high school subject you have taken so far") in Step Three. From this list of ten activities, six triads (again provided on the "Attribute Worksheet") are used to generate six more attributes. In the next step of the CAC, the ten activities are divided into two subgroups, one a group of positive activities and the other negative activities. The client then identifies four additional attributes or themes that describe the ways in which the list of positive activities differs from the list of

negative activities. These four attributes are added to the other attributes already generated for jobs and activities.

In the last phase, eight of the attributes which best describe the characteristics of an ideal job are chosen. These eight attributes are then prioritized by a paired-comparison ranking process (using the "Attribute Prioritizing Form") and the results are used to write a description of an ideal job and to identify other vocational possibilities that might also satisfy the desired values previously generated. The Career Attribute Clarifier (CAC) expands on the Job Attribute Clarifier by sampling significant academic and avocational experiences that may be highly relevant to vocational decisions.

Measures

Mental Health Inventory (MHI). The Mental Health Inventory (MHI; Veit & Ware, 1983) is a 38-item inventory designed to assess psychological well-being and distress in general populations. Veit and Ware (1983) identify five secondary factors: Anxiety, Depression, Emotional Ties, General Positive Affect, and Loss of Behavioral Emotional Control. From these lower order factors, two higher order factors, Psychological Distress and Psychological Well-Being, have also been identified. The 38 items on the MHI are questions which describe various psychological states—those identified by the five secondary factors listed above. Each question is matched with a six-point scale with (1) generally indicating "always," "all of the time," "very much so" (except in the case of reverse scored items) and (6) "never," "none of the time," etc. Points 2 through 5 indicate varying degrees of response to the questions. Psychometric studies of the MHI

indicate that it has very good estimates of reliability up to one year. For purposes of this study, the MHI was used as a general index of psychological functioning.

Rotter Internal-External Locus of Control Scale (I-E Scale). The Rotter Internal-External Locus of Control Scale (Rotter, 1966) has been one of the most widely used personality scales. This scale assesses the degree to which the client believes he or she exercises control over key life events. It is a 29-item, forced choice questionnaire which includes six filler items, that do not figure in final scoring. Items consist of pairs of statements; respondents are asked to identify which statement of each pair of they more strongly believe to be true. In the present study, the I-E scale served as an index of the degree to which clients believed that they were in control of their lives. A central assumption was that as their vocational situation became clearer and more favorably resolved, the client would adopt a more internal locus of control.

Perceived Vocational Self-Efficacy Scale (PSES). As Coppel (1980) notes, people have many kinds of feelings about themselves and their lives. The modified Perceived Self-Efficacy Scale (PSES) is a series of sentences based upon Coppel's (1980) Perceived Self-Efficacy Scale, with additional items with specific reference to self-efficacy in the vocational realm. The PSES uses a nine-point scale with (1) representing a statement with which the client "strongly disagrees," (5) is "neutral," and (9) "strongly agrees." Clients were asked to circle the number of the item that most accurately described how they felt. Content of the items samples perceived personal competency, self-confidence, coping skills, control and self-esteem, in general and with specific reference to vocations.

Washington Self-Description Questionnaire (WSDQ). An adapted form of the WSDQ served as the measure for assessing self-esteem. The original WSDQ consists of 14 items with four response choices. The adapted form expanded the response choices from four to nine.

Career Appropriateness. It was clear that measures assessing the effectiveness of the intervention were also necessary. In other words, a method was needed which would confirm that the interventions were assimilated by the client. If the intervention is not assimilated by the client, there is then little reason to assume that any meaningful changes will occur. Such a measure could also be used as an index of the degree of benefit the client received from the program, that is to say: Did the client benefit from the intervention by demonstrating an increased ability to formulate realistic and satisfying career plans?. Measures of career appropriateness are hypothesized to reflect the degree of assimilation and integration of meaningful vocational information. Vocational information includes information about occupational fields and awareness of goals, values, interests, and abilities. Appropriate career choices are those that the individual makes that have the greatest likelihood of being congruent with vocational information.

Career appropriateness can be conceptualized as a two-component construct: congruence and vocational realism. Congruence simply refers to the degree of assessed similarity between stated vocational intent (or current vocation) and measures of skills and interests, such as those provided by the Strong Interest Inventory or Self-Directed Search.

Realism, the second component is somewhat more difficult to define than congruence and is perhaps best illustrated by way of example. Generally, realism refers

the presence of opportunities and resources, in addition to competencies. A realistic choice would be a choice that not only is well-matched with skills, interests, goals, and values, but is also a choice that the client has a reasonable opportunity to enter. Becoming a neurosurgeon is not a realistic choice for the client who is unwilling to spend more than four years in college, nor is it a realistic choice for the client who has few financial resources and does not qualify for scholarships or loans. In this example, a lack of understanding of job requirements is evident as is poor understanding of the resources needed to attain the occupational goal.

The most suitable method of assessing realism for the present study utilized the ratings of expert judges (psychologists active and experienced in vocational/career counseling). Currently available standardized inventories designed to assess career appropriateness have limited utility in that they are lengthy and often only assess the nebulous construct of career maturity, paying little, if any, attention to the environmental constraints placed upon the client, such as limited financial resources or to client factors such as desired amount of pre-vocational training or education. The issue of the subject's knowledge of the world of work is at best a crude barometer of career appropriateness.

For the present study, a profile was developed to aid expert raters in assessing career appropriateness. The Career Plans and Past Experiences Profile (CPPEP) provides biographical information about the subjects including desired level of educational aspiration, availability of financial resources, work and educational history, relevant avocational activities, and occupational plans. Judges also had access to SII profiles. Based on these sources of information, the judges rated the degree of appropriateness of the subjects' career choices.

In addition to the CPPEP, a 15-item scale, the Perceptions of Vocational Attributes Scale (PVA) was developed to assist in assessing more specific effects of the interventions. PVA items are linked to specific interventions and ask the client to provide self-report information on how well the intervention goals of each component were met. As previously discussed these goals include: enhanced ability to identify dependable strengths, increased confidence in strengths, identifying diverse and appropriate contexts for implementation of dependable strengths (skills/strengths identification); enhanced ability to articulate interests, development of greater specificity of interests, increased recognition of the themes of various types of jobs (interest identification); increased ability to identify and express crucial values and goals, identifying vocational alternatives congruent with goals and values (goals/values articulation).

The weekly measures were abbreviated forms of the modified WSDQ, the PSES, MHI, and I-E scales. For the WSDQ (S), five items were randomly selected, reflecting both positive and negative descriptions of self-esteem. The six items comprising the PSES (S) were selected based on face validity. This scale included items pertaining to general and vocational perceptions of self-efficacy.

Ten items were selected from the MHI to develop the MHI (S). The items were selected from all subscales in proportion to their representation on the original scale. That is, the subscales for General Positive Affect and Anxiety contribute approximately half of the items on the original MHI scale. Six of the MHI (S) items also came from these two subscales. The other four items were selected from the three remaining subscales. Selected items were generally those with the highest factor loadings for their respective subscales.

The abbreviated I-E scale, the I-E (S), was comprised of the five items with the highest point-biserial correlations reported by Rotter (1966) for a combined male-female sample. A sixth item, a filler, was also included.

Chapter IV: Analyses

Data Scoring and Coding Procedures

Complete Measures. Nine-point Likert-type scales (strongly disagree = 1, strongly agree = 9) were used for the WSDQ, the PVA, and the PSES. For the MHI, a six-point scale (1—6) was used, with lowest scores expressing the least favorable response or the greatest psychological distress. High scores indicated the most positive and favorable responses to that item. Possible responses varied according to the individual item in question. The Rotter I-E Locus of Control Scale consisted of 29 items, 23 of which were included in the final scoring. High scores on the I-E scale reflect a more external locus of control. The CPPEP consisted of eight free-response items relevant to career appropriateness. Responses to these eight items were considered by the independent raters as they made their ratings of career appropriateness. Raters responded to a three item, nine-point Likert-type scale (extremely inappropriate = 1, extremely appropriate = 9) describing their ratings of each subject's future plans. The maximum score on the ratings was 27. The summed scores on the ratings sheet for each rater were averaged for each subject.

For all of the self-report measures (excluding the I-E Locus of Control Scale), response choices were assigned point values in ascending order, with the most favorable or positive possible responses receiving the highest point values. Some items on the original protocols completed by the subjects were reversed in order to reduce the likelihood of haphazard responding by subjects. Items appearing in reversed form on the original protocols were recoded so that positive responses had the higher point values

and that scoring was unidirectional for all of the measures, thus permitting responses to be summed on each measure. Subject responses to each of the items on the five self-report measures were summed to produce a total score for that measure. Higher scores for each measure indicated greater positive degrees of the respective constructs (e.g., higher total scores on the WSDQ reflected higher self-esteem). Scoring on the Rotter I-E Locus of Control Scale reflects external responses, which were summed to produce a final score for the measure, with higher scores reflective of a more external locus of control and lower scores a more internal locus.

For each subject, a total score was generated for each measure. The maximum score on the WSDQ (14 items) = 126; the PVA (15 items) = 135; the PSES (28 items) = 252; the I-E (23 items) = 23; and the MHI (38 items) = 228. The maximum score on the career appropriateness ratings was 27.

Abbreviated Measures. Identical procedures were used in the coding and scoring of subject responses to the abbreviated measures. Maximum scores were adjusted for the length of the instruments: WSDQ (S) (5 items) = 45; PSES (S) (6 items) = 54; I-E (S) (5 items) = 5; and MHI (S) (10 items) = 60.

Analyses of Pre- and Post-Treatment Measures

Preliminary Analyses. Means and standard deviations were generated for pre-treatment and post-treatment scores for all five of the self-report measures used in the study: the Washington Self-Description Questionnaire (WSDQ), the Perceptions of Vocational Attributes Scale (PVA), the Perceived Self-Efficacy Scale (PSES), the Rotter

Internal-External Locus of Control Scale (I-E), and the Mental Health Inventory (MHI). Means and standard deviations are reported in Table 1.

In order to assess the degree of interrelatedness among the measures, Pearson product-moment correlations were generated for all of the measures employed. Of particular interest are the correlations of all of the pre-treatment measures. This correlation matrix is presented in Table 2.

To determine if the three treatment conditions differed significantly on any of the pre-treatment measures, one-way analyses of variance (ANOVAs) were conducted using SPSSx ONEWAY on the pre-treatment scores for all measures (WSDQPRE, PVAPRE, PSESPRE, IEPRE, MHIPRE, CAPREAVG) by condition.

Primary Analyses. As suggested by Huberty and Morris (1989) and Tabachnick and Fidell (1989), multivariate analyses of variance (MANOVAs) were conducted with SPSSx MANOVA using the measures together as dependent variables. Separate repeated measures ANOVAs (using SPSSx MANOVA) were conducted with each of the measures, in order to assess the main effects of Condition, of Time, and to determine if there were any significant Time X Condition interactions. These results are reported in Table 3.

Because the one-way ANOVAs indicated that the three conditions did not differ significantly on pre-treatment scores, analyses of covariance were then conducted on the post-treatment scores for the self-report measures (WSDQPOST, PVAPOST, PSESPOST, IEPOST, MHIPOST) using each of their respective pre-treatment scores as the covariates. The analyses of covariance yielded adjusted mean scores for each of the five self- report measures. The Tukey (a) procedure (described by Winer, 1971), using

adjusted means, was then employed to determine the significance of differences on the adjusted means across conditions. Adjusted means and Tukey tests are reported in Tables 4-8.

Finally, in order to facilitate the interpretation of the data, Pearson product-moment correlations were also computed on the pre- to post-treatment difference scores for all six of the measures used. The correlation matrix is presented in Table 9.

Analyses of Weekly Measures

Similar analyses were conducted using the weekly measures completed by subjects at the beginning of each of the counseling sessions, except for the final session. Abbreviated forms of four of the measures were included in this analysis, the WSDQ (S), PSES (S), I-E Scale (S), and the MHI(S). Tests for significance of Time and Time X Condition interaction were conducted. These results are summarized in Table 10.

Chapter V: Results

Pre- and Post-Treatment Measures

Ranges for all of the main measures were generated. For the WSDQ, actual scores ranged from 35 — 123. Actual PVA scores range = 47 — 127. PSES scores, actual range = 112 — 241. I -E scale actual range = 0 — 20. MHI scores actual range = 91 — 210. Means, standard deviations, and adjusted means were generated for the five objective pre- and post-treatment measures used in the study. These are presented in Table 1.

Correlations among Pre-Treatment Scores. The Pearson product-moment correlations for the pre-treatment scores on individual measures ranged from $r = .0480$ (CAPREAVG with MHI) to $r = .7510$ (PSES with WSDQ). Correlations of the five self-report measures with the ratings of career appropriateness were all low and generally non-significant, with the exception of CAPREAVG with PSES, $r = .2892$, $p = .05$. Conversely, intercorrelations of the five self-report measures, were all significant at the $p = .01$ level, with the exception of the PVA with I-E, $r = .0934$, which was not significant. The complete matrix of pre-treatment correlation coefficients is presented in Table 2.

Pre-Treatment One-Way ANOVAs. The one-way ANOVAs conducted on the pre-treatment scores revealed that the three groups did not differ on any of the six measures: WSDQPRE, $F (2, 68) = 1.987$, $p = .820$; PVAPRE, $F (2, 68) = .4497$, $p = .640$; PSESPRE, $F (2, 68) = .017$, $p = .9835$; IEPRE, $F (2,68) = 1.115$, $p = .334$; MHIPRE, $F (2, 68) = .2866$, $p = .7517$; CAPREAVG, $F (2,68) = 1.451$, $p = .2416$.

Multivariate Analyses of Variance. An overall MANOVA was conducted using the

Table 1.

Mean Scores for the WSDQ, PVA, PSES, I-E, and MHI.

Condition	n	Treatment Score		
		Pre	Post	Adjusted Post
			WSDQ	
Treatment A	25			
M		89.840	93.680	92.661
SD		17.360	17.650	—
Treatment B	21			
M		86.620	95.520	94.194
SD		14.470	14.240	—
Control	25			
M		89.400	90.760	90.109
SD		22.160	23.740	—
Total	71			
M		88.730	92.310	—
SD		18.260	18.960	—

Table 1 (continued).

Condition	n	Treatment Score		
		Pre	Post	Adjusted Post
			PVA	
Treatment A	25			
M		73.080	90.920	91.851
SD		15.532	20.048	——
Treatment B	21			
M		76.571	91.667	91.149
SD		14.470	14.240	——
Control	25			
M		76.320	80.040	79.627
SD		13.750	14.132	——
Total				
M		76.254	87.310	——
SD		14.153	16.639	——

Table 1 (continued).

Condition	n	Treatment Score		
		Pre	Post	Adjusted Post
			PSES	
Treatment A	25			
M		168.200	177.440	176.764
SD		26.799	29.444	—
Treatment B	21			
M		166.952	175.048	175.389
SD		20.146	16.114	—
Control	25			
M		166.960	163.920	164.255
SD		32.787	32.043	—
Total	71			
M		167.394	171.972	—
SD		27.309	27.570	—

Table 1 (continued).

Condition	n	Treatment Score		
		Pre	Post	Adjusted Post
			I-E	
Treatment A	25			
M		11.560	10.360	10.143
SD		4.053	4.760	--
Treatment B	21			
M		12.000	9.286	8.672
SD		4.382	4.518	--
Control	25			
M		11.400	10.160	10.990
SD		2.915	4.120	--
Total	71			
M		11.282	9.972	--
SD		3.807	4.430	--

Table 1 (continued).

Condition	n	Treatment Score		
		Pre	Post	Adjusted Post
			MHI	
Treatment A	25			
M		161.200	161.680	161.149
SD		22.119	25.971	——
Treatment B	21			
M		157.476	172.190	174.562
SD		18.424	17.815	——
Control	25			
M		162.880	164.680	164.255
SD		30.409	32.043	——
Total				
M		160.090	165.845	——
SD		24.221	24.703	——

Note. WSDQ = Washington Self-Description Questionnaire. Maximum score = 126.

PVA = Perceptions of Vocational Attributes Scale. Maximum score = 135.

Table 1 (continued).

Note. PSES = Perceived Self-Efficacy Scale. Maximum score = 252.

I-E = Rotter Internal-External Locus of Control Scale. Maximum score = 23 (responses in external direction). MHI = Mental Health Inventory. Maximum score = 228.

Table 2.

Intercorrelations of Pre-Treatment Measures.

Measure	PVA	PSES	I-E	MHI	CAPRE
WSDQ	.4429**	.7510**	.3499**	.6392**	.1622
PVA	1.0000	.5093**	.0934	.3257**	.2308
PSES		1.0000	.4283**	.5176**	.2892*
I-E			1.0000	.3102**	.1226
MHI				1.0000	.0480
CAPRE					1.0000

Note. CAPRE = Pre-treatment ratings of appropriateness of career plans.

*p=.05. **p=.01

five pre- and post-treatment self-report measures, yielding 10 dependent variables. Tests involving Condition, Time, and Condition X Time interaction are reported in Table 3. Treatment Condition alone did not produce a significant overall effect. The effects of Time, and the Condition X Time interaction were, however, highly significant.

In addition, MANOVAs were conducted for each of the six individual repeated measures in order to determine the presence of main effects for Time, Condition, and any Time X Condition interactions. Because there were overall effects of Time and Condition X Time upon the scores, it was of considerable interest to explore these effects upon the individual measures. On the WSDQ, there was a significant effect for Time, F (1, 68) = 6.91, p = .01, but there was not a significant Time X Condition interaction, F (2, 68) = 0.85, p = .431. The mean scores were higher for all three conditions at post-treatment.

For the PVA, there were significant Time effects, F (1, 68) = 36.37, p < .001, and a significant Time X Condition interaction, F (2, 68) = 4.78, p = .01. On the PSES, significant main effects for Time were present, F (1, 68) = 5.93, p = .017. There was also a significant Time X Condition interaction, F (2, 68) = 4.18, p = .019.

Analysis of the I-E Locus of Control scale revealed significant Time effects, F (1, 68) = 16.17, p < .001 and a significant Time X Condition interaction effect, F (2, 68) = 4.20, p = .019. Similarly, the results of the MHI revealed significant main effects for Time, F (1, 68) = 8.25, p = .005, and a significant Time X Condition interaction, F (2, 68) = 5.01, p = .009.

Analysis of the averaged ratings of responses to the CPPEP measure of career appropriateness revealed significant Time effects, F (1, 62) = 25.49, p = .001, but a non-significant Time X Condition interaction, F (2, 62) = 1.97, p =.148. Findings involving the

Table 3.

Multivariate Tests for Significance of Condition, Time, and Time X Condition.

Test	Value	Exact F	Hypoth d.f.	Error d.f.	Signif of F
		Effects of Condition			
Pillai's	.10225	.70044	10.00	130.00	.723
Hotelling's	.10847	.68334	10.00	126.00	.738
Wilk's	.90006	.69193	10.00	128.00	.730
Roy's	.06850				
		Effects of Time			
Pillai's	.40754	8.80479	5.00	64.00	.000
Hotelling's	.68787	8.80479	5.00	64.00	.000
Wilk's	.59246	8.80479	5.00	64.00	.000
Roy's	.40754				

Table 3 (continued).

Test	Value	Exact F	Hypoth d.f.	Error d.f.	Signif of F
		Effects of Condition X Time			
Pillai's	.33123	2.58878	10.00	130.00	.007
Hotelling's	.39845	2.51025	10.00	126.00	.009
Wilk's	.69539	2.54952	10.00	128.00	.008
Roy's	.17325				

Note. Variables include: Pre- (WSDQPRE) and post-treatment (WSDQPOST) scores on WSDQ; PVA (PVAPRE, PVAPOST); PSES (PSESPRE, PSESPOST); I-E (IEPRE, IEPOST); MHI (MHIPRE, MHIPOST).

measure and ratings of career appropriateness should be interpreted with great caution. The measure, the CPPEP, did not appear to possess great reliability or validity. There was considerable variability in the quantity and quality of subject output in response to the items. This variability may have contributed to relatively weak correlations (r approximately = .55 — .65) of the judges ratings of career appropriateness.

Analyses of Covariance. As noted previously, there were no statistically significant pre-treatment differences among the conditions. Thus, an analysis of covariance, using the SPSSx MANOVA program, was conducted on the scores for the individual post-treatment measures with their respective pre-treatment scores serving as the covariates. All of the self-report measures yielded significant differences by condition except for the WSDQ, F (2, 67) = .746, p = .478. For the PVA, F (2, 67) = 5.137, p = .008; the PSES, F (2, 67) = 4.653, p = .013; the I-E scale, F (2, 67) = 3.617, p = .032; and for the MHI, F (2, 67) = 4.375, p = .012). This pattern of results is consistent with that found in the initial MANOVAs.

Adjusted means by condition were generated for each of the post-treatment scores using the pre-treatment scores as covariates. Subsequently, the Tukey procedure was used on the adjusted means to analyze the specific differences among the treatment conditions. The complete tables of tests of significant differences are contained in Tables 4-8.

For the WSDQ, no significant differences were found among the conditions. The greatest difference was found between the control group (Treatment C) and the "depth" condition (Treatment B). With the PVA, analyses of the adjusted means yielded significant differences between the control condition and each of the two treatment

Table 4.

Tests for Significant Differences of WSDQ Adjusted Means.

Condition		A	B	C
	Mean	92.661	94.194	90.109
A	92.661	-----	1.533	2.552
B	94.194		-----	4.085
C	90.109			-----

Note. q .95 (3, 67) = 3.395. Critical value = (3.395)(2.374) = 8.060.

** = Pairs of significantly different means.

Table 5.

Tests for Significant Differences of PVA Adjusted Means.

Condition		A	B	C
	Mean	91.851	91.149	79.627
A	91.851	-----	0.702	12.224**
B	91.149		-----	11.522**
C	79.627			-----

Note. q .95 (3, 67) = 3.395. Critical value = (3.395)(3.081) = 10.460.

** = Pairs of significantly different means.

Table 6.

Tests for Significant Differences of PSES Adjusted Means.

Condition		A	B	C
	Mean	176.764	175.389	164.255
A	176.764	----	1.375	12.509**
B	175.389		----	11.134**
C	164.255			----

Note. q .95 (3, 67) = 3.395. Critical value = (3.395)(3.248) = 11.027.

** = Pairs of significantly different means.

Table 7.

Tests for Significant Differences of I-E Adjusted Means.

Condition		A	B	C
	Mean	10.143	8.672	10.990
A	10.143	----	1.471	0.847
B	8.672		----	2.318**
C	10.990			----

Note. q .95 (3, 67) = 3.395. Critical value = (3.395)(0.596) = 2.023.

** = Pairs of significantly different means.

Table 8.

Tests for Significant Differences of MHI Adjusted Means.

Condition		A	B	C
	Mean	161.149	174.562	162.840
A	161.149	----	13.413**	1.691
B	174.562		----	11.722**
C	162.840			----

Note. q .95 (3, 67) = 3.395. Critical value = (3.395)(3.253) = 11.044.

** = Pairs of significantly different means.

conditions. Contrasting Treatments B and the control group, the difference of 11.522 was significant. Contrasting Treatment A and the control group, the difference of 12.224 also exceeded the critical value.

Analysis of the adjusted means for the PSES yielded significant differences between the two treatment conditions and the control condition. For the contrast ofTreatment B and the control group, the difference was 11.134. Contrasting Treatment A and the controls the difference of 12.509 exceeded the critical value. Treatment, regardless of the specific components, was associated with higher ratings of vocational attributes and vocational self-efficacy.

With regard to scores on the I-E and MHI, treatment was found to have differential effects. The I-E scale adjusted means yielded significant differences only between Treatment B and the control group, 2.318. Treatment A did not differ significantly from either Treatment B or the control group. For the MHI, the adjusted mean for Treatment B was significantly greater than the means for the control group and Treatment A. Contrasts of Treatments B and the controls, yielded a difference of 11.722; contrasts of Treatments B and A yielded a difference of 13.413.

Correlations of Difference Scores. Pre- and post-treatment difference scores were generated for the five self-report measures and the averaged ratings of career appropriateness. For Treatment A, changes on self-report scores were significantly intercorrelated with the exception of the I-E scale's correlations with the WSDQ (r = .2633) and the PVA (r = .3305). The remaining difference score correlation coefficients ranged from r = .4219 (I-E scale with MHI) to r = .8128 (PVA with PSES).

For Treatment B, a similar but weaker pattern was found. Overall, the intercorrelations were generally significant, with the exception of those involving the I-E scale. The I-E scale correlated $r = .3749$ with the WSDQ, and $r = .2290$ with the PSES. The PVA-WSDQ correlation was also non-significant ($r = .3103$). The control group, Treatment C, yielded only one significant difference score correlation: the WSDQ-PSES correlation, $r = .5669$, $p = .01$. The complete matrices of correlation coefficients are presented in Table 9.

Weekly Measures.

Analyses of the weekly measures failed to support the hypotheses put forth. The results of the analyses were non-significant for the composite of measures. There was neither an effect of Time, $F (3, 105) = .80$, $p = .496$; nor was there a significant Time X Condition interaction $F (3, 105) = .34$, $p = .798$. Thus, the results suggest that there were no discernible changes in the subjects' psychological status from week to week, nor were there differential effects of time for the two treatment groups as assessed by the weekly measures.

Despite the absence of significant overall effects, analyses of the individual measures were conducted to determine if differences between treatment groups may have resided within specific measures. No significant differences were found. The results are contained in Table 10. While the failure to find a significant effect for Treatment A is not inconsistent with the post-treatment results of the complete measures, the failure to find differences between Treatments A and B is somewhat at odds with the other findings. Implications of these results will be addressed below.

Table 9.

Intercorrelations of Difference Scores.

Measure	PVA	PSES	I-E	MHI	CAP
			Treatment A		
WSDQ	.4808**	.5787**	.2633	.6570**	-.0032
PVA	1.0000	.8128**	.3305	.5367**	.2273
PSES		1.0000	.4344*	.5853**	.0929
I-E			1.0000	.4219*	-.3909
MHI				1.0000	-.2542
CAP					1.0000
			Treatment B		
WSDQ	.3103	.5053*	.3749	.5477*	.3652
PVA	1.0000	.5595**	.4999*	.4656*	.1539
PSES		1.0000	.2290	.5293*	.4396
I-E			1.0000	.4710*	.2590
MHI				1.0000	.3923
CAP					1.0000

Table 9 (continued).

Measure	PVA	PSES	I-E	MHI	CAP
			Control Group		
WSDQ	.0057	.5669**	.2202	.2996*	-.0633
PVA	1.0000	-.0096	-.1222	-.0101	-.2189
PSES		1.0000	.3785	.1122	-.0808
I-E			1.0000	.2674	.1788
MHI				1.0000	.1844
CAP					1.0000

Note. CAP = Difference of averaged ratings of appropriateness of career plans.

*p = .05. **p =. 01.

Table 10.

Tests of Significance for Weekly Measures

Measure	F	d.f.	Significance of F
		Time	
WSDQ(Short Form)	.94	3, 114	.425
PSES(Short Form)	1.55	3, 108	.206
I-E(Short Form)	1.83	3, 117	.146
MHI(Short Form)	.76	3, 114	.521
		Time X Condition	
WSDQ(Short Form)	.14	3, 114	.935
PSES(Short Form)	.16	3, 108	.922
I-E(Short Form)	1.32	3, 117	.271
MHI(Short Form)	.28	3, 114	.842

Chapter VI: Discussion

It was assumed that because work plays a central role in shaping identity and providing for material needs in this society, indecision and uncertainty about one's career direction and goals would have a significantly distressing impact upon the individual. Further, it was assumed that these effects might be particularly apparent within a college-aged population, where identity consolidation (including defining interests in terms of choosing majors and establishing career goals) is a primary developmental task (Chickering, 1975). Based on these assumptions, it was hypothesized that steps taken to reduce the level of uncertainty relevant to choice of majors/careers (i.e., participating in career counseling) would have a positive impact on self-reports of psychological state, perceived self-efficacy, perceived self-esteem, and in developing a more internalized locus of control. A major purpose of the present study was to explore the validity of these hypotheses.

A second purpose of the present study was to explore the differential impact of two types of career counseling interventions. The first type, which has been referred to as Treatment Condition A, was a broad, comprehensive intervention that featured several components thought to represent important processes in career counseling. Treatment A included completion of the Dependable Strengths Articulation Process (DSAP); completion and interpretation of the results of the Strong Interest Inventory (SII); completion of the Self-Directed Search (SDS); various outside assignments (e.g., spending time in the Career Library researching occupations of interest) designed to enhance knowledge about the world of work in general, and specific, relevant

occupations; and the Career Attribute Clarifier (CAC). The CAC is a goals/values articulation process, thought to be useful in the career exploration process.

The second variant, Treatment Condition B, was narrower in scope. It was essentially the same as Condition A, except that the CAC was not included, and thus, more time was devoted to discussing the other components of the treatment package. The question of differential effects of the two treatments was essentially one of breadth versus depth. The present study sought to determine whether the more comprehensive approach to treatment, or the narrower, but more in-depth approach would lead to differential increases in scores on the measures used to study the psychological constructs of interest.

The third major purpose of this investigation was to attempt to specify the point in treatment at which any differences between the two treatment groups would emerge; that is, which treatment components were the most important in producing between-group differences. Given that completion of the CAC was the primary differential treatment component, it was hypothesized that differences between groups A and B would emerge shortly after the CAC was administered.

Correlation coefficients of the pre-treatment measures support the hypothesized positive relationship between psychological status (as defined by locus of control, self-esteem, and psychological well-being) and career/major status. Coefficients for the WSDQ with both the PVA and PSES were highly significant; individuals with the highest global self-esteem also reported the highest levels of vocational self-efficacy and positive vocational attributes. The correlations of pre-treatment PSES scores with the I-E and MHI scores were also highly significant. This relationship also supports the hypothesis.

Highest psychological well-being and least external locus of control were found in those who had the highest ratings of vocational self-efficacy.

Finally, the PVA was significantly positively correlated with the MHI; however, there was no relationship between the PVA and I-E pre-treatment scores. These correlations suggest psychological well-being and positive vocational attributes were related, but that positive vocational attributes and locus of control were not.

The results of the present study generally support the major hypothesis that in addition to its expected effects upon career status, career counseling has a significant effect on self-reports of psychological status and functioning. Scores on most of the measures used were significantly enhanced in a college-aged population—uncertain about choices of appropriate majors and/or careers—by their participation in multisession career counseling treatment interventions.

With regard to the second purpose of the study, the breadth-depth question, the findings revealed no overall differences due to condition alone. There was, however, a significant overall Time X Condition interaction. The individual measures also demonstrated significant Time X Condition interactions with the exception of the WSDQ.

Analyses of the post-treatment adjusted means provide information about the differences between the three treatment conditions. Analysis of the WSDQ revealed no significant differences among the three treatment conditions, although there was a trend toward a slight treatment effect; that is, the two treatment groups receiving career counseling scored higher at post-treatment than the control group. Apparently, subjects' general self-esteem was not significantly affected by treatment. The WSDQ can be conceptualized as a trait—rather than state—measure of self-esteem. Global self-esteem,

as represented by the statements subjects responded to on the WSDQ, may not have been easily modified within the relatively brief period of time that the counseling process covered. Subjects may have also considered other information, unrelated to career issues and concerns, as they responded to the items. This other information may have assumed primacy, outweighing the benefits of the decrease in career and major choice uncertainty. Significant differences were found on the four remaining self-report measures.

With both the PVA and PSES, the control group scored significantly lower at post-testing than both of the two career counseling conditions. The two treatment groups, however, did not differ from each other. Both the PVA and PSES measure beliefs and feelings about the self in relation to career issues. The failure to find significant differences between two of the treatment conditions (Treatments A and B) may indicate that both treatments contained sufficient ingedients to affect this variable. For this population, any attempts made and interventions directed toward the resolution of career and/or choice of major indecision are helpful; conversely, failure to undertake any action appears to have a neutral effect upon psychological status.

Another possible explanation for the failure to find strong differences between the two treatments on these measures is that the differential treatment component, the Career Attribute Clarifier, may not have been significantly different from the other components of the package. Completing the Dependable Strengths Articulation Process and the Strong Interest Inventory, along with common outside assignments, may have sufficiently covered the most salient aspects of the career exploration process so that the additional treatment component, the CAC, was of marginal value. Because the

two treatments yielded generally similar results, yet differed from the control condition, it may be said that both approaches were useful in increasing the vocationally-related feelings of competency and generating more positive perceptions of vocational attributes within this population.

Scores on the I-E Locus of Control Scale yielded a significant differential treatment effect. Again, the control group means were the most external; however, only Treatment B, the "depth" condition, differed significantly from the controls. While Treatments A and B did not differ significantly from each other, there was a trend toward difference favoring Treatment B. It should be recalled that this treatment had the DSAP as a primary intervention component—one that received considerable attention (approximately 1 1/2 sessions). The DSAP focuses on recalling, identifying, articulating, and generating potential applications for one's best skills and abilities. The DSAP provides a convenient method of summarizing the individual's competencies. Finding a significant difference on the internality scores on the Locus of Control Scale suggests that the DSAP's emphasis on skills and abilities (i.e., what one has done), may be critical in enhancing the experienced levels of internality, control, and self-efficacy. Reflecting upon past accomplishments and currently utilized abilities appears to reinforce feelings and self-reports of self-efficacy. Exploring values and goals (via the CAC) appears to be less effective in that regard.

The final self-report instrument, the MHI, also yielded interesting results. It will be recalled that the MHI is designed to assess psychological well-being in normal populations. It was hypothesized that career counseling would lead to mental health benefits, regardless of the specific form and content of the counseling. In this

investigation, once again Treatment B yielded the highest means scores among the groups. Their scores were significantly higher than the control group and Treatment A, which had the lowest mean scores. The hypothesis was partially supported: failure to receive treatment was associated with lower mental health scores. A high degree of vocationally-related uncertainty, as seen with the control group, is clearly not conducive to psychological well-being. It is interesting, however, that a treatment group had the lowest mean scores. It is possible that subjects participating in this treatment condition, because it was broader in scope and proceeded at a faster pace, felt somewhat distressed and overwhelmed.

The difference score correlations and comparisons of adjusted means revealed that participants receiving Treatment A did increase their endorsements of positive vocational attributes and feelings of vocational self-efficacy. In essence, they knew more about occupations that their abilities were best suited for, could describe some of the characteristics they sought in their work, and felt more confident in their ability to be successful in their work. However, raising questions of identifying and articulating values may have represented a separate task that is not easily completed, and the lack of resolution could have contributed to feelings of being overwhelmed.

The results of the abbreviated weekly measures revealed no differences between the two treatment groups. Differences between the two groups did not emerge until the very end of the treatment process, after the subjects had time to integrate the work that they had done during counseling. When subjects had the opportunity to integrate their work, those who had less material, and fewer sources of that

material to integrate, were apparently better able to do so successfully.

A related explanation for this finding may be that the broader, more comprehensive approach may have actually opened up more areas of uncertainty. While this is not necessarily a drawback in the long run, in the short term it may be problematic. An individual who is able to identify dependable skills and abilities, but struggles to articulate important values, may experience more distress than another individual who is equally able to identify his or her dependable skills and abilities, but is not asked to examine values. The second individual clearly would have fewer unanswered questions, less uncertainty, and potentially less distress. The experience of greater distress should be reflected in lower scores on the MHI.

While the present investigation provided general support for the hypothesis that career counseling would produce increases on measures of psychological status and functioning, these results should be viewed with caution for several reasons. First, not all of the measures yielded significantly strong differences discriminating those receiving treatment from those those not receiving treatment (e.g., the WSDQ). It is possible that for some of the participants, the constructs examined—psychological well-being, self-efficacy, and locus of control, and self-esteem—may not have been significantly affected by indecision related to choice of majors and careers. For this group, it may be that other concerns and issues, such as family problems, social relationships, or academic performance may have a greater impact on the variables studied, than does major/career choice indecision. Controlling for the influence of these external factors was beyond the scope of the present study, but future investigations exploring the relationship between career counseling interventions and psychological status may benefit from doing so.

Second, some of the constructs examined may represent trait rather than state variables (e.g., self-esteem via the WSDQ), and as such may not be significantly changed in a six-week period. If they are trait variables, it may require interventions of much greater length to demonstrate significant change, regardless of the importance of the task of choosing appropriate majors and careers for this population. An extended length of intervention, however, magnifies the potential impact of external factors on the constructs in question, and the effects of external factors become more difficult to extract.

The third—and perhaps most compelling explanation—for the failure to obtain significant effects on some of the measures is the nature of the treatments employed, and the career counseling process itself. The treatment packages employed did not provide—nor were they intended to provide—quick, definitive answers to the questions of which majors and careers may be most appropriate. This undoubtedly surprised and disappointed some of those participating in the treatment process.

The emphasis of the present interventions was on raising the career awareness of the participants, helping them to identify job characteristics (rather than merely focusing on specific job titles) and generating satisfactory and appropriate career options from which they could select. For some participants, this approach may have been disappointing and it may have generated more questions than answers. Having even a fairly limited number of options may have proven overwhelming to some. Anecdotal evidence and personal experience indicate that it is not unusual for students seeking career guidance to request "the test" they have heard about, and limit their expectations of career counseling to precisely that. The test, it is assumed, will provide quick, objective, and concrete answers to a complex and confusing set of questions. For these

individuals, a more directive, "test-and-tell" approach may have been more congruent with their preferences and expectations for career counseling. Such approaches, while providing quick, conclusive, and easily grasped answers, may in the long run undermine the development of initiative and may generate a very constricted number of job titles, causing the individual to focus on one or two. Should these options not work out, the individual may ultimately end up in a more precarious and vulnerable position.

There was also a subset of participants who could best be described as generally indecisive (rather than undecided). Interactions with members of this subgroup revealed a negative, hypercritical attitude toward virtually all of the career options presented to them, no matter how appropriate such options might otherwise be. These individuals also manifested either an unwillingness or inability to to make any commitments. For these individuals it is unclear if any treatment approach would have yielded significantly different results. Perhaps for this subpopulation, individual treatment which could address a broader range of issues and concerns may have been a more appropriate treatment modality. Resolving any parallel issues (e.g., family pressures, anxiety, psychological disturbances) that may have impeded the ability to commit to a plan of action may be the necessary prerequisite to a successful career intervention within this subpopulation. In any case, distress caused by failing to answer a significant question (major/career choice) may have been significant enough to hold constant, or even decrease scores on measures of mental health.

Also of some interest in the present study is the lack of correspondence between the self-report measures and the ratings of career appropriateness. The failure to find a significant positive relationship suggests that the quality of the choices in career plans, as

judged by clinicians experienced in career counseling, was not a particularly important determinant of reported psychological status or feelings about self in relation to career. The lack of a meaningful relationship suggests that the process of making decisions and choices about career options is in and of itself a sufficient to bring about more positive feelings about oneself. The process of making any choice, regardless of its quality or appropriateness may alleviate a significant degree of uncertainty, thus reflected in higher scores. In short, as subjects worked on making choices in the career counseling process, they generally appeared to feel better about themselves.

The intercorrelations for the within-treatment difference scores provide some understanding of the possible mechanisms underlying the effects that were found. Within the group receiving Treatment A, changes in psychological well-being, quality of self-description, and feelings related to vocational competency appear to be strongly related to one another, but not to locus of control. Shifts in locus of control may be relatively independent of changes in the other constructs. Subjects may have felt better about themselves and more confident in their ability to be effective in career-related domains before they felt able to generally control events occurring in their environment. This interpretation is plausible given a treatment that placed relatively less emphasis on skills and abilities.

With regard to change score correlations for subjects receiving Treatment B, again shifts in degree of internality were not strongly associated with changes on the measures of the remaining constructs. Given the emphasis on identifying skills and abilities demonstrated in many situations, this result is somewhat surprising. It should be noted, however, that the I-E scale reflects a wide range of beliefs. It may be that subjects'

views of their ability to influence their environment were much different than their beliefs in their ability to control events in their own lives. In any case, lacking feelings of ability to influence the environment did not appear to be especially distressing to these subjects, perhaps because of their focus on effecting personal changes.

The control group produced no discernible pattern of changes. Only the WSDQ and PSES were meaningfully correlated, suggesting that for subjects whose self-perceptions of vocational competencies became more positive (or negative), self-descriptions varied similarly. It is possible, and probably likely, that some subjects spontaneously reached some decisions about their careers, without the benefit of treatment. The assessment and testing process itself may have helped to generate suitable alternatives for some subjects. Perhaps these individuals consulted with parents or friends or gained other information relevant to the career decision-making process. If such changes did occur spontaneously, subjects may have experienced increases in vocational self-efficacy and more positive self-descriptions. Conversely, other subjects, probably grew increasingly anxious while awaiting treatment and may have experienced decreased vocational self-efficacy and more negative self-descriptions since their concerns were not being addressed immediately.

The absence of significant differences between the treatment groups A and B using the weekly measures provides important clues into the nature of the effectiveness of the treatment process. Several factors may have played a role in the absence of significant weekly differences in light of differences at post-treatment using the complete measures. First, it is possible that although Condition B (without the CAC) was the most beneficial to the subjects, the differential effects did not emerge immediately during the

treatment process. Administration of the CAC, for example, did not immediately contribute to lower overall scores for Treatment A when compared to Treatment B, nor did it immediately cause higher or lower scores on specific measures, as had been anticipated. Rather, the effects of particular intervention components appear to have been cumulative in nature, and did not emerge until later in treatment. Differential effects appear to have emerged between the final administration of the weekly measures (at the beginning of the fourth session) and the end of session five, when the post-treatment measures were completed.

The emergence of differences at this particular point suggests that a considerable degree of consolidation and integration of material addressed during the treatment process was occurring at the end of treatment. In other words, the individual components of treatment, in isolation, were necessary, but not sufficient to produce the observed changes in responses to the measures. Sufficient time to integrate information appears to be extremely important. While the present study was unable to uncover specific junctures within the treatment process crucial in effecting psychological changes, it supports the use of either treatment, although Treatment B may be somewhat more effective.

These findings have several implications for the delivery of career counseling services. First, the results suggest that particular attention should be paid to what occurs in the latter stages of treatment, since this appears to be the integrative phase. Not only are there implications within the career realm, but also in the realm of psychological functioning, at least with regard to the constructs employed in this study. The latter stages of counseling should be integrative in nature. The specific tasks should require

that participants engage in activities designed to draw upon the various sources of information used during the entire counseling process, and the exercises completed previously. Instructing clients to consciously utilize all the sources of information available to them in a task such as developing a qualifications brief appears to be an important step in the integration process.

Ample time should also be set aside for this process to occur. While the optimal duration for the process is not known, it is clear that an increase in the number of discrete tasks assigned during treatment lengthens the necessary interval for integration. In the context of the five-week treatment period used in the present study, optimal integration occurred with two major tasks, the DSAP and SII, rather than three. This finding in no way diminishes the importance of goals and values clarification in good career decision-making; rather it suggests that to successfully introduce this component requires a longer intervention period.

In conclusion, the present investigation provided several important findings. Two career counseling interventions were employed within a sample of university undergraduates. Both treatments were conducted over a five week period and were found to be effective in increasing self-report scores on a number of psychological dimensions—vocational self-efficacy, perceived vocational attributes, psychological well-being, and internal locus of control—relative to a comparable waiting-list control group. The two treatments contained similar intervention components with one exception: the Career Attribute Clarifier. The addition of the CAC also served to frame the contrast of treatments as a question of a comprehensive treatment, identifying interests, abilities, and goals and values, versus an in-depth treatment that concentrated on the

identification of interests and skills. Overall comparisons of the two treatments revealed a slight advantage for the depth treatment. Comparisons of the treatments on specific self-report measures suggested a slight advantage of the breadth treatment on the vocationally-specific measures (the PVA and PSES). On the MHI and I-E Scale, the depth treatment was substantially more advantageous. Comparisons of global self-esteem were not different.

Weekly measures provided another basis for comparisons between the two treatments. No differences were found from week to week. Differences between the depth and breadth treatments, where they existed, did not emerge until late in the treatment process.

Examining the pattern of change scores within each of the three conditions suggests that for the two groups receiving treatment, changes in most of the self-report measures were significantly correlated. Changes in self-esteem, perceptions of vocational attributes and vocational self-efficacy, and psychological well-being covaried in a positive direction. Changes in internality, on the other hand, did not generally correlate with changes on the other measures to a significant degree. This pattern suggests that internality may be a global construct.

Perhaps the most significant contribution of this investigation lays not in the contrasts of treatments, but in the empirical support it provides for the hypothesis that career counseling has important implications for psychological well-being, in addition to facilitating the career development process. Individuals presenting with career-related concerns may experience a considerable degree of psychological distress and the career counseling process appears to play an important role in helping individuals to feel better

about themselves, more competent in their vocational worlds, and in somewhat more control of their lives in general.

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Appendix A, Rotter Internal-External Locus of Control Scale, 83-85
Appendix B, Washington Self-Description Questionaire, 86-87
Appendix C, Mental Health Inventory, 88-97

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Appendix D: Perceptions of Vocational Attributes

Perceptions of Vocational Attributes

Directions: People can have many different feelings and thoughts about themselves and their vocations. Below are some sentences which describe some of these thoughts and feelings that many people have. Each statement can be answered from (1), strongly disagree through (9), strongly agree. Circle the number that best describes how you feel about each statement. There are no right or wrong answers. Be as accurate and honest as you can.

(1) Identifying my personal strengths, skills and abilities is something I do well.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(2) I can see how I have used certain strengths in several situations in my life.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(3) It is difficult for me to identify occupations that fit with my most important goals and values.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(4) I have a good idea of what I want to achieve in my work.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(5) I am certain that I know which types of occupations would best suit me.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(6) I have difficulty prioritizing my goals and values.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(OVER)

Appendix D (continued).

(7) I have difficulty clearly describing the type of work that I want to do.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(8) I recognize the themes or characteristics of jobs that I would like.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(9) There are few skills and abilities that I can count on in work and school.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(10) I know which people, in which occupations, that I am most similar to.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(11) I can identify the goals and values that are most important to me in life.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(12) It is difficult for me to give examples of times when I have used my best abilities.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(13) I can tell others quite clearly what I want out of life.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(OVER)

Appendix D (continued).

(14) I can prioritize or rank my best abilities.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

(15) I know what my best skills and strengths are.

strongly disagree				neutral				strongly agree
1	2	3	4	5	6	7	8	9

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Appendix E, Perceived Self-Efficacy Scale, 101-104

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Appendix F: Career Plans and Past Experiences Profile

Career Plans and Past Experiences Profile

Past Experiences

Describe your employment history, listing job titles and approximate dates of employment:

Describe your educational history—list programs you have completed (e.g., high school graduation, A.A. degrees, etc.):

List other educational experiences that have not resulted in a degree or certificate:

List extra-curricular and volunteer activities that might be relevant to future career possibilities:

Future Plans

Identify five occupational titles that might describe what you would like to be doing five to ten years from now. Choose occupations that are realistic for you:

1)

2)

3)

4)

5)

How do you plan to finance your future educational programming?

How many more years would you like to spend taking educational/vocational preparation courses?

Describe some of the features or characteristics of the work you would like to do in the future, but do not identify it by occupational titles:

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Appendix G, I-E Scale (Short Form), 106
Appendix H, WSDQ (Short Form), 107
Appendix I, MHI (Short Form), 108-110
Appendix J, PSES (Short Form), 111

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Appendix K: Career Appropriateness Ratings Form

Career Appropriateness Ratings Form

Instructions for Raters: Please use the scale below to rate this individual's degree of career appropriateness. In making your judgments, you may utilize the results of Strong-Campbell Interest Inventory and the Career Plans and Past Experiences Profile. Please circle the number that reflects your rating.

(1) Based on this individual's educational, vocational, and avocational experiences, their occupational plans are:

1	2	3	4	5	6	7	8	9
Extremely Inappropriate				Neutral				Extremely Appropriate

(2) Based on the results of the Strong Interest Inventory, this individual's occupational plans are:

1	2	3	4	5	6	7	8	9
Extremely Inappropriate				Neutral				Extremely Appropriate

(3) In general, I would rate this individual's occupational plans as:

1	2	3	4	5	6	7	8	9
Extremely Inappropriate				Neutral				Extremely Appropriate

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