Impact of Group Intervention on Problem-Solving and Self-Efficacy in Career Decision-Making

A Thesis

Submitted to the Faculty

of

Drexel University

by

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in partial fulfillment of the

requirements for the degree

of

Doctor of Philosophy

May 2005

Dedications

To Colin and Lauren,

my love and inspiration.

Acknowledgments

This academic pursuit was made possible by the many people who generously provided me with support, patience, and guidance. My utmost gratitude to Dr. Pamela Geller, who kindly agreed to serve as my dissertation chair, shortly after my advisor departed, just as my dissertation process began. Her thoughtful comments and thorough attention to detail strengthened the quality of this research; her encouragement and support were instrumental in the completion and success of my doctoral journey.

I wish to extend my appreciation to my doctoral committee, Dr. Chuck Davidshofer, Dr. David Rubinstein, Dr. Doug Chute, and Dr. James Herbert, for their time, support, and careful review of my proposal and drafts. Their diverse expertise and technical comments strengthened the integrity of this research project. Special thanks to Chuck for his wise counsel and firm support to help facilitate through this process.

I am especially thankful to Dr. Ilene Rosenstein and Jane Finkle who introduced me to the world of career counseling. Their expert knowledge and genuine joy in helping students find their career paths inspired me to conduct research in this area. I would also like to acknowledge and thank Brian O'Bruba for his time and contributions in co-leading the career groups.

My deepest and heartfelt gratitude to my family, for all their love, support, guidance, and sacrifices. I am most thankful to my mother, who always believed in me and my father, who inspired me to love what I do. Most of all, I am humbled and eternally grateful to my beloved husband and best friend, Robin, for his unconditional love, saintly patience, and unwavering support. With you, anything is possible.

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Abstract

Impact of Group Intervention
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This study was conducted to evaluate empirically the impact of career treatment group interventions on problem-solving ability and self-efficacy in career decision-making skills. It further assessed for the impact of problem-solving training as an additional component to the standard career group treatment, relative to the standard career group treatment and a control group. Seventy-six undergraduate students attending a mid-size public university in the west who were seeking career counseling were randomly assigned to one of three group conditions: the "Standard Plus group" received standard group career counseling plus problem-solving training, the "Standard group" received standard career group counseling only, and the Control group received facilitator contact only. Data was collected before treatment, immediately following treatment, and after two weeks. The results indicated that participation in career group counseling resulted in positive changes in career decision-making self-efficacy. Participants in the Standard Plus group exhibited the highest levels of self-efficacy in career decision-making and problem-solving, followed by the Standard group, with no discernible changes in the Control group. While no significant differences were observed between the groups in problem-solving ability, a significant improvement in problem-solving ability was observed for the Standard Plus Group post-treatment. Participants rated both treatment groups high in levels of satisfaction and helpfulness, with the Standard Plus group being the highest, followed by the Standard group. As expected, the

Control group reported the lowest levels of helpfulness and satisfaction. Limitations of this study and implications for future research are also discussed.

CHAPTER 1: INTRODUCTION

Career counseling is a recognized specialty area within the field of counseling psychology (Brown & Lent, 2005). It can be broadly defined as any treatment or effort intended to enhance an individual's career development or to enable the person to make better career-related decisions (Oliver & Spokane, 1988). More specifically, career interventions (also commonly referred to as career treatments) include: individual counseling, group counseling, group test interpretation, workshop, classroom instruction, computer application programs, and self-administered inventories (Whiston et al., 1998).

There are many theories of career development that have evolved over the years. Currently, however, there is very little empirically validated outcome research that exists on the use or effectiveness of career group interventions. While problem-solving training has been shown to be effective in a wide variety of areas, no research has been conducted on its effectiveness as applied to career counseling. This research study proposes to assess empirically the effectiveness of problem-solving training as a component of career counseling group intervention, relative to treatment as usual, and a control group. Specifically, this study will evaluate the effect of adding a newly developed group intervention component, namely problem-solving training, to traditional career group counseling for college students.

Problem-solving training has been shown to be effective in many other types of interventions, including the treatment of depression, anxiety, and coping with illnesses (Arean et al., 1993; Nezu, 1986). However, problem-solving training has not been traditionally incorporated as a career intervention in career counseling, even though it appears to be an inherent component of good career decision-making. Although

problem-solving has been known to be related to self-efficacy, and self-efficacy has been widely researched with respect to career decision-making, there is no published research to date that evaluates the relationship between problem-solving training and self-efficacy in career decision-making. Given that problem-solving has been effective in a wide variety of areas, it would seem logical that it could be applied to career decision-making. As a result, this study includes and assesses problem-solving training as a new component of career counseling for college students.

Before this study is introduced in detail, the historical and theoretical perspectives on career counseling that have laid the foundation for the current study will be discussed. It is important to note that most of the literature that has been published regarding career counseling has been focused primarily on the *theories* of career development; while very few career intervention outcome studies have been documented. Following the historical and theoretical perspectives of career counseling, an overview of problem-solving theory and research will be presented, followed by the rationale and methodology, the results, and the discussion of the results and implications for future studies.

CHAPTER 2: HISTORICAL AND THEORETICAL OVERVIEW

The following section will provide a historical and theoretical overview of career counseling for background information. Essentially, career theories can be considered either emotionally-based or cognitive-behavioral. The earlier career development theories were more psychodynamic in nature (e.g., the Developmental and Personality/Need theories) versus the more modern cognitive-behaviorally-based theories (e.g., Trait and Factor, Social Learning, and Cognitive Information Processing Theory). An overview of the development of career counseling theories will be provided in the following sections in order to provide a context for the current study, the focus of which is based on evaluating the effectiveness of the interventions of the cognitive-behavioral theories.

Historically, efforts to help people identify appropriate careers can be traced to the fifteenth century (Zytowski, 1972). By 1888, the first vocational guidance program had emerged in the United States at Cogswell High School in San Francisco, though, most credit Frank Parsons and his 1909 book *Choosing a Vocation* as originating the study of career development (Seligman, 1994). The theory of Career Development began with Parson when he advanced his three-step "formula" model in 1909. Essentially, his theory which prescribed helping clients maximize their levels of career satisfaction and productivity became the central objective of career counselors (Krumboltz, 1996).

Parson's Tripartite Trait and Factor Model

Initially, Parsons (1909) proposed this three-step model to match individuals with occupations, with the 3 steps consisting of: 1) self-knowledge (i.e., knowing one's own individual characteristics (e.g., aptitudes, abilities, interests, resources, limitations, and

other qualities), 2) occupational knowledge (i.e., knowing the requirements and conditions of success, as well as advantages and disadvantages, compensations, opportunities, and prospects in different lines of work), and 3) exercising what Parsons terms "true reasoning" (i.e., understanding the relationship between the two areas mentioned in the first 2 steps) (Chartrand, 1991).

Parson's tripartite model had originally grown out of a need to fill the industrial labor force with capable people who were willing to perform specific types of tasks. He believed that if this three-step process was followed correctly, this would result in improved job performance and higher job satisfaction. Parsons believed that people would be more satisfied with their careers if they actively engaged in choosing their vocations, instead of allowing chance to dominate in the job hunt process. Consequently, employers' costs would decrease, and employee's efficiency would also increase. These concepts are the cornerstones of most modern theories of career choice and development. This theory has been the predominant influence driving the behavior of career counselors and clients for almost a century. It also has been widely adopted and is still consistently used today in college career counseling settings due to its simplicity and directness (Luzzo, 2000).

In the early twentieth century, career counselors focused on the second step of Parsons' tripartite model: increasing people's understanding of the workplace. However, World War I, the Great Depression, and World War II produced a greater need to classify people in some meaningful way and place them in jobs that they could perform satisfactorily. The use of tests to measure intellectual functioning to classify recruits into positions began during World War I, which accelerated and expanded to include interests,

specific aptitudes, and personality in the 1920s. Parson's model became known as "trait and factor" theory as a result of the explosion of technology. Trait and factor theory dominated in the 1920s – 1930s. During World War II, the Trait and factor theory saw another explosion as recruits needed to get back into the workforce. After World War II ended, the influx of veterans into jobs and colleges led to an increase in the need for counseling services as well as the need for career counseling services. The use of career counseling based on Parsons's model continues today (Brown et al., 1996).

In the 1930s, E.G. Williamson's 1939 book, *How to Counsel Students* made a significant contribution to the theory of career counseling (Seligman, 1994). It was based on Parsons' trait-and-factor approach, using Williamson's approach of directive counseling which consisted of the following six steps: analysis, synthesis, diagnosis, prognosis, counseling, and follow-up. This approach consisted of the counselor taking a more directive and commanding role in the counseling of clients, placing the client a more passive position. However, this approach to counseling was challenged in the 1940s by Carl Rogers.

Although career counseling was not the focus of his work, Carl Rogers made one of the greatest impacts on the field of counseling with the publication of *Counseling and Psychotherapy* in 1942. Rogers espoused a "nondirective approach" to counseling in which the client takes the lead in the counseling process, in contrast to the directive approaches advocated by E. G. Williamson (1930) and others. Although Rogers believed that the primary goal of the counselor is to promote the client's self-confidence and self-esteem, Rogers' views did little to lessen the influence of trait and factor thinking on the practice of career counseling (Brown et al., 1996). He helped to broaden and humanize

the view of the counseling process, which paved the way for the work of Donald Super that will be discussed below (Super, 1992).

Developmental Theories

Most theorists accept the developmental nature of the process of making career plans. Even though their perspectives and emphases may vary, developers of career development theories view the developmental process as an ongoing and continuous one, extending throughout the life span. The best-known developmental theorists of career development are Ginzberg, Ginsburg, Axelrad, and Herm (1951), and Super (1992).

Parsons' model of trait and factor theory was not challenged until Ginzberg, Ginsburg, Axelrad, and Herma began a radically new psychologically based theory of career development in 1951. They proposed that career development is a lifelong, developmental process. They also suggested that career choices are characterized by compromise, and generally are irreversible, once made. (Later, in 1972, Ginzberg reversed both of these propositions). Their theory stimulated an initial flurry of research, but had relatively little impact on the practice of career counseling (Brown et al., 1996).

Super's Model

Shortly thereafter, in 1953, Donald Super published his theory of career choice and development. He based his developmental theory largely on his Career Pattern Study, which followed the development of a group of 100 males from the ninth grade until they were 21, 25, and 36 years of age to yield information on the process of career development (Super, 1985). Super and his colleagues postulated a five-stage model of career development:

Stage 1: from birth to age 14; growth (includes fantasy, interest, and capacity)

Stage 2: ages 15 - 25 years (includes 3 substages: tentative (15 years –17 years); transition (18 –21 years); trial (22 years –24 year); with reality playing an increasing role in career development with each substage.

Stage 3: ages 25 - 30 years (involves early trial and shifting);
ages 31 - 44 years (followed by stabilization).

Stage 4: ages 45 - 64 years; maintenance

Stage 5: ages 65+ years; decline (includes deceleration (ages 65-70 years)
ages 71+ years; retirement

Super (1985) emphasized the importance of self-concept in career development and viewed the expression of an occupational preference as a reflection of how people view themselves as well as an expression of their efforts to implement and actualize their self-concepts (Seligman, 1994). According to Super, career satisfaction was related to the extent to which people could find outlets for their interests, abilities, values, and personality traits and also the extent to which they could implement and actualize their self-concepts. Super's theory included components of trait and factor theory, developmental psychology, and personal construct theory, from which he derived his ideas about self-concepts, and sociological theory (Brown et al., 1996).

Super's research led him to define four common career patterns for men and seven for women. The following are types of career patterns Super defined for men:

1) *The stable career pattern.* These people seem to skip the trial work period and go directly from school into a type of work in which they have continued.

This pattern is characteristic of professionals, managers, and some skilled, semi-skilled, and clerical workers.

2) *The conventional career pattern.* These people seem to progress from initial employment through trial positions to stable employment. This pattern is most characteristic of managerial, skilled, and clerical workers.
3) *The unstable career pattern.* These people's career paths are characterized by a trial-stable-trial sequence in which establishment was delayed or inhibited by occupational change, seen most typical with semi-skilled, clerical, and domestic workers.
4) *The multiple-trial career pattern*. These people's career paths are characterized by frequent job changes with little indication of establishment. This pattern is most typical of semiskilled, clerical, and domestic workers.

Super found the following patterns to characterize women's career development:

1) *The stable homemaking career pattern.* An early marriage was anticipated and achieved with little meaningful employment experience.
2) *The conventional career pattern.* Brief employment, replaced by full-time homemaking as the primary endeavor.
3) *The stable working career pattern.* An occupation entered after leaving school that became the focus of the woman's career.
4) *The double-track career pattern.* These women sought to combine employment with homemaking. This pattern was most characteristic of women at the highest and lowest extremes of the occupational scale (i.e., least skilled and professional).

5) *The interrupted career pattern.* Employment preceded and followed a significant period of time out of the labor force for homemaking and child rearing.
6) *The unstable career pattern.* This pattern is the same for women as for men, but shifting was more likely to occur between homemaking and employment than between one job and another.
7) *The multiple-trial career pattern.* This pattern is the same as for men.

These patterns of career development have changed since the 1950s, especially for women. This reflects growth in the number of women following the "stable working" or "double-track patterns," along with the declining number following the "stable homemaking pattern." Patterns of men and women also are less disparate than they were in the 1950s, due to the growth in the number of male homemakers and the number of dual-career couples. However, these patterns still provide a useful framework for conceptualizing variations in career development and reviewing options (Seligman, 1994). These earlier patterns may be outdated due to greater gender equality, but they offer women a framework to choose from a range of career options as their goals and focus throughout life change. Even though modern career interventions are not based on these earlier patterns, they still provide a relevant career model to work from. The basis of this is found in current interventions to be investigated in this study. In fact, this developmental process in one's career development is among the myths discussed during the "Dispelling Career Myths" section (i.e., "There is only one right job for me" or "Once I enter my career or profession, I will have to work in that field forever, or at least until I retire"). (See Appendix A).

Super continually revised his theory throughout his lifetime. In 1982, Super proposed his "life-career rainbow" that involves the interaction of nine major life roles (i.e., child, student, leisure, citizen, worker, pensioner, spouse, homemaker, parent) and an integration of activities over the life span. He viewed the combination of roles, their sequence, and their changing importance for each person as instrumental in defining that person's career development (Super, 1984). He came to view the life span as a process of change with multiple decision points. Super's ideas still have considerable relevance, especially with ongoing revisions by himself and his colleagues (Brown, George-Curran, & Smith, 2003; Seligman, 1994). Thus, he has continued to be a leader in the field of career development. Super and his followers continue to have a significant impact on thinking and research related to career development but a much smaller impact on practice (Brown et al., 1996; Luzzo, 2000).

Gottfredson's Model

Gottfredson (1981) expanded on Super's emphasis as to the role of the self-concept in career development. She postulated a theory of circumscription and compromise to explain occupational goals. That is, people have self-images, including who they believe they are, who they believe they are not, and who they would like to be. They also have cognitive maps of the world of work and its occupations. Based on these two views, "People assess the compatibility of occupations with their images of who they would like to be and how much effort they are willing to exert to enter those occupations" (Gottfredson, 1981). Thus, according to Gottfredson, occupational alternatives are equal to perceptions of job-self compatibility and perceptions of job accessibility (Gottfredson,

1981, p.546). She proposed a four-stage model to describe the evolution of people's images of themselves and the world of work:

1) *Orientation to size and power.* Between ages 3 and 5 years, children begin to understand the concept of being an adult and associate power with size and adulthood, which is associated with occupational roles.
2) *Orientation to sex roles.* About the ages of 6, 7, or 8 years, most children develop a fairly rigid gender self-concept (i.e., stereotypical gender roles, e.g., teacher, homemaker, etc.).
3) *Orientation to social valuation.* Between the ages of 9 and 13 years, children become able to deal with abstractions, become aware of social class and economic factors, and develop an awareness of their own abilities and emotions.
4) *Orientation to internal, unique self.* Beginning about age 14 years, adolescents begin to sort through occupational possibilities. They eliminate those that they perceive to be inappropriate for their gender, too low in prestige, or incompatible with their social class, self-images, or the amount of effort they want to put forth to attain their occupations. Occupations that pass this initial screening then are considered in terms of their compatibility with people's perceptions of their interests, personality, values, and capacities. Finally, in late adolescence, the availability of preferred career opportunities is considered and a zone of acceptable alternatives is identified.

Compromises almost inevitably occur after people enter the working world. According to Gottfredson (1981), personal interests are typically sacrificed first, then prestige level,

and finally, gender appropriateness. In other words, criteria that achieved importance last are sacrificed first. These compromises continue until eventually, people report satisfaction with the type of work that they do (Gottfredson, 1981).

The concept of career development as a lifelong process with identifiable stages has achieved almost universal support and acceptance. Researchers also seem to accept the importance of self-concept in the process of career choice. However, there is not a consensus of which stage or factor is most salient in influencing career decision-making. Many studies have supported Gottfredson's emphasis on interests, prestige, and sex type as most salient features in career decision-making, but others have found prestige or interests to be a more important factor (Hesketh, Elmslie, & Kaldor, 1990; Leung & Plake, 1990). These factors are taken into account in this study and presented as part of the discussion of the process of career development, as well as identified within the group activities (e.g., self-assessment of personality style and work values).

Personality and Need Theories

Roe's Theory

In 1956, Anne Roe published the book *The Psychology of Occupations* proposing a "groundbreaking" theory of career development that drew general attention to the relationship between early needs and subsequent career development (Seligman, 1994). She believed that the nature of people's orientation towards others is related to the nature of the parent-child relationships they experienced. The essence of Roe's theory is that environmental factors in early childhood predisposed children to enter certain vocational groups. She hypothesized that if people came from accepting, demanding, or protective families, they would gravitate toward person-oriented occupations, whereas those who

came from neglecting, rejecting, or casual homes would prefer to work with data or tangible things (Roe, 1964). In current practice, counselors who take this personality-focused approach help individuals develop awareness and understanding of their personality style, as it relates to the working world. This involves the conceptualization of career choices and development as a function of early parent-child relationships, childhood memories, family dynamics, and the personal meaning of work and careers (Luzzo, 2000).

Although only very limited support for Roe's theory was established through research, Roe was instrumental in promoting the classification of occupations by both level and field (i.e., degree of difficulty or status, and field or type of work). Her work also focused attention on the importance of family influence and early development at a time when most career counselors tended to focus on people outside of their environmental context. Roe's theory stimulated many research studies but it never became a major force in influencing practice because it served more to stimulate academic interest than to stimulate the development of practical applications for career counselors (Roe & Lunnenborg, 1990).

In 1959, as an outgrowth of Roe's (1957) theory, John Holland developed a comprehensive theory of trait-oriented explanation of vocational choice that extended the trait and factor model of the 1930s and 1940s. He published a fuller version of his theory in 1973, and contemplated a third revision in 1995 that has not been completed. His original theory was an eight-group circumplex model that he used to illustrate the relationship between family environment and career choice. Holland's empirically based model of the relationship between personality and career choice replaced Roe's earlier

model (Zytowski, 1986). Holland (1996) accepted the developmental nature of career plans and decisions, and also viewed the childhood years as important in determining the nature of a person's career choice. Holland embraced many tenets of the trait-and-factor model, including his perception of interests and aptitudes as relatively stable and his effort to facilitate an optimal match of person and occupation.

Holland's Trait and Factory Model

Holland's theory uses six personality/interest types to describe the nature or disposition of the individual worker. It also classifies the nature of the work environments. Thus, the interaction of certain personality types with specific environments can predict and explain the behavior and interactions that occur in those settings (i.e., performance, satisfaction, stability). This person-environment fit model suggests some change and adjustment in both people and in the environments in which they work (Holland, 1992). In other words, the person may have to adjust to the new environment and there may be some accommodations that need to be made either from the person's perspective or from the work environment. The person is seen as a relatively stable entity that moves in and out of environments rationally when the fit is no longer optimal (Costa, McCrae, & Holland, 1984).

Holland's emphasis was on the role of personality. He viewed himself as taking a person-environment perspective (Holland, 1987). Holland defined six modal types, organized in a hexagonal configuration that could be used to describe both personal orientations and occupational environments. His six types of personality consist of the following:

1) *Realistic.* People who prefer to work with their hands and enjoy objective and concrete tasks, and often are mathematically oriented.
2) *Investigative*. People who are thinkers who tend to excel in academic and scientific areas, and typically are confident, intellectual, and independent.
3) *Artistic.* People who tend to be creative and original, excelling in verbal and artistic areas. They tend to be sensitive, impulsive, and introspective and prefer being alone or in small groups to being in large social gatherings.
4) *Social.* People who generally enjoy working with and helping others. Their strengths include their verbal and interpersonal skills. They tend to be sociable, cheerful, achieving, and conservative.
5) *Enterprising.* People who are people-oriented but are more concerned with dominating and persuading than with helping. They tend to be adventurous, extroverted, and sociable.
6) *Conventional*. People who tend to be concerned with social approval, and generally are conservative, conforming, and sociable. They tend to enjoy business, computational, and clerical occupations.

Although most people are not pure types, most can be characterized more by one of these personality types than they can by the other five.

Holland developed the Self-Directed Search (SDS), a widely used computer-based program in many career centers that does not involve any interactions with career counselors, but rather relies on the client to be independent in their career search using feedback from standardized assessments only. This is based on Holland's theory of the relationship between personality and career development, which can be used to help

people identify their dominant, secondary, and tertiary types. Holland hypothesized that people in similar occupations have similar developmental histories and personalities. This results from people's tendency to seek occupational environments that are consistent with their personalities. Holland further believed that people who established careers that were congruent with their personal orientations were more likely to be satisfied and successful in their work, leading to more stable careers (Holland, 1987). Research has provided support for Holland's assumptions (Kilvlighan & Shapiro, 1987; Baker & Taylor, 1998). His theory has prompted hundreds of research studies and has made a tremendous impact on practice in large part because of the instruments he developed. Overall, Holland's theory is the most influential model of career decision-making currently in existence (Brown et al., 1996; Peng & Herr, 2000).

Holland was one of the few career development theorists that had made an impact into the practice of career counseling. Career development theory generally attempts to explain factors that influence people to pursue various lines of work, but it does not necessarily explain how career counselors can intervene constructively. This issue was not addressed until John Krumboltz (1979) developed a theory of career decision- making as an application of social learning theory (Bandura, 1982).

Social Learning Theories

In addition to the Personality and Need Theories, The Social Learning Theory is important to the theory of career development. The Social Learning theory of career counseling is based on the application of Bandura's social learning theory to career decision-making (Luzzo, 2000). Bandura's social learning theory emphasizes the influence of reinforcement theory, cognitive information theory, and classical

behaviorism on human behavior. Social learning theory "assumes that people's personalities and behavioral repertoires can be explained most usefully on the basis of their unique learning experiences while still acknowledging the role played by innate and developmental processes." (Mitchell & Krumboltz, 1996, p. 234). Theories of career development heavily drew from Social Learning Theory elements of behaviorism, particularly theories of reinforcement and modeling. This study incorporates these fundamental elements in the intervention by focusing on need for discussion and group activities that provide support, specific and general career information, and group activities to positively reinforce knowledge (e.g., self-assessments of skills, interests, personality, etc) and help model new skills learning (i.e., problem-solving training). In the current section, a number of theories of career counseling are based on the Social Learning Theory, which will be presented, including Krumboltz's Learning Theory of Career Counseling and Social Learning Theory of Career Decision Making.

Krumboltz's Learning Theory of Career Counseling

Krumboltz and his colleagues (1976) drew on these theoretical assumptions in developing the learning theory of career counseling. Krumboltz (1996) believed that career theories have been largely irrelevant to practice because they have focused on career development, not counselor intervention. He proposed that the way to heal the rift between career theory and career practice is through a theory that prescribes practical career counseling. That is, to develop a model of career counseling based on career theory and career practice to help career counselors implement useful techniques and tools to counsel their clients. As a result, Krumboltz developed "The Learning Theory of Career Counseling (LTCC)." Krumboltz stated, "a theory of career counseling differs

from a theory of career development" because career development theory explains why people follow a particular career path; however, it does not explain what a career counselor can do to help people shape their own career paths. Up to this point, there had been many alternative theories of career development, but no theory of career counseling (Osipow, 1983).

Krumboltz's Learning Theory of Career Counseling (LTCC) integrated practical ideas, research, and procedures of many counselors to extend his original Social Learning Theory of Career Decision-Making (SLTCDM) (Brown et al., 1996; Luzzo, 2000). His theory incorporates both the content and process aspects of career choice. Krumboltz's learning theory of career counseling was a way of construing career-related activities so that career counselors will have a useful guide for practice. His theory grew out of a conference of career counselors in 1994 in California, designed to integrate various career development theories (Lent & Savickas, 1994). It can be conceptualized as having two parts: Part I: explains origins of career choice - Social Learning Theory of Career Decision Making (SLTCDM); Part II: explains what career counselors can do about career-related problems - Learning Theory of Career Counseling (LTCC). In other words, SLTCDM describes factors influencing individual career decisions, and LTCC describes what career counselors can do to help college students make more effective career choices.

Implicit in Krumboltz's assumptions is the need for career counselors, especially in higher education, to provide important learning experiences to students early in their college experience. These might include exposure to potential career role models (e.g., mentorship/apprenticeship programs, internships, or externships), in order to help

construct learning experiences that enhance students' career development. The resources that will be provided to participants in this study specifically emphasize these opportunities. These resources include ways to find mentors, apply for interest-related jobs and internships, etc.

Essentially, the power of learning to affect people's attitudes and behavior is not new. LTCC is derived from a contemporary version of Bandura's general social learning theory of behavior (Bandura, 1971, 1986). LTCC is based on reinforcement theory, classical behaviorism, cognitive information processing. It assumes that people's personalities and behavioral repertoires can be explained most usefully on the basis of their unique learning experiences while still acknowledging the role played by innate and developmental processes (Brown et al., 1996).

Social Learning Theory of Career Decision Making

Social Learning Theory recognizes that people are intelligent, problem-solving beings who strive to understand the environmental contingencies that surround them. In turn, they control their environments to suit their own purposes and needs. However, this may not be true for all people. For those still undecided, learning to develop and use problem-solving skills can be a vital tool. This theory proposes that there are two major types of learning experience (Bandura, 1986). The first type of learning is instrumental learning experiences. This occurs when an individual is positively or negatively reinforced or punished for exercising some behavior and for the thinking associated with it. According to the Law of Effect, people tend to repeat behaviors for which they are positively reinforced, so they can acquire more of the reinforcer. Conversely, people tend to avoid behaviors for which they feel punished. As a result, they often become more

adept at the skills involved and the behavior itself may become intrinsically interesting so that an external reinforcer is no longer required to maintain that behavior. People are engaged in instrumental learning experiences when they learn from the consequences of their own behavior (Bandura, 1977).

The second type of learning experience proposed by Social Learning Theory is "associative learning experiences" (Bandura 1971). This occurs when people associate some previously affectively neutral event or stimulus with an emotionally laden event or stimulus. The experience may be direct (e.g., being there to witness the event) or indirect (i.e., through vicarious experience). In either case, people will ascribe a positive or negative emotion to the stimulus or situation, which is derived from the events they directly associate with it.

Based on social learning theory, Krumboltz and his colleagues (1994, p. 19) have noted that people will prefer an occupation if the following three conditions apply:

1. They have succeeded at tasks they believe are like tasks performed by members of that occupation.
2. They have observed a valued model being reinforced for activities like those performed by members of that occupation.
3. A valued friend or relative stressed the occupation's advantages to them, they observed positive words and images being associated with it, or both.

Conversely, Krumboltz (1994) stated that people tend to avoid an occupation under the following three conditions:

1. They have failed at tasks they believe are similar to tasks performed by people in that occupation.
2. They have observed a valued model being punished or ignored for performing activities like those performed by members of that occupation.
3. A valued friend or relative stressed the occupation's disadvantages to them, they have observed negative words and images being associated with it, or both.

Underlying these assumptions is the suggestion for career services professionals to provide important learning experiences to students early in their college experience. It promotes programs that expose college students to potential occupational role models (e.g., mentoring programs) that can expose students to various work environments (e.g., externships or internships) that can promote learning experiences that enhance students' career development. This component of promoting mentorship and internship programs for experiential learning is highly emphasized within both treatment conditions.

The ideal theory should help counselors as well as clients understand and assess career development in order to facilitate positive and rewarding career choices (Seligman, 1994). Most research and theories on career development have followed "universal models or one-size fits-all groups approach" (Holland, 1996), based on a world of work characterized as stable, predictable, and dominated by white males (Montross, 1992). Nonetheless, a very different picture began to emerge in the late 1980s, as the demographics of the work force have changed; wherein white males will no longer be the predominant group in the workforce. The old patterns of career progress and stability are

becoming a part of history. Thus, the ways in which people think about their careers is also changing (Montross & Shinkman, 1992).

In summary, there are several theories of career counseling. It is clear that the concept of problem-solving is inherent as a component of good career decision-making among all the cognitive theories. The next section will examine the relationship between problem-solving ability and self-efficacy theory as it relates to career decision-making.

Self-Efficacy Theory

The Self-Efficacy Theory is an extension of social learning theory (Bandura, 1977) as described above. This theory delineates cognitive factors that are likely to control whether or not people develop and exercise cognitive and behavioral skills required to undertake difficult tasks (e.g., training for demanding occupations). Bandura (1986) hypothesized that people have beliefs about their own abilities ("efficacy expectancies") and beliefs about contingencies operating in the environment ("outcome expectancies"). Thus, if people believe they have or can develop skills required to train for a demanding occupation and believe that achieving such a position is likely to result in a successful outcome (e.g., personal enjoyment, productive employment). They will be likely to persevere with education, training, and job seeking. Otherwise, they are unlikely to persevere in pursuing the occupation.

Self-efficacy is a construct that describes the beliefs about one's abilities to effectively overcome personal-emotional barriers to perform a task, such as career decision-making. In other words, self-efficacy is one's belief that he or she has the ability to take on a task and be effective at completing it successfully. Similarly, the underlying ability to overcome personal-emotional barriers is problem-solving ability.

The importance of self-efficacy theory is that it recognizes that people's perceptions or beliefs about their skills, and the outcomes likely to accrue from using those skills, are better predictors of their behavior than their actual skills or the outcomes that actually exist. In essence, it is one's own beliefs in one's abilities, rather than one's true abilities, which is a better predictor of their behavior. Many books and literature reviews (Bandura, 1969, 1973, 1982, 1986) have been devoted to discussing empirical studies that support the basis of social learning and self-efficacy theory. Studies on women's self-efficacy beliefs regarding the lack of self-efficacy in their math abilities predicted avoidance of certain occupations involving math and natural sciences (Betz & Hackett, 1981). Betz (1992) described the application of Bandura's original model of self-efficacy and its application to career self-efficacy theory. In her article, she identified the four sources of efficacy information (i.e., performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion), and the consequences of perceived self-efficacy (i.e., choice – approach versus avoidance, performance, and persistence). Using this model of self-efficacy, Betz outlined ways for counselors to intervene more effectively with clients using this self-efficacy model, especially female clients, who tend to have poor self-efficacy in predominantly male-dominated fields. This highlights the importance of self-efficacy, and hence, problem-solving abilities, in the career decision making process.

Lenox and Subich (1994) extended previous literature and tested Bandura's concept of "threshold." They found that there exists a linear relationship between interest and self-efficacy. In a major review of the career self-efficacy literature, Lent and Hackett (1987) found that research findings have provided support for the argument that

"self- efficacy is significantly related to occupational choice; and that there are gender differences in self-efficacy."

Luzzo (1993) found that career decision-making self-efficacy was moderately and positively related to career decision-making attitudes and age of the participants, but it was not related to career decision-making skills. Additionally, results from Luzzo et al. (1996) study found that attributional retraining significantly increases career decision-making self-efficacy.

Mathieu et al. (1993) study concluded that women who were undecided on their occupational choice had significantly lower levels of career self-efficacy than women in the non-traditional or gender-neutral occupational preference groups. Their study disproved the idea that women who expressed a preference for non-traditional occupations would also demonstrate higher levels of career self-efficacy than women who preferred traditional occupational options.

McAuliffe (1992) suggested that low self-efficacy limits career aspirations. Rothberg et al. (1987) found that career interest and career self-efficacy expectations significantly predicted the range of perceived career options above and beyond any other dependent variables, including socioeconomic status, gender, race, career interests, or sex role orientation. Meanwhile, Scheye and Gilroy (1994, p. 244) found that nontraditional career self-efficacy (of women) was predicted by a single-sex high school and college environment with either no high school influential teacher or the choice of a male teacher, along with increased nontraditional career self-efficacy by students attending single-sex high schools and colleges, and choosing a male college influential teacher.

Solberg et al. (1994) described the four sources of efficacy information and noted how application of these sources could help individuals become more successful in the career search process. They urged career counselors to incorporate sources of efficacy into their learning experiences o facilitate enhancement of career decision-making self-efficacy, especially with individual who are at-risk for career decision-making difficulty.

The findings for Whiston's study (1996) indicated that there are family dimensions related to career indecision and career decision-making self-efficacy. For example, clients coming from family environments that are not characterized by intellectual and cultural activities tend to feel less comfortable in libraries and other occupational information settings. Furthermore, Gianaokos (1999) examined the relationship between four patterns of career choice development during later adolescence/early adulthood and career decision-making self-efficacy and found that clients whose career choice development reflected a stable or multiple trial pattern reported significantly greater levels of career decision-making self-efficacy than clients whose career choice development reflected a conventional or unstable pattern.

Finally, findings from several investigations have provided evidence that career decision-making self-efficacy is associated with career maturity, career exploration (e.g., attending career workshops, meeting with a career counselor), occupational self-efficacy, and career decidedness (Luzzo, McWhirter, & Hutcheson, 1997). The current research study is based on the findings of the literature previously discussed and addresses some of the limitations and future recommendations that were identified. The next section will examine the Cognitive Information Processing Theory as it relates to problem-solving in career decision-making.

Cognitive Information Processing Theory

This study is based on the Cognitive Information Processing Theory (CIP) which is becoming more prevalent within the realm of career counseling. CIP is a cognitive theory that provides a comprehensive approach to career problem-solving and decision-making (Peterson, Sampson, Reardon, & Lenz, 1996). Its primary purpose is to present a useful guide for the development of career problem-solving and decision-making skills by incorporating and unifying existing theories of career development. Simply, it views career problem solving from a cognitive theoretical perspective that is rooted in Parsons' tripartite model that incorporates self-knowledge, occupational knowledge, and career decision making. The CIP paradigm was initially formulated in the 1970s by Hunt (1971), Lackman, Lackman, and Butterfield (1979), and Newell (1972), which added the new perspective of focusing on the enhancement of an individual's career problem-solving skills to existing theories of career choice and practices of career counseling.

The application of CIP theory to career problem-solving and decision-making is based on four key assumptions. First, career problem solving and decision-making involve affective, as well as cognitive processes (Epstein, 1994; Larson, 1987). That is, awareness of the problem may be coupled with anxiety, confusion, or depression; analysis of the problem may bring about curiosity and puzzlement; development of options may be intriguing or fearful; evaluation of final options may bring about ambivalence; arrival at a choice may result in relief; and follow-through with a solution may be coupled with excitement and anticipation. Second, the ability for career problem-solving depends on the availability of cognitive functioning, as well as knowledge.

Third, recognition that career development involves continual growth and change in knowledge (i.e., career maturity) is also important in career problem-solving ability. Finally, the fourth assumption is that the development of career problem-solving and decision making skills is attained through the enhancement and acquisition of information processing abilities (Peterson et al., 1996). Within this CIP framework, career decision making involves five stages of information processing skills that are used in career decision making: (1) communication, (2) analysis of problem, (3) synthesis of possible courses of action (e.g., brainstorming, creating analogies, and creating mental relaxation), (4) valuing each course of action by evaluating and prioritizing, and (5) execution of devised strategy or goal (Peterson et al., 1996). In essence, these five-steps of CIP theory are steps used in problem-solving techniques. In the following section, Problem-solving Theory and its applications will be discussed.

Problem-Solving Theory

Problem solving can be defined as "the self-directed cognitive-affective-behavioral process by which a person attempts to identify or discover effective or adaptive solutions for specific problems encountered in every day living" (D'Zurilla & Nezu, 1996). Problem-solving skills are specific goal-directed tasks that must be performed in order to solve a particular problem successfully. Each task has a unique purpose or function in the problem-solving process. These tasks include defining and formulating the problem, generating a list of alternative solutions, making a decision, implementing the solution, and evaluating the solution outcome (D'Zurilla & Goldfried, 1971). In essence, problem-solving is a structured process for approaching a problem. This structured process involves: 1) identifying a particular problem that someone is

experiencing, 2) brainstorming a list of possible options to go about solving the problem, 3) picking a possible option from the list of possible solutions and testing it out, 4) evaluating the outcome of that option, and finally, 5) repeating the process, as necessary, until a desired outcome is achieved.

The major goal of Problem-Solving Therapy is to help identify and resolve current life problems that elicit maladaptive responses, while simultaneously teaching general skills to deal more effectively with future problems. It is a series of tasks in a behavioral chain, where the successful completion of each task reinforces task performance, similar to self-efficacy theory, and the general reinforcing outcome for the entire series of tasks is the determination of a solution to the problem.

Much research has been conducted applying problem-solving interventions to the treatment of depression, hopelessness, test anxiety, predicting suicidal ideation and behavior, oral contraceptive use and menstrual pain, health behaviors, and stress, among others. However, to date, very little outcome research has been conducted to systematically evaluate the effectiveness of a problem-solving approach for career counseling even though all the theorists recognize the real need to do so.

Based on the theoretical overview, it appears that cognitive theorists suggest that problem-solving ability may be an important variable in the process of career decision-making. Namely, problem-solving ability may impact the level of self-efficacy in career decision-making, thereby; increasing problem-solving ability increases self-efficacy in career decision-making, or perhaps the reverse may be true. In the next section, specific career group interventions will be discussed in application to career counseling treatment.

CHAPTER 3: OVERVIEW OF RESEARCH

Standard Career Interventions

The standard career interventions consist of a wide variety of approaches. These may consist of individual, group, and/or computer-based testing. For the purpose of this study, the focus will be on assessing standard career group interventions that are most typically used in college settings. One of the main reasons for the popularity of a group or workshop approach is that it has been shown to be more effective than an individual approach, and significantly more cost-effective (Corey, 1990). Most of the group interventions are based on the theoretical frameworks of Super, Krumboltz, Bandura, and Jung. These interventions include an emphasis on an exploration of personality style, values, needs, and skills, as well as resource gathering. Generally, the most popular practices include a standardized personality style assessment (e.g., the Myers-Briggs) and a standardized personal interest assessment (e.g., the Strong Interest Inventory) and some didactic information on how to find career-related resources in the library or on the internet (Luzzo, 1999). However, these standard interventions do not generally provide information about the *process* of career development. Most importantly, standard career interventions do not provide a necessary component to help participants learn how to identify and explore their career choices, and synthesize all of the information that is available.

Overview of Research Related to Career Interventions

Even though traditional career counseling is derived from an amalgamation of all the previously described theories, the greatest weakness lies in the lack of empirical validation for their applications. Most of the literature in the field of career counseling

has been focused on theory and development, with very few outcome studies. Much of the research that has been conducted has been focused on evaluation of career inventories and scales designed to measure theoretical constructs, not career treatment outcomes. The ones that have assessed effectiveness have been criticized for a variety of methodological weaknesses. There is general consensus among theorists and researchers regarding the need for more experimental and clinical evaluation of career interventions of all kinds particularly for more study of new interventions and comparative studies of the effects of old and new interventions (Holland, 1996, p. 8). However, due to limited funding and support for researchers in career counseling, most theories in the area of career counseling have not been formally tested in research. In "Integrating Career Theory and Practice," Holland proclaimed a need in the current research for a "redistribution of effort" to make it more useful for practitioners. His redistribution of effort included fewer studies in graduate student training and counseling processes. Instead Holland (1996) emphasized that "academics and researchers should focus more on those topics that will make a difference in the great sea of practice because society is interested in outcomes, not processes" (p. 9).

The overall effectiveness of career interventions has been widely reported anecdotally in the career counseling literature even though there have been few empirical treatment outcome studies to support these claims (Mitchell & Krumboltz, 1984; Holland, 1996). Moreover, meta-analyses of career-intervention outcome studies have criticized many of these outcome studies for their weaknesses in methodology. Among these criticisms are: lack of evaluation of basic demographic variable (e.g., age, gender, ethnicity); lack of a no-treatment control group; not enough data for calculating effect

size (Oliver & Spokane, 1988). Only twelve studies published between 1983 and 1996 met the definitions for admissible studies established by Baker and Popwicz for meta-analytic review (Baker & Taylor, 1998). During that time, of the 152 studies identified as research on career intervention outcome, only 46 studies could be used in the meta-analysis conducted by Whiston et al. (1998). Most of the studies were excluded from the meta-analysis because they did not meet the minimum requirements for comparison. Most of them (n=70) lacked a no-treatment control group, another group involved special populations (e.g., psychotherapy, physically disabled participants, and education counseling), or the studies did not contain sufficient data for calculating an effect size (n=19).

The studies in their sample involved an average of 99 participants, with an average of 1.70 treatments, and 5.27 outcomes. The treatments were provided within an average of 4.19 sessions and 7.50 hours. Although the majority of the studies used random assignment of participants to groups (52%), most of the studies did not include follow-up assessments.

As such, meta-analytic reviews of previous studies explored the relation of characteristics of career counseling interventions to career counseling outcomes (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). These meta-analyses made recommendations that included a number of pertinent implications for future research on career interventions. They suggested that using actual clients seeking career counseling and conducting pre- and post assessments of clients' objectives and expectations will enhance the measure of the effectiveness of career counseling interventions by assessing how well clients have achieved their objectives (Proehl, 1995). These meta-analyses also

recommended the use of standardized diagnostic instruments and the development of manualized treatment protocols, including random assignment of clients to control versus treatment conditions, to improve the validity of treatment outcomes (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). Moreover, studies of treatments using group interventions have also been suggested to enhance our knowledge of what type of client benefits from groups and which clients need individual career counseling (Oliver & Spokane, 1988; Whiston, Sexton, & Lasoff, 1998). The research literature also highlights that there are few studies reported that have been designed to improve group career counseling interventions for college students. It suggested a focus on structured experiences such as groups or workshops due to their cost-effectiveness, opportunity for emotional group support, and expansion of social skills, and increased opportunities for feedback from counselors as well as peers, all working towards "instillation of hope;" that is, the idea that members will receive the help that they need and that they are not alone (Proehl, 1995). Corey (1990) described, "one of the main reasons for the popularity of the group as a primary therapeutic tool in many agencies and institutions is that it is frequently more effective than the individual approach. This effectiveness stems from the fact that group members can practice their new skills both within the group and in their everyday interactions outside of it. There are practical considerations, too, such as lower cost and broader distributions of the available counselors and therapists." Additional anecdotal reasons for the popularity of group interventions include their effectiveness in disseminating information, providing motivation, teaching, practicing attitude development, promoting exploration, and general counseling purposes (Herr & Cramer, 1972).

However, most research on group interventions in career services focuses on the use of career courses and counseling groups rather than programmatic group workshops, which is the focus of this study. Similarly, past research on the effectiveness of group interventions has focused primarily on group counseling in relation to individual counseling, rather than an evaluate group interventions amongst one another.

Kivlighan (1990) provided a summary of literature on career-oriented group interventions, including the observation that such interventions emphasized self-understanding, self-disclosure, guidance, and interpersonal action, virtually ignoring the areas of catharsis, universality, and instillation of hope (Luzzo, 2000). Consequently, this study attempts to bridge this gap between theory and research.

Moreover, previous research studies also emphasized the assessment of short-term outcomes (i.e., one to six months for post-intervention assessment) since one of the most fundamental issues in career interventions is determining what to measure and at which point in time it is appropriate to do so (Brown & Lent, 1984; Osipow, 1983; Oliver & Spokane, 1983). The general consensus is to assess outcomes on a short-term basis (Oliver, 1979). The emphasis on the use of short-term post-treatment assessment is based on three factors: (1) Myers's (1971) position that it is unrealistic to expect long-term effects from short-term career counseling, (2) Katz's (1979) argument that the important outcome of career education is whether or not decision-making skills for career choice are acquired, and (3) Oliver's (1979) writing that "the longer the time since concluding the counseling, the greater the probability that factors other than the counseling experience have affected the outcome."

Career planning is a broad and complex process that is greatly affected by the general process of problem-solving. The assumption is that the way people appraise themselves affects how they think, feel, or behave (e.g., how the person solves personal problems) (Heppner, 1987; Larson, 1987). Based on Krumboltz's Social Learning Theory, career decision-making is "influenced by complex environmental factors, many of which are beyond the control of any single individual" (Krumboltz et al., 1975, p. 75). Self-concept is the outcome of the interaction of the environment and social learning history of the person. One's appraisal of one's problem-solving ability could be conceptualized as a self-observation generalization within the social learning theory model of career development. A variety of task approach skills in the career decision-making process seem to relate to problem-solving appraisal. Likewise, career decision-making processes have been conceptualized as a specific instance of problem-solving (Heppner et al., 2004). Thus, Heppner (2004) and Larson (1987) further believed that such conceptualizations suggest that problem-solving appraisal should relate to career planning and decision-making processes. One's predisposition for coping with the environment relates to how one appraises one's environment.

There have been numerous studies in the area of problem-solving and at least eleven published studies that have specifically examined the role of problem-solving appraisal in vocational behavior and career development which support the role of problem-solving in career decision-making, none of these studies were conducted with actual career counseling clients in naturally occurring settings, or involved the use of a control group, or manualized treatment protocol, there are questions as to the external validity or generalizability of their research (Heppner, 2004).

In summary, the cognitive theories in career counseling recognize that problem-solving are a significant variable in the career decision-making process. It is believed that people who have better problem-solving skills will exhibit greater levels of self-efficacy. Thus, it follows that if problem-solving skills are related to career decision-making self-efficacy, and if problem-solving components are an important part of standard career counseling treatment, then it is hypothesized that the addition of general problem-solving training would result in even greater levels of problem-solving ability and self-efficacy in career decision-making. Thus, if people are trained to use problem-solving skills, then they will demonstrate higher levels of self-efficacy in career decision-making. It is hoped that the results of this study will add further empirical support to the theories and research in the field of career development and counseling.

CHAPTER 4: RATIONALE AND HYPOTHESES FOR PRESENT STUDY

This study evaluated the effectiveness of using a problem-solving intervention as a part of a career intervention, in order to address the limitations of previous research. Based on a review of the literature, it is believed that participation in a standard career group intervention would likely improve self-efficacy in career decision-making. In addition to assessing the impact of a standard group intervention, this study also assessed the impact of adding a problem-solving intervention to the standard career group intervention. It is believed that problem-solving skills and self-efficacy are inherent in good career decision-making, and that by providing training to increase problem-solving abilities, the level of self-efficacy in career decision-making also would improve. Therefore, this study hypothesized the following:

1) If problem-solving training affects self-efficacy in career decision-making, then significant differences would be found on the CDSE scores between the three group conditions over time (i.e., increases in problem-solving ability would be reflected in increases in CDSE scores)
2) If problem-solving training is effective, then problem-solving ability would improve over time (i.e., increases in problem-solving ability would be reflected in improved problem-solving index scores).

   Thus, the Standard Plus group, which receives problem-solving training would exhibit the greatest overall improvement in problem-solving abilities and self-efficacy, followed by the Standard group, with little or no change expected in the Control group.

Moreover, it is believed that learning problem-solving skills may be particularly helpful for people with perceived barriers to career decision-making (e.g., personal, familial, societal expectations or limitations) to learn how to make an informed career decision by acquiring new knowledge and skills to help them identify and reach their desired career goals. Therefore, the rationale for conducting this study was to evaluate empirically the effect of adding a problem-solving component to a standard group intervention, relative to a standard group only intervention, and a no-treatment control group. The study assessed whether any significant changes in problem-solving and/or self-efficacy in career decision-making abilities are seen among the three group conditions.

Based on the lack of rigorous treatment outcome studies in this field, it was hoped that the results of this study would help bridge the gap between theory and practice and provide empirical validation for the effectiveness of career counseling interventions. Specifically, it was hypothesized that participants receiving the standard career intervention plus the problem-solving component would demonstrate improvements in problem-solving and self-efficacy in career decision-making abilities from pre-treatment to post-treatment. It was further hypothesized that those receiving the standard career intervention plus problem-solving would show greater improvements in these outcomes from pre-treatment to post-treatment than those receiving the standard intervention alone, or those receiving no career related treatment. It was expected that those receiving the standard intervention alone would also show improvement in these abilities from pre- to post-treatment, but to a lesser degree than those who receive the enhanced "standard

group plus" intervention. No significant changes were expected for the control group (See Figures 1 and 2 below).

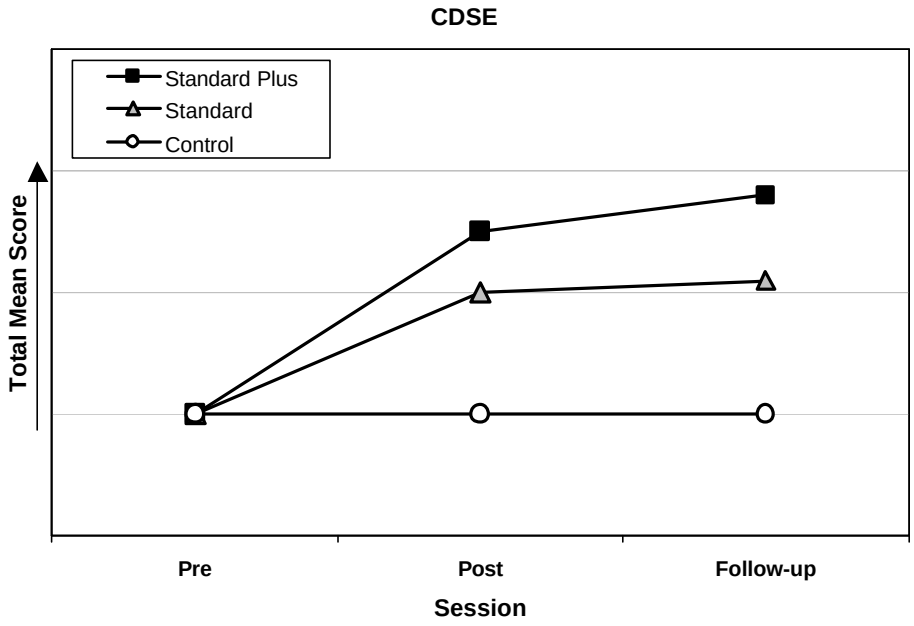

Figure 1: Predicted impact of intervention on self-efficacy.

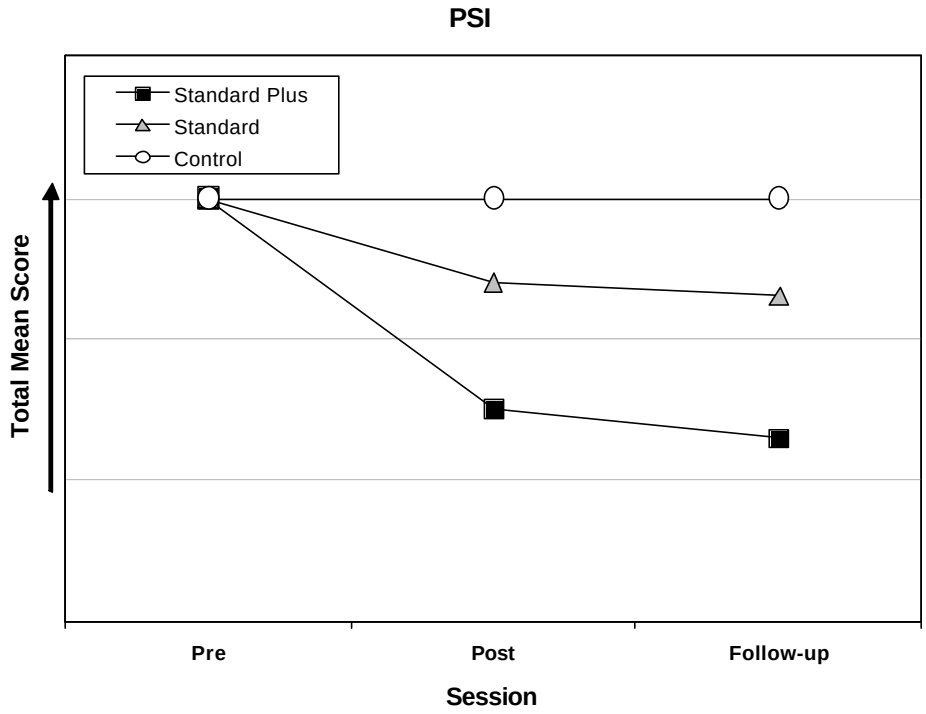

Figure 2: Predicted impact of intervention on problem-solving.

CHAPTER 5: METHOD AND PROCEDURES

Participants

Participants consisted of seventy-six undergraduate students who met the eligibility requirements for this study. Initially, ninety undergraduate and graduate students volunteered to participate, but due to scheduling conflicts, fourteen were unable to take part in this study. The remaining seventy-six students were randomly assigned to one of three group conditions as they enrolled in the study. The "Standard group" received standard career counseling only. The "Standard Plus group" received standard career counseling plus problem-solving training. The "Control group" received no direct career intervention.

Inclusion Criteria: Participants in the investigation consisted of undergraduate males and females, ages 18 or older, from all ethnic backgrounds, attending Colorado State University, a mid-size state university in the western United States. Everyone who met these criteria was included, to enhance generalizability.

Exclusion Criteria: Individuals were excluded if they appeared to be in significant distress to the researcher and were unable to stay until the completion of the workshop or if they were unwilling to participate in a randomized research study.

Group Facilitators

The group facilitators in this study consisted of a senior staff counselor from the University Counseling Center and one senior staff career counselor from the Office of Career Services at Colorado State University. The group facilitators had prior training in group therapy, including verbal and written material using the treatment manual for conducting each of the group conditions. The same group facilitators conducted all

treatment conditions to limit the sources of therapist effect. The current researcher served as one of the facilitators in the workshops.

Recruitment

Recruitment of eligible participants was conducted at least two weeks before each workshop by using campus-wide postings, email advertisements, and referrals from the University Counseling Center, the Office of Career Services, and the Office of Student Advising. Information about the workshops was publicized via campus websites and flyers. Participants were given information about the study and consent forms with the first set of measures (including demographic information, dependent measures, and self-assessments) to be completed and returned prior to participation in workshop.

Benefits provided for participation in this study consisted of career counseling services (including resource materials and self-assessment analyses). An additional incentive for participation was their inclusion in a lottery drawing for a $25 bookstore gift certificate. Participants in the no treatment control group received standard career group counseling plus the problem-solving intervention following the study, after the two-week follow-up assessment.

Measures

The self-rating measures were chosen to assess problem-solving and self-efficacy in career decision-making. Attention was given to the purpose, scope, and psychometric qualities of the measures. In addition, measures were selected from a pool of available instruments after considering their past and present use with comparable demographic groups.

Demographic Questionnaire

The Demographic Questionnaire was designed specifically for this study to obtain demographic and baseline data of relevant background information of the participants. Completion of this questionnaire occured at the time of study enrollment, before the beginning of the scheduled workshop session, but prior to random assignment. This questionnaire encompassed self-report measures of demographics (including age, gender, ethnicity, etc.). It took approximately 5-10 minutes for the participants to complete. (See Appendix D.)

Career Decision Self-Efficacy Scale (CDSE-SF; Betz, Klein, & Taylor, 1996)

The Career Decision Self-Efficacy Scale (CDSE) is a 25-item instrument that "measures an individual's degree of belief that he/she can successfully complete tasks necessary to making career decisions" (Betz & Taylor, 2001, p.8). The scale was designed for group administration to college students, and has as its foundation Bandura's concept of self-efficacy expectations (Benish, 1999). This scale was developed to provide information regarding "Self-Appraisal, Occupational Information, Goal Selection, Planning, and Problem-Solving" (Manual, p.10). The 25-item short form scale was developed from the longer version, a 50-item scale (Taylor & Betz, 1983), as a research tool for ease in the length of administration, while maintaining the same five-factor structure as the longer-version CDMSE. Subjects respond to each statement by indicating their agreement with the statement on a 10-point Likert scale of 0 (No Confidence) to 9 (Complete Confidence), to indicate their perceived ability to accomplish each task. Scores for each subscale are obtained by summing responses to the 10 items; a

maximum score is 45. Summing the subscale scores yields an overall CDSE score; the maximum overall score is 225. Higher scores indicate higher levels of self-efficacy in career decision-making.

The internal consistency coefficient for the total scale score of the CDSE-SF is .94, comparable to the total scale score alpha value of .97 for the original CDMSE (Taylor and Betz, 1996). Principal components analysis with orthogonal rotation was used to factor analyze the CDSE-SF. Five factors had eigen values greater than 1.0 and the five-factor solution accounted for 62% of the total variance (Kraus and Hughey, 1999). Alpha coefficients for the five subscales of the CDSE-SF ranged from .73 (Self-Appraisal), .75 (Problem-Solving, .78 (Occupational Information), .81 (Planning), to .83 (Goal Selection; Betz et al., 1996. A test-retest reliability coefficient at six months was reported to be .83 (Betz & Taylor, 2001). (See Appendix E.)

Problem-Solving Inventory (PSI, Heppner, 1988; Heppner & Petersen, 1982)

The Problem-Solving Inventory consists of a 32-item, 6-point Likert-style self-report inventory that measures self-perceived problem-solving skills. It was designed to assess the extent to which individuals comprehend and use general problem-solving techniques. The PSI has a total score (i.e., sum of three factor scores), which has been widely used in over 100 investigations and has been referred to be one of the most widely used self-report inventories in problem-solving and replicated across samples and populations in the United States as well as internationally (Heppner, 1988). The three PSI factors derived from a previous factor analysis (Heppner & Petersen, 1982): Problem-Solving Confidence (PSC), Approach-Avoidance Style (AAS), and Personal Control (PC). Higher scores indicate a lack of problem-solving confidence, an avoidant

problem-solving style, and absence of personal control. The Problem-Solving Confidence factor is comprised of 11 items, the Approach-Avoidance Style factor is comprised of 16 items, and the degree of Personal Control of emotions and behaviors factor is comprised of 5 items. A total score is also obtained by summing the scores on the three scales. Each item statement is rated on a Likert scale that ranges from 1 (Strongly Agree) to 6 (Strongly Disagree). There are approximately equal numbers of positively and negatively worded items in the inventory to prevent overrater or underrater response bias. Administration time is approximately 10 minutes.

The PSI has been shown to be statistically reliable and estimates of internal consistency and stability over a 2-week period (N=31) for the total inventory was .90 and .89, respectively (Heppner et al. 2004). A wide range of validity estimates from more than 150 investigations has been provided (Heppner, 1988). Test-retest reliability measures for the three scales and the Total PSI score range from .83 to .89 across 2 weeks, from .44 to .65 for a third sample tested after a 2-year period (Camp, 1999). Additionally, PSI scores have been found to be significantly correlated with observational ratings of problem-solving behavioral competence (Heppner et al., 1982) and unrelated to social desirability factors (Heppner & Peterson, 1982). Finally, empirical data suggest that counselor interventions can improve problem-solving abilities, as reflected on raised scores on the Problem Solving Inventory that relate to improved career decision-making ability (Lee, et al., 2001). They reported that career counseling results in comparable levels of improvements in Problem Solving Inventory scores compared to client participation in interventions specifically tailored to improve problem-solving appraisal. (See Appendix F.)

Post-Workshop Questionnaire

The Post-Workshop Questionnaire, designed specifically for this study, allowed participants an opportunity to provide feedback on the effectiveness of the workshop. It included items to assess for any perceptual changes related to career decision-making as a result of participation in the workshop. Sample questions include: "Were your expectations for these workshops met?" and "How helpful were these career exploration workshops for you?" The questions were evaluated on a Likert scale of 1=Low through 5=High. Administration time was between 5 to 10 minutes. This questionnaire was completed at the end of the workshop. (See Appendix G).

Follow-up Questionnaire

The Follow-up Questionnaire, also designed specifically for this study, provided an opportunity to assess the effects of the workshop program. It included specific items that assess for any cognitive, emotional, or behavioral changes related to career decision-making as a result of the participation in the workshop. Sample questions include: "In the past two weeks, how many times have you discussed your career goals with family?" and "In looking back, how helpful were these career exploration workshops for you?" Administration time was designed to be between 5 to 10 minutes. This questionnaire was administered to the participants two weeks after the workshop. (See Appendix H).

Procedure

Students expressing interest in career counseling as a result of responding to advertisements or referrals from University agencies were given an oral and written overview of the study. This included informed consent for voluntary participation in the

study, explanation of eligibility, and a brief overview of the study, including date, time, location, and length of time for participation. Those who were not interested in participating in this research study were referred for individual career counseling services.

Participants were randomly assigned to one of three group conditions as they enrolled in the study. The seventy-six participants who met criteria were randomly assigned to one of three group conditions: 1) Standard Plus group, which received standard career counseling plus problem-solving training, 2) Standard group, which received standard career counseling only, or 3) Control group, which received no direct career intervention except some interaction with the researcher while watching a popular movie with career-related themes. Each of these conditions is detailed below.

Once participants were assigned to a group, they were instructed on a particular date, time, and location of the workshop located in the Career Center. The group facilitators greeted each participant when they met with the other participants at the start of the workshop. Each group was started at the designated starting time and lasted for approximately 3 hours. To maintain an equivalent length of treatment time in both of the treatment conditions, the Standard Plus group included 20 minutes for problem-solving training while that time was applied towards each participant providing additional background information during introductions in the Standard group.

All participants who agreed to be in the study were given a packet of pre-assessment measures when they registered for the workshops. These materials included: 1) the Demographic Questionnaire; 2) the Problem-Solving Inventory, and 3) the Career Decision Self-Efficacy Scale, along with worksheets for workshop activities (see

Appendix I). All participants were instructed to complete and return these materials at least 3 days before the workshop. A phone call follow-up was given if they had not returned the materials by this deadline. Participants who did not return their packet of materials by the deadline, but still showed up for the workshop, were still eligible to participate in the workshop, but their data was not used since they did not provide baseline data and did not receive all of their career assessment information at the workshop (e.g., 16PF and Strong Interest Inventory).

At the beginning of all the workshop sessions, all self-report instruments were explained to the participants by the group facilitator. Participants were allowed to keep all notes and printed materials. The group facilitators were available during the workshops to address any questions and/or concerns posed by the participants. Copies of the assessments and worksheets can be found in the Appendices D through I.

The Pre-assessment packet included:

1) Demographic Questionnaire
2) Problem-Solving Inventory
3) Career Decision Self-Efficacy Scale

The Post-assessment packet included:

1) Post-Workshop Questionnaire
2) Problem-Solving Inventory
3) Career Decision Self-Efficacy Scale

The 2-Week Follow-up packet included:

1) Follow-Up Questionnaire

2) Problem-Solving Inventory

3) Career Decision Self-Efficacy Scale

(See Appendix C for a schedule of the assessments.)

The order in which the measures appeared in the packets was kept uniform, although Luzzo (1993) found no significant effects in the data by counterbalancing the order of the career-related measures presented. All self-report instruments were explained to the participants by the group facilitator. A group facilitator was available during the workshops to address any questions and/or concerns that participants may have had.

In addition to the standardized measures to evaluate the effectiveness of these groups, all participants in the "Standard Group" and "Standard Group Plus" were also asked to complete career group activities, including standardized measures of work interests (Strong Interest Inventory), personality style (16PF), and non-standardized measures of work abilities, work values, hobbies/interests, best accomplishments, and career fantasies. Participants completed all of these career activities after registration and prior to attending the workshop. (Detailed descriptions of each of these activities can be found in Appendix I.)

At the end of the workshop, participants were given a packet of post-treatment assessments to be completed and returned before they left the workshop. These assessments included: 1) Problem-Solving Inventory, 2) Career Decision Self-Efficacy

Scale, and 3) Post-Workshop Questionnaire. These assessments took between 15-20 minutes to complete. In addition, they were permitted to keep all notes and written materials, including worksheets and "homework" assignments which contained information such as listings of their goal(s) for the workshops, identification of their "problem" or roadblock in their decision-making process (e.g., self, family pressure, social, peer pressure, etc.), and their on-going personal journals about their thoughts and feelings about this career exploration process. These "homework" assignments (in the Standard Group Plus) were suggested as post-intervention activities and did not have to be returned for evaluation.

Two weeks following each workshop, participants were contacted by phone and/or email and provided with materials to complete a 2-week follow-up assessment. The 2-week follow-up assessments included: 1) Problem-Solving Inventory, 2) Career Decision Self-Efficacy Scale, and 3) Follow-Up Questionnaire. These assessments were designed to take between 20-25 minutes to complete. After the follow-up was completed, one participant was randomly chosen and notified via email to receive a $25 gift certificate to the University Bookstore as an additional incentive for participating in the study.

Standard Plus Group Condition

In the Standard Plus group (problem-solving) condition, participants were given all the components of the Standard group, as described above, plus a newly developed problem-solving component. In addition to the standard career group counseling components, participants in the Standard Plus group received an overview, rationale and training in problem-solving strategies. A PowerPoint presentation and discussion of the

general principles of problem-solving was used to help participants apply the principles of problem-solving to their process of career decision-making. (See Appendix B.)

The use of problem-solving strategies was presented as a way to help participants achieve their goal (e.g., increasing self-knowledge, career or academic decision-making, or confirmation of a career or academic decision). This was presented as a method that would allow them to maximize their positive consequences and minimize negative consequences, as opposed to other styles of decision-making such as avoidant, agonizing, fatalistic, impulsive, intuitive, or compliant. The facilitator explained how to approach the task of solving their "problem" of choosing a career or academic major by setting personal goals using this systematic problem-solving technique. The goal was to help participants learn to think and act systematically as a personal scientist in order to "solve" or identify obstacles in their career decision-making process. There was also a discussion of the components of problem-solving such as (1) assessing the problem and their problem orientation (i.e., how they view the world), (2) assessing their behavioral response style, (3) brainstorming or generating alternative solutions (w/o attaching any value judgments initially), and (4) identifying any roadblocks or barriers to achieving their goals. The facilitator helped normalize participants' apprehension or confusion about the process of career problem-solving and decision-making; uncertainty about self-knowledge and occupational knowledge; pressure from parents and peers to make a choice; and anxiety about the necessity of making the "right" career choice early in life.

In addition, participants were asked to hand in any questions they may have had at the beginning of the workshop. The facilitator reviewed these written questions and addressed them at the end of the workshop. This enabled those participants who were

more introverted and less likely to volunteer information in an open group format to have some of their specific questions answered by a trained facilitator. In turn, this also helped improve the facilitator's awareness of specific members' needs, and served as a mechanism to identify participants who were in need of individual counseling. This method attempted to optimize the benefits of a group format with an opportunity for some attention to the individual needs of each group member.

Standard Group Condition

The components of the Standard group consisted of consent to participate in the study, an introduction of the career development process, a discussion of the group agreement, dispelling common career myths, an interpretation of standardized personality and career interest inventories, and self-awareness exercises using worksheets to assess for career skills, values, accomplishments, etc. The full treatment manual can be found in Appendix A.

The last half-hour of the workshop was devoted to a discussion and tour of the Office of Career Services resources to help participants become more familiar with other career resources and tools available to them. These resources included written materials from the career library, Internet resources, internship and job postings, and networking opportunities.

Control Group Condition

In the Control group, participants watched a movie with career-related themes and discussed their reactions in a group discussion led by the facilitator. This was intended to provide some contact with the therapist, to assess for any therapist contact effects, without any intended career intervention involved. When participants asked the

facilitator pointed questions about the preliminary measures that they completed, the facilitator stated that their questions would be answered at the completion of the study, due to protocol procedures. After the two-week follow-up, participants in the Control group condition were debriefed and given the opportunity to receive the Standard Plus treatment.

Treatment Integrity

Attempts were made to minimize experimenter and participants' treatment biases. Evaluation of treatment integrity was conducted using randomized checks of audio taped sessions. A pair of trained raters, who were experimentally blind to conditions, independently rated tapes of each treatment condition. The raters completed a treatment integrity checklist to assess adherence to the treatment protocol. Adherence to treatment content and session goals was assessed.

Facilitator Training

Facilitator training was conducted by the researcher using the Treatment Manuals. The same two group facilitators (a male and female) conducted groups across all three conditions in order to minimize effects of any researcher or gender biases. In addition, this attempted to allow for both gender role modeling. The group facilitators consisted of one person from the University Counseling Center with at least 3 years of Master's level general counseling experience, and one person from the Career Center with at least 3 years of Master's level career counseling experience. Training consisted of oral instruction from the researcher and reading treatment manuals at home followed by discussion with the researcher. Each group facilitator practiced the protocol in front of

one another until they were both comfortable with their performance, before they conducted the actual workshops.

Data Analysis

Data was analyzed using SPSS for Windows and SAS statistical programs. All valid data was included. Scores on the CDSE and PSI were collected at three time intervals: pre-, post- and two-week follow-up. The treatment condition was the independent variable and the scores on the PSI and CDSE during each time of assessment (i.e., Pre-, Post-, and Follow-up) were the dependent variables.

Initially, a preliminary descriptive analysis was conducted for all demographic information (including age, gender, and ethnicity). Frequencies, means, and percentages were reported for all demographic information. A 3 (Group) X 2 (Time) Analysis of Covariance (ANCOVA) controlling for baseline pre-test scores from the CDSE and a 3 (Group) X 2 (Time) Analysis of Variance (ANOVA) was conducted for the PSI, and workshop questionnaires. Interaction effects were evaluated between the Pre-, Post-, and Follow-up data. The hypothesis was that if the addition of the problem-solving training in the Standard Plus group made an impact, there would be significant differences found on the CDSE and PSI scores between the three group conditions. When significant interaction effects were found, Tukey post hoc tests were used to determine any simple effects (or differences which exist between the three group conditions at the time of assessment).

Table 1: Research data design - 3 X 2 Mixed Factorial.

CDSE			
Group Condition	Pre-	Post-	Follow-Up
Std. Plus			
Std.			
Control			

PSI			
Group condition	Pre-	Post-	Follow-Up
Std. Plus			
Std.			
Control			

The assumption was that all groups would be the same at time Time 1, with some respective improvement shown at Time 2 and Time 3 (for the treatment groups only).

Treatment Effects

Means and standard deviations are reported across treatment and follow-up. To determine whether significant differences between the two group conditions exist at Pre-, Post- and Follow-up times. With at least 25 participants in each condition, this provided 80% statistical power with a medium effect size.

Attrition Rates

To manage potential attrition, the study recruited a large number of participants in each group (e.g., n=30) in an attempt to maintain enough participants (N=75) to have the statistical power to adequately analyze the data and detect group differences. Reason(s) for deciding to leave the program and differential rates of attrition by treatment group were monitored by the facilitator to assess for any trends in attrition due to demographics or group conditions. Attempts were made to minimize attrition rates; however, due to the nature of conducting research in a naturalistic setting, some attrition was expected. Out of the seventy-six participants that completed the pre- and post-assessments, only 46 completed the two-week follow-up; thirty participants did not. The main reason that

participants gave for not being able to attend the two-week follow-up was scheduling conflicts.

CHAPTER 6: RESULTS

Participants

Initially, ninety undergraduate and graduate students who met the eligibility requirements of this study volunteered to participate, but due to scheduling conflicts, fourteen were unable to take part in this study. The remaining seventy-six students were randomly assigned to one of three group conditions as they enrolled in the study: 1) "Standard group," which received standard career counseling only, 2) "Standard Plus group," which received standard career counseling plus problem-solving training, or 3) "Control group" which received no direct career intervention. All seventy-six participants completed the pre-assessments and post-assessments and forty-six participants completed the 2-week follow-up assessment.

Fidelity checks

To ascertain facilitators' adherence to treatment protocols, sessions were audiotaped. A pair of trained raters, graduate-level students, who were experimentally blind to conditions, independently rated all tapes. Raters received one hour of training, during which they received verbal and written descriptions of treatments and reviewed each session. Raters indicated whether the tape reflected Standard Plus, Standard, or Control group conditions and the degree of certainty in their rating on an eleven-point scale (0 = very uncertain, 10 = very certain). Raters correctly identified the treatment condition on all three tapes, and were also highly certain about their ratings (*M*s and *SD*s = 10.0 and 0 for the Standard Plus treatment, 9.5 and 0.7 for the Standard treatment, and 10.0 and 0 for the Control). The results of the manipulation check indicated that there were discernable differences among the three group treatment conditions. In addition, the

raters also assessed for the level of energy and the clarity of instructions as delivered by the facilitators using a similar eleven-point scale (0 = low energy/clarity, 10 = high energy/clarity). There were no discernible differences found in the levels of energy (*M*s and *SD*s = 8.5 and 0.7 for the Standard Plus treatment, 8.5 and 0.7 for the Standard treatment, and 8.5 and 0.7 for the Control) and clarity (*M*s and *SD*s = 9.0 and 0 for the Standard Plus treatment, 9.5 and 0.7 for the Standard treatment, and 8.5 and 0.7 for the Control) of the three treatment conditions. These results indicated that group facilitators adhered to the manualized treatment protocols and implemented them in a credible, high quality manner.

Analyses

A 3 (Group) X 2 (Time) repeated measures Analysis of Covariance (ANCOVA) and a 3 (Group) X 2 (Time) repeated measures Analysis of Variance (ANOVA) were computed on self-report measures for the 76 participants with sufficient data who completed treatment. The Career Decision-Making Self-Efficacy Scale (CDSE) and the Problem-Solving Inventory (PSI) were used as dependent variables in the ANCOVA and ANOVA analyses, respectively.

Initial t-tests were conducted and revealed significant differences in the pre-treatment self-report measures on the CDSE; therefore, the ANCOVA examined the post-treatment and follow-up assessments with the pre-test scores on the CDSE as covariates, as recommended by Behar and Borkovec (2003). Missing follow-up data for completers were replaced with the group mean at that time point. In order to ascertain whether the assumptions of homogeneity of variance and normality of distribution were adequately met for use on an analysis of variance test, frequency distributions of the dependent

measure were graphed. The resulting distributions did not deviate markedly from the expected normal distribution.

Descriptive Statistics

Descriptive analyses were conducted on age, gender, and ethnicity. The ages of the participants ranged from 18 to 50 years (M=22.83, SD=5). There were 57 females (75%) and 29 males (25%) who participated. The distribution of ethnicity among the participants was reflective of the university population and is as follows: 80% Anglo/White, 10% Hispanic/Latino, 7% Asian/Pacific Islander, and 3% Black/African-American (see Table 2). The vast majority of the participants in this study indicated that they were undecided about their career choice. Participants were randomized; t-tests by treatment groups found no significant differences within or between the three group conditions.

Table 2: Ethnicity of participants.

Ethnicity	**Frequency**	**Percent**
Anglo/White	61	80%
Asian/Pac. Islander	5	7%
Black/African-American	2	3%
Hispanic/Latino	8	10%

Hypothesis 1

Hypothesis 1 dealt with the predicted relationship between problem-solving training and self-efficacy in career decision-making. This hypothesis predicted that if problem-solving training affects self-efficacy in career decision-making, then significant differences would be found on the CDSE scores between the three group conditions over time. In other words, increases in problem-solving ability would be reflected in increases

in CDSE score, since problem-solving is one of the primary components of self-efficacy in career decision-making.

Career Decision Self-Efficacy

The CDSE total mean scores and standard deviations for Pre-, Post-, and Follow-up assessments for the three group conditions are presented in Table 3 and illustrated in Figure 3.

Table 3: Means and standard deviations of CDSE scores.

	CDSE								
	Pre-Treatment			**Post-Treatment**			**Follow-Up**		
Group Condition	N	M	SD	N	M	SD	N	M	SD
CONTROL	26	86.8	16.3	26	91	16.1	15	85.4	14.7
STD	25	87.8	16.0	25	96.0	14.6	14	97.1	13.8
STD PLUS	25	91.4	15.3	25	101.3	11.3	17	103.3	8.7

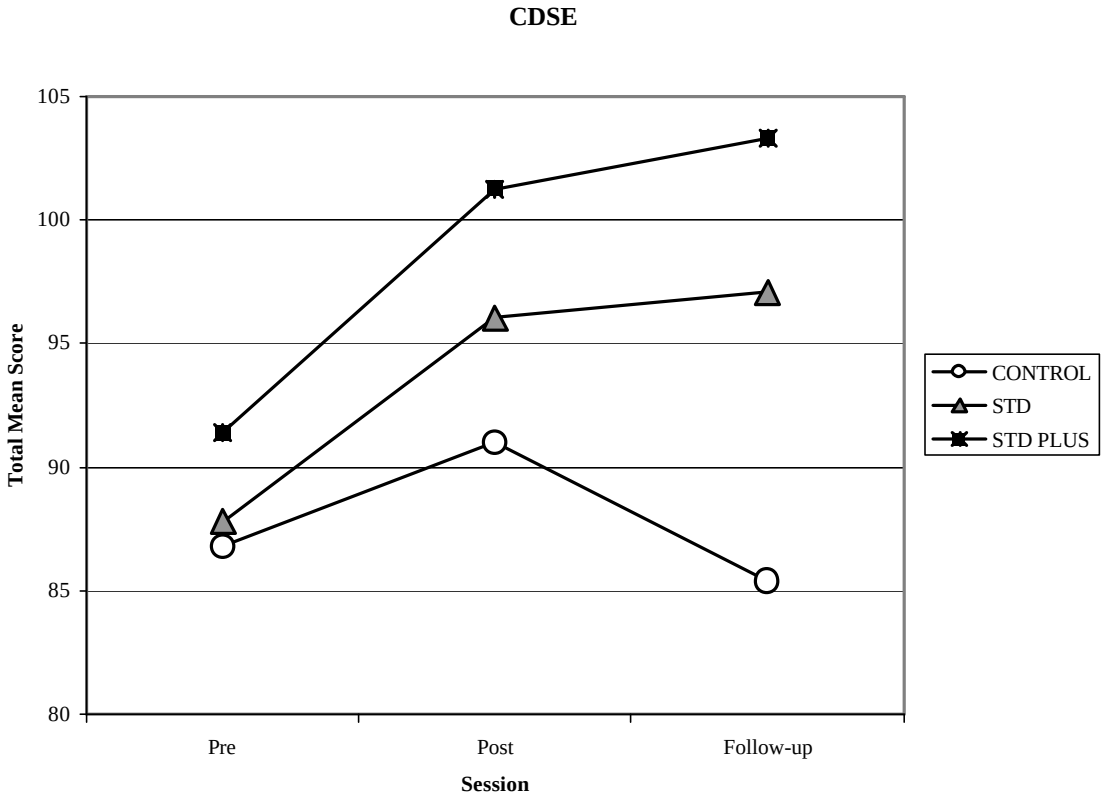

Figure 3: Mean total scores of CDSE between groups.

The ANCOVA on the CDSE total scores revealed significant Group effects, $F(2, 71) = 6.46$, $p < .01$; $d = .50$ (i.e., significant differences were found between the Control and Treatment groups in their CDSE total scores). The variable of Time also had a significant effect, $F(1, 43) = 4.97$, $p < .05$; $d = .07$ (i.e., significant differences were observed in CDSE total scores over time irrespective of group affiliation). These main effects were qualified by a significant Group X Time interaction, $F(2, 43) = 4.13$, $p = .05$.

Due to significant differences among groups, Post-hoc analyses using Tukey's HSD were conducted. While significant differences were observed when comparing the scores between groups over time, the change over time of the mean CDSE scores was not equal for all groups. It is important to note that while both treatment groups improved

their CDSE scores, the Control group did not ($p > .05$). Significant group differences were found between the Standard group and the Control group, $t(71) = -3.55$, $p < .05$, as well as the Standard Plus group and the Control group, $t(71) = -2.24$, $p < .05$. This indicated that both treatment groups (Standard and Standard Plus) resulted in increased CDSE scores over time, while CDSE scores in the no treatment Control group remained constant.

Additional post-hoc analyses evaluated the total change over Time within Groups. Significant differences were found between the Standard and Standard Plus groups at Post-assessment and at Follow-up, $t(43) = 2.13$, $p < .05$. At post-treatment, both the Standard and Standard Plus groups scored significantly higher than the Control group, $t(43) = -2.61$, $p < .05$ and $t(43) = 2.01$, $p = .05$, respectively. Additionally, at follow-up the Standard and Standard Plus groups scored significantly higher than the Control group, , $t(43) = -4.08$, $p < .05$ and $t(43) = -2.23$, $p < .05$, respectively.

Hypothesis 2

Hypothesis 2 predicted that if problem-solving training were effective, then problem-solving ability would improve over time. The assumption was that if all three groups were comprised of participants with equal problem-solving ability at the start of the study and problem-solving training increased problem-solving ability, then there would be differences in PSI scores reflected between the groups.

It was further hypothesized that the Standard Plus Treatment group would exhibit the greatest improvement in PSI scores, followed by the Standard Treatment group, with little or no change expected in the Control group. This was based on the assumption that the Standard Treatment group would still receive information and knowledge on which to

base their career decisions, while the Control group would receive no such information or instruction. Individuals in the Standard Plus Treatment group received all the information that the Standard Treatment group received, as well as the additional problem-solving training.

Problem-Solving Ability

The PSI is a measure of problem-solving ability, and scores on the PSI are negatively correlated with problem-solving ability. That is, the lower the PSI scores, the greater the problem-solving ability. The PSI total mean scores and standard deviations for Pre-, Post-, and Follow-up assessments for the three group conditions are presented in Table 4, and the PSI total mean scores are illustrated in Figure 4.

Table 4: Means and standard deviations of PSI scores.

	PSI								
	Pre-Treatment			**Post-Treatment**			**Follow-Up**		
Group Condition	N	M	SD	N	M	SD	N	M	SD
CONTROL	26	82.1	20.0	26	80.3	21.0	15	82.0	15.8
STD	25	87.8	21.4	25	86.0	20.2	14	82.3	20.2
STD PLUS	25	86.1	17.2	25	82.3	19.3	17	79.7	17.2

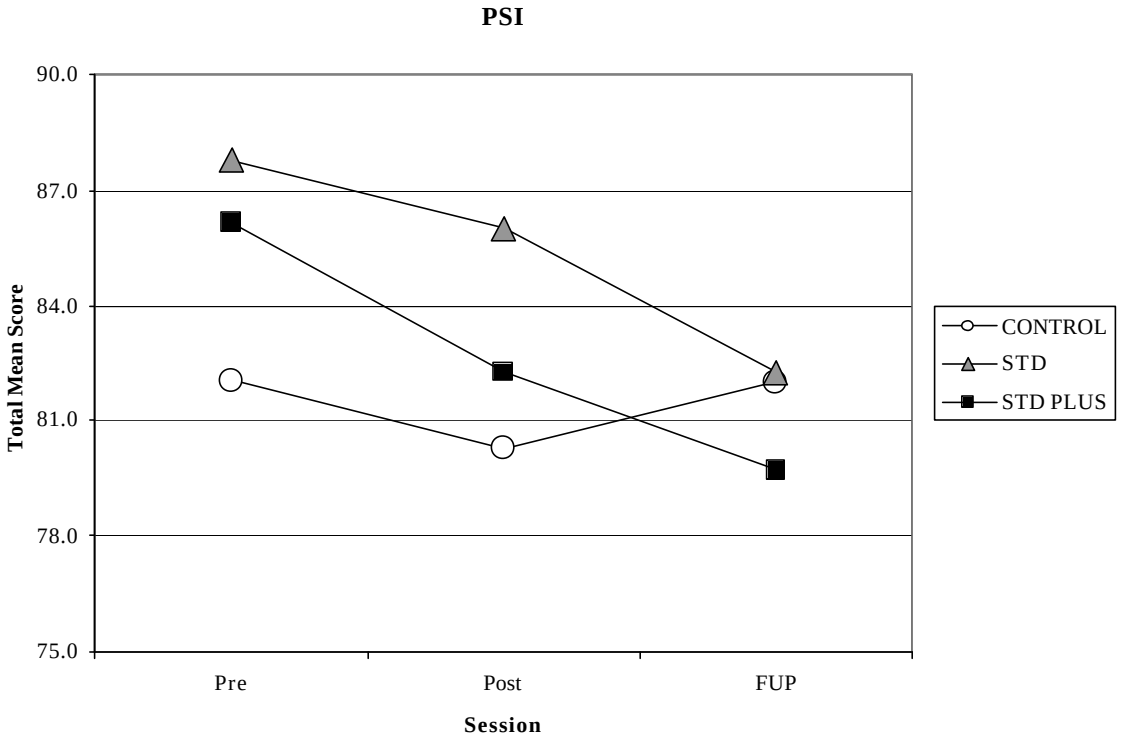

Figure 4: Mean total PSI scores between groups.

The Repeated Measures ANOVA on the PSI total scores did not reveal a significant Group effect, $p>.05$. The variable of Time had a significant effect, $F(1, 43) = 4.28$, $p < .05$, $d = 0.04$ (i.e., significant changes were observed in PSI total scores over time irrespective of group affiliation). This was not qualified by an interaction of Group X Time, $p > .05$.

As a main effect of Time was found, Post-hoc analyses using Tukey's HSD were conducted. Post-hoc analyses evaluated the total change over Time within Groups. Significant differences were found within the Standard group between Post- and Follow-up assessment, $t(43) = 0.10$, $p < .05$. In summary, both treatment groups appeared to show improvements over time in their problem-solving ability. Significant differences were found over time for the Standard group. Even though no significant changes over time

were found for the Standard Plus group, the means were in the expected direction (*M*s and *SD*s =. 85.9 and 20.4). As predicted, the Control group scores remained relatively constant over time.

Workshop Questionnaires

Workshop questionnaires were specifically designed for this study to evaluate the participants' level of conflict regarding career decision-making and to gather feedback on the helpfulness of the treatment and their level of satisfaction with the workshops. A 3 X 2 ANOVA (Group X Time) mixed factorial design was conducted for between and within-subjects using data from the scores of the workshop questionnaires. Participants were asked specifically if they were in conflict with anyone in making their career decision, and if yes, with whom. In addition, they were asked to rate how much conflict he/she was in at the time about his/her career decision from the level of no conflict, medium conflict, or high conflict.

While no significant group or time effects were found for the participants' level of conflict (Table 5), it may have been helpful to increase the participants' level of conflict or cognitive dissonance in order to motivate and encourage participants to seek out more information and resources. This motivational intervention may be most helpful in generating a positive change. Similar strategies of increasing dissonance or ambivalence can be found within the substance abuse literature and treatment (Fisher 2009).

According to the Cognitive Model of Addiction (Marlatt, 1985), there are four cognitive processes related to addictions which include: self-efficacy, outcome expectancies, attributions of causality, and decision-making processes. Within that model, the cognitive dissonance that a substance abuser may experience after breaking a

rule of abstinence occurs when an individual identifies her- or himself as an abstainer, while at the same time experiencing thoughts and urges to use alcohol or other drugs. Turning negative emotions cased by the cognitive dissonance and attributions can be used to prevent the progression of a lapse into a full-blown relapse and allow for new learning and renewed commitment to abstinence (Fisher, 2009). In essence, cognitive dissonance can serve as a catalyst for positive outcomes, in both the treatment of substance abuse and career decision-making.

Table 5: Means and standard deviations of conflict levels between groups.

	Conflict Level (1 = low to 5 = high)					
	Pre-Treatment			**Post-Treatment**		
Group Condition	N	M	SD	N	M	SD
CONTROL	26	2.7	1.3	26	2.6	1.4
STD	23	2.4	1.3	24	2.5	1.3
STD PLUS	25	2.5	0.8	25	2.3	0.9

Significant group and time effects were found for the participants' rating of the level of helpfulness of the workshops. There was a significant decrease in the level of helpfulness found for the Control group between the Pre- and Post-treatments, $p<.01$ (Table 6). No significant differences were found between the Standard Plus and Standard groups. However, significant differences were found between the Control group and the treatment groups, $p<.01$.

Table 6: Means and standard deviations of reported helpfulness of treatment.

	Expected Helpfulness (1 = low to 5 = high)			**Perceived Helpfulness** (1 = low to 5 = high)		
	Pre-Treatment			**Post-Treatment**		
Group Condition	N	M	SD	N	M	SD
CONTROL	26	3.4	0.6	26	2.2	0.7
STD	24	3.4	0.7	24	3.4	1.0
STD PLUS	25	3.6	0.7	25	4.0	0.8

Significant group effects were found for the participants' level of workshop satisfaction at Post-treatment. Significant differences were found between the Control group and the treatment groups, $p<.01$.

Table 7: Means and standard deviations of treatment satisfaction levels.

	Treatment Satisfaction (1 = low to 5 = high)		
	Post-Treatment		
Group Condition	N	M	SD
CONTROL	26	2.4	1.0
STD	24	3.8	0.9
STD PLUS	25	4.3	0.6

CHAPTER 7: DISCUSSION

The primary purpose of this study was to evaluate empirically the effectiveness of adding a problem-solving component to career group counseling, relative to a standard treatment procedure, and to address some of the limitations of previous studies of career counseling interventions. The results indicated that there was a positive impact of career group treatments on career decision-making self-efficacy of college students. While the results of this study did not indicate a significant difference between the three groups in terms of problem-solving ability, a significant improvement in problem solving ability was found for the Standard Plus treatment group over time.

Hypothesis 1

The results indicated that the two treatment groups that received career interventions (Standard Plus and Standard groups) increased in career decision-making self-efficacy, while the Control group remained constant, as reflected in their CDSE scores. As predicted, both group treatments had a positive impact on increasing career decision-making self-efficacy over no treatment. Furthermore, at the two-week follow-up, there was a significantly greater gain in CDSE scores for the Standard Plus group over the Standard group. These findings provide support for the hypothesis that the addition of problem-solving training has a positive effect on career decision-making self-efficacy.

While statistically significant differences were not observed between the Standard Plus and Standard groups at post-treatment, there were differences in their mean scores. The Standard Plus group had an average mean of 101.3 and the Standard group had an average mean of 96.0. In addition, between pre- and post-treatment, the Standard Plus

group increased an average of 9.9 points and the Standard group increased an average of 8.2 points. Although the Standard Plus group and the Standard group scores did not differ significantly from one another at post-treatment, their increases in scores indicated a positive trend in support of Hypothesis 1.

Possible explanations for why statistically significant differences were not found at post-treatment between the two treatment groups are as follows: 1) there may not have been enough problem-solving training, 2) the benefits of the additional problem-solving component may not be immediately evident at post-treatment assessment, 3) the impact of problem-solving training may have been less influential than the effect of the standard career treatment, and/or 4) there may already be problem-solving components embedded in the Standard group treatment.

To have a more substantial impact, the problem-solving training component may require more time for additional training and discussion than the 20-minute training that was provided in the Standard Plus treatment group. Additionally, it may be that both treatments improve CDSE scores, but perhaps the problem-solving training component is not as influential as previously predicted. Holland & Holland (1977) conceptualized career decision-making processes as a specific instance of problem-solving, and Heppner (2004) hypothesized that the intervention of standard career counseling has some of the same features as problem-solving training interventions (i.e., brainstorming solutions, encouraging approach behaviors, promoting clients' confidence and emotional control). As a result, it may be that the 20-minute problem-solving component that was added to the Standard Plus group may not have been enough to make a distinct difference from the problem-solving component that was already included in the Standard group process.

Hypothesis 2

Hypothesis 2 tested whether the addition of a problem-solving intervention to standard career treatment was effective in increasing general problem-solving ability. The results indicated that both treatment groups improved their problem-solving ability over time, while the Control group remained relatively constant. Further analysis found that the Standard Plus treatment group exhibited a statistically significant improvement in problem-solving ability over time. While not statistically significant, these changes in the mean PSI scores over time for all three groups were in the expected direction. These results suggest support for hypothesis 2, indicating that problem-solving training may be a helpful component, in addition to standard career treatment.

Even though a time effect was found for PSI scores, no group effect was found. Although statistically significant differences were not observed between the Standard Plus and Standard groups at post- or follow-up assessments, there were differences in their overall means. At both post- and follow-up assessments, the Standard Plus group appeared to exhibit greater overall improvements in problem-solving ability, relative to the Standard group.

The lack of statistically significant differences between the three groups may have been due to a variety of factors. First of all, the impact of problem-solving training may have been difficult to discern from the effect of the Standard career treatment. As noted by Heppner et al. (2004), standard career treatments typically contain problem-solving components, such as brainstorming solutions, encouraging approach behaviors, and promoting confidence and emotional control. The explicit problem-solving training in the Standard Plus group treatment and the implicit components within the Standard group

treatment may have had sufficient overlap in problem-solving components to result in very similar impacts to PSI scores. In essence, the increase in problem-solving ability of the Standard group indicates that the Standard treatment innately contains components of problem-solving training, albeit, less explicit.

Secondly, since participants were randomly assigned to the three group conditions, there was an assumption of equal means of problem-solving ability for all groups. However, the participants in the three groups did not start with the same level of problem-solving ability at pre-treatment. While not significantly different, the Control group started with the highest level of problem-solving ability of the three groups. Both treatment groups improved in their problem-solving ability, but the within group variability may have masked any differences between the Standard Plus and Standard treatment groups.

Thirdly, another possibility is that there was not enough problem-solving training in the Standard Plus group to make a significant difference at post- or follow-up assessments. Perhaps the problem-solving component required more time than the twenty-minute training that was provided in the Standard Plus treatment group, or perhaps the problem-solving training needed to be conducted over more than one session in order to have a significant impact.

An interesting yet unexpected finding was that participants in the Standard Plus treatment group frequently indicated that the problem-solving training component was, in their opinion, the least helpful component of the workshop, as indicated in the written feedback on the post-treatment questionnaires. This attitude towards the problem-solving training component is consistent with other studies that noted that it is sometimes

difficult to convince clients to participate in interventions that are specifically designed to improve their problem-solving ability (Heppner et al., 2004). In contrast to the participants' feelings about the helpfulness of the problem-solving training, the Standard Plus treatment group had the highest levels of overall satisfaction with the workshop, the highest rating of the helpfulness of the workshop, the lowest level of conflict over their career decision post-treatment, and the highest likelihood of future use of the services provided by the University Counseling Center and Career Services.

These results suggest that, while problem-solving training was not a popular component of the workshop, it may have had a positive influence on the overall levels of helpfulness and satisfaction for the participants. The presentation of the problem-solving training may not have been perceived as helpful as the other intervention components due to its more didactic nature. However, the results discussed above suggest that the participants in the Standard Plus group may have applied the concepts presented in the problem-solving training to their career decision-making process.

Limitations

As with all research studies, there are a number of limitations in this study that should be considered. The percentage of females was higher than the percentage of females enrolled at the university (53%) at time of the study (CSU Enrollment Data, 2002) and males were under-represented in this sample. This may be related to the nature of self-selection of the participants since more women tend to seek out career services.

First, although there were enough participants who initially volunteered for the study to provide the statistical power needed, fourteen volunteers were unable to participate due to subsequent scheduling conflicts. While this should not have

significantly altered the results of the study, the additional participants would have increased the sample size and provided greater power for the statistical analyses to detect significant differences. In addition, the participants were representative in age and ethnicity of the university population at a large public institution in the West, and as such these results may only be generalizable to this population. Also, there was an uneven gender distribution among the participants. The distribution of participants in this study was comprised of 75% female and 25% male, while the university enrollment was 53% female and 47% male at the time of the study (CSU Enrollment Data, 2004). For the 2003-2004 academic year, slightly more than 54% of the clients seeking career services were female (CSU Career Services, 2005). CSU Career Services also reported that women tend to seek more career development and career exploration services, while men tend to seek more specific career resources (i.e., resume writing, internship information, and employment opportunities). This may be related to the nature of self-selection of the participants since more women tend to seek out career services. The uneven gender distribution in this study and anecdotal information from CSU Career Services are consistent with Luzzo (1995), who found that undergraduate women tend to be much more planned in the career decision-making process than undergraduate men, and that women's perception of barriers may serve as a motivating force for careful career planning and exploration. Thus, while this may have been a limitation of this empirical study, this turned out to be a natural reflection of real-life circumstances.

Furthermore, the addition of a writing component may have been a contributor to the effect of the treatment groups (Pennebaker, 1995). It has been found in psychological and medical literature that traumatic and challenging experiences provoke mental and

physical health problems. Pennebaker has found through meta-analyses of therapy outcome that almost all treatment, irrespective of theoretical orientation, result in improvements in both psychological and physical health. It was found that an important feature of therapy is that it allows individuals to translate their experience into a narrative (Pennebaker, 1995). The disclosure process itself, in this case, taking part in the group treatment, may be as important as any feedback the client receives from the therapist. Thus, this may have been a factor as to lack of significant differences between the treatment groups.

Finally, there is a possibility that there was a ceiling effect on the results found. It is possible that many of the participants were already good problem-solvers with good self-efficacy in career decision-making; therefore even though the treatment may have been helpful, it did not turn out to be significant. Perhaps due to the nature of self-selection, the participants who volunteered for this study tended to be proactive in their career decision-making process, and they already possessed strong problem-solving skills and self-efficacy. As a result, despite the gains they acquired, it was not enough to demonstrate a significant difference from pre-treatment.

In summary, the generalizability of this study is limited due to its sample size. The generalizability is restricted in terms of the range of ages, educational level, and ethnicity of the sample. In addition, due to the greater proportion of females in this study, the results may be more generalizable to females than males. Finally, due to copyright limitations for some of the measures, it was not possible to send out follow-up assessments via email. Only 46 out of 76 participants returned for the follow-up session and assessments. Thirty participants did not complete the follow-up assessment due to

scheduling conflicts. Statistical analyses were conducted using both imputational and completer data, but there were no significant differences found. However, the results of the follow-up analyses may not be as generalizable due to limited statistical power. In future studies, it may be helpful to obtain copyright permission to conduct online assessments in order to maximize follow-up responses.

Improvements over prior research

While there were some limitations in this study, the design and research methodology were significantly more rigorous than any previous known research in the field of vocational psychology. These elements included: an experimental design with a Control group and not just one, but two, treatment groups; controls for internal and external validity; use of empirically validated assessments; manualized treatment protocols; randomization of participants; fidelity checks; evaluation of treatment integrity using randomized checks of audio taped sessions; use of trained raters blind to treatment conditions; and minimization of researcher and gender biases via use of the same group facilitators (one male and one female) to conduct all three group conditions.

As was previously described in the literature review, the field of vocational psychology is generally lacking in empirical data to support the effectiveness of career interventions. This study provided several improvements to previous studies. First, and most importantly, it is one of the few empirically validated treatment outcome studies that included a randomized control group to guard against threats to validity inherent in one-group, pre-post test designs. Secondly, this study was conducted using empirically validated assessment measures (e.g., CDSE and PSI). Thirdly, a manualized treatment protocol was developed specifically for this study, which would allow for replication to

test for reliability, as well as the ability to monitor adherence and fidelity to the treatment model (Brown, 2005; Heppner et al., 2004). Moreover, the study recruited actual clients seeking career counseling, rather than typical use of undergraduates in a general psychology class. In addition, this study is the only known study that assesses for the effectiveness of adding a problem-solving component to standard career group intervention (Whiston et al., 2003).

A further improvement of this study over previous research was the collection of additional treatment outcome data. In addition to the data collected using the empirically validated instruments (CDSE and PSI), data was also collected using workshop questionnaires specifically designed for this study to assess for other treatment outcome variables. These other variables included items such as level of conflict about career decisions, workshop expectations, helpfulness of the workshop, and overall satisfaction. The responses from the participants following both treatment interventions (Standard and Standard Plus groups) were overwhelmingly positive and supportive of the helpfulness of these career exploration workshops. They reported that they felt it was an extremely helpful and worthwhile use of their time. Overall, in both treatment groups, the participants stated that the workshop helped normalize their experience and helped them feel less alone in their predicament (i.e., they were not the only ones unsure of their career choice), and the workshop helped dispel their career myths. The participants also reported that they gained more insight into themselves and gained more confidence about their career direction. In general, their responses indicated that they were grateful for the support and variety of resources that they received and the treatment groups reported a

much higher likelihood to use the university career services and counseling center in the future.

A pragmatic result of this study is that it provides additional empirical data to support the use of career group interventions across college campuses to help more students as opposed to individual and/or computer-assisted interventions only. As a career intervention, this group approach is more cost-effective than individual career counseling and it appears to have been beneficial for students. This study also improved over previous research by using the 16PF, a more informative and empirically-based personality assessment, as part of the Standard and Standard Plus career group treatment. Because it incorporates both a resource-oriented and process-oriented component, it can help bridge the gap between services provided in a typical career center and a typical university counseling center. As such, this study provides further empirical support for more integrated collaborative programs between university career centers and counseling centers to offer more effective, resource efficient, and comprehensive treatments for clients (Pace, 2000). These data also provide support for structured group treatment, which may be the most empirically validated and cost-effective interventions for many clients (Brown, 2005).

In summary, the intentional empirical design of this study allowed for maximal treatment integrity and significantly improved upon previous research literature in the field of vocational psychology.

Implications for Future Studies

The results of this study suggest several future directions. First of all, further empirical data is needed to replicate the findings of this study. Future studies should

consider recruiting more participants in each group condition to attain greater statistical power to be able to assess for any further statistically significant differences or interaction effects that may emerge. It may be helpful to further assess the impact of adding a problem-solving training, and to delineate the actual components of it that are different from the standard career group treatment. This may involve increasing the length of time spent on problem-solving training, increasing the overall length of the workshop, or conducting the training over multiple workshops, rather than a single group treatment.

Secondly, due to within-group variability, it may be helpful in future studies to divide participants in each group into subgroups based on their initial pre-treatment scores (low scores versus high scores). This may help differentiate any changes as a function of treatment for groups with substantial within-group variability.

Finally, it would likely be helpful to conduct both short-term (i.e., 2-week) and longer-term (i.e., 1-month, 6-month, 1-year, and post-graduation) follow-up assessments to assess for the effects of treatment over time. It may also be helpful to conduct a long term follow-up to specifically assess for the stability of the positive gains and the role that the treatment had on the participants' actual career selection process.

Conclusions

This study evaluated the effectiveness of adding a problem-solving component to standard career group counseling, and was able to overcome some of the limitations of previous studies. The results indicated that both career group treatments had a positive impact on career decision-making self-efficacy of the participants. Even though results did not indicate that adding a problem-solving training component significantly enhanced

problem-solving ability, it had a positive influence by increasing PSI scores over time, and the group receiving problem-solving training had the highest workshop satisfaction levels of the three groups. These findings support both the effectiveness of career group interventions and the promise of adding a problem-solving training component to standard career group treatment. They also provide support for further study and use of this intervention in career services. Based on these initial findings and the positive feedback from participants, the Office of Career Services and the University Counseling Center have allocated resources to incorporate the Standard Plus treatment as an ongoing program at CSU.

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APPENDIX A: TREATMENT MANUAL

CAREER EXPLORATION WORKSHOP

"Standard Plus Problem-Solving Group"

I. Introductions

Group Facilitator (GF): Identify self and describe the purpose and goals of the Career Exploration Workshops.

> **GF:** ***Hi, my name is _____ and I am a counselor at UCC (University Counseling Center). I'm here today to help you learn about the process of career exploration. These workshops are designed to provide you with opportunities to gain more insight about yourself, your career goals, career resources, and effective strategies in making your career decision. To help you achieve these tasks, we will introduce you to a variety of methods including: standardized career assessments (e.g., the Myers-Briggs and Strong Interest Inventory tests that you've already completed), homework activities, brainstorming exercises, and training in problem-solving skills.***

II. Group Agreement

Review the general goals and ground rules for the group, emphasizing the need to adhere to these guidelines in order to make the most out of their experience in these workshops.

GF: ***Before we begin, I would like to review the general goals and ground rules for the group in order to help you get the most out of these workshops:***

1. ***Confidentiality is extremely important: everything we discuss in here stays in here. This helps create a safe environment for sharing.***
2. ***Active participation is strongly encouraged. Share your thoughts and feelings about any career related issue because others may be going through some of the same things you are. It's very helpful to know that others have shared experiences with some of the same issues.***
3. ***Keep a Journal of thoughts, questions, and ideas.***
4. ***Use Your Imagination! Be Open to Possibilities… Be Creative & Have fun!***

III. Dispelling Common Career Myths

Present the following career myths using "Career Myths" overhead.
GF: Let's begin by discussing some common career myths:

My major determines my career choices

There is only one right career for me

Career choices are irreversible
Success is directly related to money and status
I must jump on the same track as my friends at CSU
I'm the only one having difficulty making a career decision
It's abnormal to feel anxious about making career decisions

GF: ***How many of you can identify with any of these myths? What are the effects of believing them to be true? Can you imagine how it would feel if this were true?***

GF: Sometimes, while going through the career decision-making process, people are influenced by irrational beliefs or myths. These myths can hinder the career choice process. Following are five common myths and the eye-opening facts that dispel them.

Myth: Somewhere, there is a book or a test that can tell me what to do.
FACT: There are approx. 20,000 occupations from which to choose in the US today. Most interest inventories or computer career guidance systems sample only about 100 to 300 of these 20,000 occupations. These instruments can access only selected aspects of you and your interests – thus giving you good, but limited information, but they are only one part of the complex system of career exploration. A counselor is another important part of the process. They can help to guide you through the choice process, provide valuable information, or help you to focus on important pieces. However, it is you and your involvement in the career exploration process that will tell you what career to enter.

Myth: Most students know what they want to major in, and what they want to do when they graduate.
FACT: Approx one-half of all college students will change their major at least once. The average undergraduate student changes academic majors approx three times. The college years are a time for exploration and for the broadening of career options and possibilities. You have forty to fifty years ahead of you to enjoy your career. It is ok to explore, try various classes, and wait before selecting a college major.

Myth: For every career, there is one appropriate major.
FACT: This is probably the most common myth. Many careers do not require a specific major. Many people who enter business occupations may graduate with a variety of liberal arts majors. Such people may enter sales, advertising, public relations, retail management, buying, and office and production management or other non-technical fields. Those students who choose graduate school, such as medicine, dentistry, or law may choose any major, but may need to take certain required courses like pre-med courses, for example.

Myth: There is only one right job for me.
FACT: There are two important responses to this myth. You are a multi-faceted person with varying interests and abilities that can be creatively mixed and combined to accomplish different jobs. Turning to the career world, the same job can be performed in different ways by people with different skills or different work styles. No two people do the same job in the same way.

Myth: Once I enter my chosen career or profession, I will have to work in that career forever, or at least until I retire.
FACT: The average person will change jobs seven times in his/her lifetime! In addition, keep in mind that people change jobs for a variety of reasons (e.g., change of interest, advancement, better opportunities, discontinuation of a specific job, boredom, challenge, to use new skills gained in an old job, to do new things in new ways in new places, to expand skills, to meet new people, and/or increased education).

IV. Interpretation of Career Tests

GF: Pass back results of tests. ***Now that we've dispelled facts from fiction, I am going to pass out and discuss the results of your Myers-Briggs Type Indicator and Strong Interest Inventory tests, the standardized assessments that you took prior to participating in this workshop. These assessments are considered the "Gold Standard" of career tests to help you make more informed career decisions since it has been standardized and validated using thousands of subjects. These tests help you to take into account your personality preferences and interests, and how they relate to your work environment and the people who are most satisfied in their careers. Please take a few minutes to take a look at them and we will try to answer any questions you may have.***

A. **16 Personality Factor-** See Appendix I & J

B. **Strong Interest Inventory (SII)-** See Appendix K (Holland's Occupational Types)

GF: ***Now that we've identified your personality style and interests, let's start on the road to career discovery by assessing your skills, values, accomplishments, and career fantasies.***

VI. Self-Assessment

GF*: You can start on the road to career discovery by doing a self-assessment of the following:*
(List each one on the board and briefly explain it using worksheets)

Skills/ Abilities – *these are specific tasks; what you do*
Values- *this is what motivates and drives you (internal rewards)*
Interests/Hobbies – *these are activities that you enjoy doing (for free)*
Personality- *this is your personal style and attitude (e.g., 16PF)*
Accomplishments – *these are any academic or personal achievements that you may have had; or skills involved*
Lifestyle -*this would be how you would want to live your life*
Career Fantasies – *from childhood and present*

VII. Career Development Process

A. Explain that career decision-making is a process.

GF: ***Making a decision on choosing a career path is not an easy or straightforward task. It is more of a life-long developmental process.***

Self-Assessment (similar to putting pieces of a puzzle together)

GF*: You can start on the road to career discovery by doing a self-assessment based on a variety of assessments:*

(List each one on the board and briefly explain it using worksheets)
See Appendix I.

Skills/ Abilities – *these are specific tasks; what you do*
Values- *this is what motivates and drives you (internal rewards)*
Personality- *this is your personal style and attitude (e.g., 16PF)*
Interests/Hobbies – *these are activities that you enjoy doing (for free) (e.g., Strong Interest Inventory)*
Lifestyle -*this would be how you would want to live your life*
Accomplishments – *these are any academic or personal achievements that you may have had; or skills involved*

Identification of Potential Careers based on variety of assessments

GF: ***Once you have completed a self-assessment, what would be your next step? Your next step would be to identify potential careers that may be suitable for you.***

Blocks to Decision-Making

GF: ***But what are some blocks to decision-making?***

- ***I just don't know enough about ____.***
- ***I am interested in so many things.***
- ***None of the career options entirely fit me.***
- ***My family/friends won't like my decision.***
- ***I just don't know if I will be happy doing this for the rest of my life.***

These blocks to decision-making can also be significantly affected by your decision making style. People use different decision-making styles in different situations. Do you know what is your decision-making style? Let's take a look at some different decision making styles and see which ones you have used in the past.

Impulsive: Select an alternative on impulse and w/o much thought.
Fatalistic: Leave a decision up to fate; "caution to the wind."
Compliant: Let someone else decide for you.
Delaying: Hold off on making a decision.
Agonizing: Become overwhelmed by the alternatives.
Intuitive: Do what "feels right;" not logical, too emotional
Paralytic: Unable to make a decision or get to next step.
Systematic/Planning: Use an organized approach w/ a balance between thoughts and feelings; obtains info, tests hypothesis, come up w/ alternatives; = perfect decision maker.

What style(s) do you think might be the best for making career decisions? If you said "Systematic/Planning" combined with Intuitive, you're on the right track! If not, you're in luck, because today you will learn a very effective method of decision making using "Problem-Solving Training." Before we do that, please take a few moments to complete these measures (ie, CDS and PSI).

VIII. Problem-Solving Training

Refer to Attachment B for "PST: Major Training Components."

GF: As you can imagine, we all have different ways of handling questions or problems. We will also help you learn an effective strategy called "Problem-Solving Training" to help you make the best decision, whether it

is to pursue advanced study or to begin your job search. Problem-Solving is a proven effective method of coping with difficult tasks or decisions—such as career decision-making. The major goal of Problem-Solving Training is to minimize distress/anxiety while enhancing well-being by helping you to identify and resolve a problem that involves doubt or uncertainty. In this case, the "problem" involves deciding on a major or making a career decision. Then using as many resources as possible to generate different options and ideas to research and pursue -- the more, the better! Then narrowing down your options to realistic possibilities after you have more information. Finally, it's matter of putting your implementing your plan and doing it!

Finally, Problem-Solving Training also teaches general skills that can be used to deal more effectively with future problems. (Provide examples.)

Now that you've learned about the process of career exploration, you can put all of this information together and move on to the next step. I would encourage you all to use the other worksheets that are provided to help you continue on your path of career exploration. They will help you develop a plan and put all the information that you have learned in these workshops together.

IX. **<u>Exploration of Potential Careers</u>** (i.e., What to do next?)

GF: ***Now* "Jane" *from Career Services will discuss ways to further explore potential careers in a variety of ways, using a variety of resources:***

- *Career counseling*
- *Career Service Library*
- *Career Services Online*
- *Computerized testing (SIGI)*
- *Reality Testing - talk to people in career areas of interest (Informational Interview, esp. alumni network)*
- *Talk to academic advisors, professors, parents, and peers*
- *Take classes in areas of interest*
- *Community resources*
- *Internships*
- *Job-listing sources*
- *On-campus interviews*
- *Gather more information (online, books, career counseling)*

IV. Conclusion and Post-Assessment Measures

Ask students if there are any further questions or issues that need to be addressed. Distribute and collect all post-assessment measures. Concluding remarks.

GF*: **Now that you've learned about the process of career exploration, you can put all of this information together and move on to the next step. Before you leave, please take a few minutes to fill out these questionnaires so that we can assess the effectiveness of these workshops in terms of meeting your needs: 1) Post-measure questionnaire, 2) Career Decision Self-Efficacy Scale, and 3) Problem-Solving Inventory.***

We hope that you have learned more effective career decision-making skills and gained some useful resources to continue your career exploration process. Please take a few moments to provide us with your feedback. We take your feedback very seriously to make any necessary changes to help better serve you and others in the future. Thank you for your time and participation!

In about 2 weeks, you will be contacted as a follow-up to assess what you have learned and done as a result of this workshop. Please take the time to respond so that we can assess the effectiveness of this workshop. As an added incentive, respondents will be eligible for a $25 gift certificate to the Bookstore. Good Luck!

APPENDIX B: PROBLEM-SOLVING TRAINING

Career Exploration Workshop:

Problem Solving Training

Behavioral Response Styles

- Avoidance
  - procrastination, passivity, and dependency
  - shifting of responsibility to solve problems onto others
  - waiting for problems to resolve themselves
- Impulsive/careless

Problem

- any question or task involving doubt, uncertainty, or difficulty

Solution

- any coping response that solves a problem

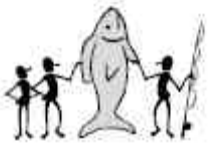
Effective Solution

1. Achieves problem-solving goals
2. Maximizes positive consequences
3. Minimizes negative consequences

Problem-Solving Philosophy

Give people a fish,
they eat for a day…

Teach people to fish,
they eat for a lifetime.



Rational Problem-Solving Skills

- Define the problem
- Generate alternatives or options
- Make decision
- Implement a solution
- Verify solution

Problem Definition and Formulation

- Gather facts
- Use unambiguous language
- Minimize cognitive distortions (or negative/pessimistic thoughts)
- Identify why the situation is a problem
- Set realistic goals

Generation of Alternatives

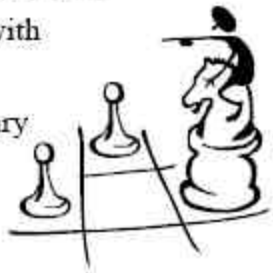
- Quantity principle -- the more the better
- Deferment-of-judgment
- Strategies vs tactics

Decision Making

- Likelihood estimates of outcome
  - goal attainment
  - optimal implementation
- Value estimates of consequences
  - personal
  - social
  - short-term
  - long-term

Solution Implementation and Verification

- Implement the solution/action plan
- Compare actual outcome with predicted outcome
- "Recycle" ideas, if necessary
- Self-reinforcement



PST: Training in Decision Making

- Focus on consequences – what is going to happen?
- Cost-benefit analysis
- Likelihood estimates
- Value estimates
- Short-term vs long-term effects
- Developing a solution
- Homework

PST: Training in Solution Implementation and Verification

- Carry out the solution plan
- Observe and monitor the consequences
- Evaluate the results
- Troubleshoot – recycle if necessary
- Self-reinforce if problem is solved
- Homework -- practice

Signs When Using Negative Self-Talk

1. Using judgmental words such as "must" and "should"
2. Using "catastrophizing" words for circumstances not pertaining to life and death
3. Overgeneralizing

Methods for Disputing Negative Self-Talk

1. Argue against negative self-talk
2. Argue against "should" and "ought" thoughts with "WHY SHOULD I?"
3. Question catastrophic words and analyze the real damage potential of the situation
4. Challenge overgeneralizations
5. Use disputing positive self-statements

Problem Solving Training

Nothing is either good or bad,
but thinking makes it so.

- Shakespeare

APPENDIX C: ASSESSMENT SCHEDULE

Assessment	Pre-Assessment	Post-Assessment	2-week Follow-up
Demographic Questionnaire	X		
Career Decision Self-Efficacy Scale (CDSE-SF)	X	X	X
Problem-Solving Inventory (PSI)	X	X	X
Post-Questionnaire	X	X	X
Follow-Up Questionnaire			X

APPENDIX D: DEMOGRAPHIC QUESTIONNAIRE

DEMOGRAPHIC QUESTIONNAIRE

Thank you for your participation in this program. Please note that your responses to these questions will enable us to learn how best to meet your needs. All your answers are confidential and your responses on the following demographic questions would be helpful:

Name:_____ Date:_____

Address:_____ Apt_____ Email:_____

City_____ State_____ Zip_____ Phone:_____

Gender (circle): Male Female Date of Birth:_____

Ethnicity:_____ Degree Program:_____

School/Dept:_____ Major:_____

Year In School (circle): Fresh. Soph. Jr. Sr. Graduate

1) How did you hear about this workshop? _____

2) What do you hope to gain from attending this workshop?_____

_____

3) How many sessions have you had in the Counseling Center at CSU? _____

4) How many times have you used Career Services at CSU?
_____

5) Have you had any type of career counseling for the past 6 months?
(Circle) Yes No

If yes, please explain where and what were the outcomes (i.e., learned how to write a resume, obtained a job, learned about specific career resources, etc.)?_____

6) Are you in conflict with anyone in making this career decision?
(Circle) Yes No

If so, with whom (i.e., self, friend, parent, etc.):_____

7) How much conflict are you in at this time about your career decision?

1	**2**	**3**	**4**	**5**
No Conflict		***Medium Conflict***		***High Conflict***

8) How helpful do you believe this career exploration workshop will be for you?

1	**2**	**3**	**4**	**5**
Not at all	***Only slightly***	***To a fair degree***	***Almost fully***	***Extremely Helpful***

Any comments or suggestions:

APPENDIX E: CAREER DECISION SELF-EFFICACY SCALE

CDSE–Short Form

INSTRUCTIONS: For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by marking your answer according to the key, Mark your answer by filling in the correct circle on the answer sheet.

NO CONFIDENCE AT ALL	VERY LITTLE CONFIDENCE	MODERATE CONFIDENCE	MUCH CONFIDENCE	COMPLETE CONFIDENCE
1	2	3	4	5

Example: How much confidence do you have that you could:

a. Summarize the skills you have developed in the jobs you have held?

If your response was "Moderate Confidence," you would fill out the number 3 on the answer sheet.

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

1. Find information in the library about occupations you are interested in.
2. Select one major from a list of potential majors you are considering.
3. Make a plan of your goals for the next five years.
4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.
5. Accurately assess your abilities.
6. Select one occupation from a list of potential occupations you are considering.
7. Determine the steps you need to take to successfully complete your chosen major.
8. Persistently work at your major or career goal even when you get frustrated.
9. Determine what your ideal job would be.
10. Find out the employment trends for an occupation over the next ten years.
11. Choose a career that will fit your preferred lifestyle.
12. Prepare a good resume.
13. Change majors if you did not like your first choice.
14. Decide what you value most in an occupation.
15. Find out about the average yearly earnings of people in an occupation.
16. Make a career decision and then not worry whether it was right or wrong.
17. Change occupations if you are not satisfied with the one you enter.
18. Figure out what you are and are not ready to sacrifice to achieve your career goals.
19. Talk with a person already employed in a field you are interested in.
20. Choose a major or career that will fit your interests.
21. Identify employers, firms, and institutions relevant to your career possibilities.
22. Define the type of lifestyle you would like to live.
23. Find information about graduate or professional schools.
24. Successfully manage the job interview process.
25. Identify some reasonable major or career alternatives if you are unable to get your first choice.

APPENDIX F: PROBLEM SOLVING INVENTORY

The Problem Solving Inventory

FORM B

P. Paul Heppner, Ph.D.

Name _____ Date _____

Sex _____ Age _____ Grade or class (if you are a student) _____

Directions

People respond to personal problems in different ways. The statements on this inventory deal with how people react to personal difficulties and problems in their day-to-day life. The term "problems" refers to personal problems that everyone experiences at times, such as depression, inability to get along with friends, choosing a vocation, or deciding whether to get a divorce. Please respond to the items as honestly as possible so as to most accurately portray how *you* handle such personal problems. Your responses should reflect what you *actually* do to solve problems, not how you think you *should* solve them. When you read an item, ask yourself: Do I ever behave this way? Please answer every item.

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1 Strongly Agree	2 Moderately Agree	3 Slightly Agree	4 Slightly Disagree	5 Moderately Disagree	6 Strongly Disagree

1. When a solution to a problem has failed, I do not examine why it didn't work 1 2 3 4 5 6
2. When I am confronted with a complex problem, I don't take the time to develop a strategy for collecting information that will help define the nature of the problem 1 2 3 4 5 6
3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation 1 2 3 4 5 6
4. After I solve a problem, I do not analyze what went right and what went wrong 1 2 3 4 5 6
5. I am usually able to think of creative and effective alternatives to my problems 1 2 3 4 5 6
6. After following a course of action to solve a problem, I compare the actual outcome with the one I had anticipated 1 2 3 4 5 6
7. When I have a problem, I think of as many possible ways to handle it as I can until I can't come up with any more ideas 1 2 3 4 5 6
8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation 1 2 3 4 5 6
9. When confused about a problem, I don't clarify vague ideas or feelings by thinking of them in concrete terms 1 2 3 4 5 6
10. I have the ability to solve most problems even though initially no solution is immediately apparent 1 2 3 4 5 6
11. Many of the problems I face are too complex for me to solve 1 2 3 4 5 6
12. When solving a problem, I make decisions that I am happy with later 1 2 3 4 5 6

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Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1 Strongly Agree	2 Moderately Agree	3 Slightly Agree	4 Slightly Disagree	5 Moderately Disagree	6 Strongly Disagree

13. When confronted with a problem, I tend to do the first thing that I can think of to solve it 1 2 3 4 5 6
14. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead 1 2 3 4 5 6
15. When considering solutions to a problem, I do not take the time to assess the potential success of each alternative 1 2 3 4 5 6
16. When confronted with a problem, I stop and think about it before deciding on a next step 1 2 3 4 5 6
17. I generally act on the first idea that comes to mind in solving a problem 1 2 3 4 5 6
18. When making a decision, I compare alternatives and weigh the consequences of one against the other 1 2 3 4 5 6
19. When I make plans to solve a problem, I am almost certain that I can make them work 1 2 3 4 5 6
20. I try to predict the result of a particular course of action 1 2 3 4 5 6
21. When I try to think of possible solutions to a problem, I do not come up with very many alternatives 1 2 3 4 5 6
22. When trying to solve a problem, one strategy I often use is to think of past problems that have been similar 1 2 3 4 5 6
23. Given enough time and effort, I believe I can solve most problems that confront me 1 2 3 4 5 6
24. When faced with a novel situation, I have confidence that I can handle problems that may arise 1 2 3 4 5 6
25. Even though I work on a problem, sometimes I feel like I'm groping or wandering and not getting down to the real issue 1 2 3 4 5 6
26. I make snap judgments and later regret them 1 2 3 4 5 6
27. I trust my ability to solve new and difficult problems 1 2 3 4 5 6
28. I use a systematic method to compare alternatives and make decisions 1 2 3 4 5 6
29. When thinking of ways to handle a problem, I seldom combine ideas from various alternatives to arrive at a workable solution 1 2 3 4 5 6
30. When faced with a problem, I seldom assess the external forces that may be contributing to the problem 1 2 3 4 5 6
31. When confronted with a problem, I usually first survey the situation to determine the relevant information 1 2 3 4 5 6
32. There are times when I become so emotionally charged that I can no longer see the alternatives for solving a particular problem 1 2 3 4 5 6
33. After making a decision, the actual outcome is usually similar to what I had anticipated 1 2 3 4 5 6
34. When confronted with a problem, I am unsure of whether I can handle the situation 1 2 3 4 5 6
35. When I become aware of a problem, one of the first things I do is try to find out exactly what the problem is 1 2 3 4 5 6

	CON	AA	PC		
Page 1 Subtotal	_____	_____	_____		
Page 2 Subtotal	_____	_____	_____		
Score	_____	_____	_____	_____	**Total**

APPENDIX G: POST-GROUP QUESTIONNAIRE

POST-WORKSHOP QUESTIONNAIRE

Thank you for your participation in this program. Please note that your honest responses and thoroughness in answering these questions will enable us to do follow-up and learn how well this program is accomplishing its goals and how to improve upon it with.

Name:_____ Date:_____

Please provide the name and contact information for a contact person that we may use, in case you can no longer be reached using your current information:

Name of Contact Person and your relationship to them:

Name Relationship

_____

Contact Person's Address and Phone number: _____

_____

1) Were your expectations for these workshops met? (Circle)

Yes, very much Yes, somewhat No, not at all

1) How helpful were these career exploration workshops for you?

1	2	3	4	5
Low		Medium		High

3) What was most helpful about these workshops? (i.e., specific skills, resources, etc)

4) What did you like about the workshop leader(s)?

5) What could be done differently to improve the workshops?

6) What part of the workshop was most helpful to you?

7) What part of the workshop was least helpful to you?

8) How much conflict are you in about your career decision at this time?

1	2	3	4	5
Low		Medium		High

9) Are you still in conflict with anyone about making this career decision? (Circle) Yes No

If yes, who? (i.e., self, parent, friend, etc.):_____

10) How likely are you to use Career Services in the future?

1	2	3	4	5
Low		Medium		High

11) How likely are you to use the University Counseling Center in the future?

1	2	3	4	5
Low		Medium		High

12) How would you rate your level of satisfaction with this Career Exploration workshop overall?

1	2	3	4	5
Low		Medium		High

13) How likely are you to recommend this Career Exploration Workshop to someone else?

1	2	3	4	5
Low		Medium		High

14) Suggestions for future advertisement of this workshop:

15) Any additional comments:

APPENDIX H: FOLLOW-UP QUESTIONNAIRE

Career Workshop Follow-Up Questionnaire

Thank you for your time and participation in the Career Exploration Workshop program. Please note that your honest and timely responses help us to learn how well this program is meeting your needs and ways to improve it.

In the past 2 weeks…

1. How many times have you been to Career Services? _____

2. How many times have you met with your career advisor? _____

3. How many times have you met with your academic advisor? _____

4. How many times have you discussed your career goals/ideas with your family? ___

5. How many times have you searched the internet to find out more about career information? ___

6. How many times have you searched for career resources at the library? _____

7. How many times have you been to the University Counseling Center to discuss your career goals or difficulties in career decision-making? ____

In looking back…

8. How helpful were these career exploration workshops for you?

1	2	3	4	5
Low		Medium		High

9. What was most helpful about the program (i.e., specific skills, resources, etc)?

10. What was least helpful about the program?

11. What could be done differently to improve the workshops?

At this point…

12. How much conflict are you in about your career decision at this time?

1	2	3	4	5
Low		Medium		High

13. Are you still in conflict with anyone about making this career decision? (Circle) Y N

14. How likely are you to use Career Services in the future?

1	2	3	4	5
Low		Medium		High

15. How likely are you to use the University Counseling Center in the future?

1	2	3	4	5
Low		Medium		High

16. How would you rate your level of satisfaction with the Career Exploration workshop overall?

1	2	3	4	5
Low		Medium		High

17. Do you feel better about your career options? (Circle) Y N

18. Are you more likely to use campus career resources as a result of this program? (Circle) Y N

19. Did this program have any impact on your career plans or choices? (Circle) Y N
If yes, please explain:

20. Additional comments:

APPENDIX I: WORKSHOP ACTIVITIES

1. Strong Interest Inventory (SII), (Strong, Hansen, & Campbell, 1988)

The SII is the leading vocational interest inventory. It contains 325 items that measure a respondent's interests in a wide range of occupations, occupational activities, hobbies, leisure activities, school subjects, and types of people. It is a computer-generated profile based on Holland's (1985) six occupational personal styles (realistic, investigative, artistic, social, enterprising, and conventional). The 23 basic interest scales focus on subdivisions of the general occupation themes, subdivisions from which career groups or clusters of occupations can be derived. There are also 207 specific occupational scales that are grouped according to Holland's six themes.

Standard scores for male and female norms are reported, indicating whether the subject's interests are very dissimilar, dissimilar, moderately dissimilar, mid-range, moderately similar, similar, or very similar, for each of the occupations. Ten administrative indices are reported on the SII profile. Among these is an infrequent response index, which indicates whether the individual has marked a significant number of rare or uncommon responses. The academic comfort scale indicates the degree to which the individual likes academic work, such as reading, writing, and doing research. This scale is usually checked for individuals who are considering higher education (e.g., B.A., M.A., or Ph.D.). Other special scales are also reported. Scores are compared to a general reference group (n=600), half male and half female. Criterion samples are career-satisfied individuals, ages 25-60 years, with at least three years on the job. It is widely recommended and used to explore vocational interest in career counseling and currently being used in standard career counseling workshops. Specific validity data has

not been clearly reported in the literature. Concurrent validity of the Basic Scales was supported by numerous comparisons among people currently in different occupations. However, the predictive validity was found not as high as concurrent validity, due to both interscale and interpersonal differences. Reliability data ranges from .60s to .90s in test-retest correlations, demonstrating that the SII scales are reasonably high and stable over time. Overall, there is a consensus among reviewers of the SII that it is the most widely used and best interest inventory available (despite some psychometric limitations) (Mitchell, 1985). The reading level is sixth grade; administration time is approximately 25 minutes.

2. Sixteen Personality Factor Questionnaire (16PF; Catell et al., 1994)

The 16PF is a widely used self-report inventory consisting of 185 items that comprise of 16 personality factor scales that was originally developed by Raymond Cattell in 1949 to measure primary personality traits in normal adults. This inventory was designed to have a broad measure of personality and to predict a wide range of life behaviors (including career guidance) for adults ages 16 or older, in a variety of settings, including clinical/counseling, industrial/organizational, research, and schools. The 16PF is based on Catell's original identification of primary traits of personality through factor analysis of a broad range of 16 primary personality factors consisting of: Warm vs Reserved (A), Abstract-Reasoning vs. Concrete-Reasoning (B), Emotionally Stable vs. Reactive (C), Dominant vs. Deferential (E), Lively vs. Serious (F), Rule-Conscious vs. Expedient (G), Socially Bold vs. Shy (H), Sensitive vs. Utilitarian (I), Vigilant vs. Trusting (L), Abstracted vs. Grounded (M), Private vs. Forthright (N), Apprehensive vs. Self-Assured (O), Open to Change vs. Traditional (Q1), Self-Reliant vs. Group-Oriented

(Q2), Perfectionistic vs. Tolerates Disorder (Q3), Tense vs. Relaxed (Q4); 5 global factor scores (i.e., broad personality domains): Extraverted vs. Introverted (EX), High Anxiety vs. Low Anxiety (AX), Tough-Minded vs. Receptive (TM), Independent vs. Accommodating (IN), Self-Controlled vs. Unrestrained (SC); 3 test-taking response style indices: Impression Management (IM), Infrequency (INF), Acquiescence (ACQ). These 16 primary personality factor scales were extracted from a factor analysis of personality traits, and not based on constructs related to a particular theory of personality.

The advantage of using the 16PF over another personality assessment (e.g., Myers-Briggs Type Indicator) is that it is a well-known research instrument that has been widely used over time and it is possesses strong empirical data. The test-retest reliability coefficients of the 16PF for a 2-week period were very good for the global factors (ranging .84 to .91). The primary factors had lower reliability coefficients ranging from .69 to .87. Construct and criterion validity were well discussed and defined in the manual (McLellan, 1995; Rotto, 1995).

3. Worksheet Activities:
   - Work Values Rating
   - Best Accomplishments Description
   - Hobbies and Interests Worksheet
   - Childhood Dreams of a Career
   - Current Career Fantasies
   - Skills Worksheet
   - Career Chart

   (See the following worksheets pp. 91-97)

Work Values Rating
Satisfaction From Work

1. The following list describes a wide variety of satisfactions that people obtain from their jobs. Look at the definitions of these various satisfactions and rate the degree of importance that you would assign to each for yourself using the scale below:

1 = Not important at all
2 = Not very important
3 = Reasonably important
4 = Very important in my choice of career

_____ **Help Society** -- Do something to contribute to the betterment of the world live in.

_____ **Help Others** -- Be involved in helping other people in a direct way, either individually or in small groups.

_____ **Public Contact** -- Have a lot of day-to-day contact with people.

_____ **Work With Others** -- Have close working relationships with a group; work as a team toward common goals.

_____ **Affiliation** -- Be recognized as a member of a particular organization.

_____ **Friendships** -- Develop close personal relationships with people as a result of my work activities.

_____ **Competition** -- Engage in activities which pit my abilities against others where there are clear win-and-lose outcomes.

_____ **Make Decisions** -- Have the power to decide courses of action, policies, etc.

_____ **Work Under Pressure** -- Work in situations where time pressure is prevalent and/or the quality of my work is judged critically by supervisors, customers or others.

_____ **Power and Authority** -- Control the work activities or (partially) the destinies of people.

_____ **Influence People** -- Be in a position to change attitudes or opinions of other people.

_____ **Intellectual Status** -- Be regarded as a person of high intellectual prowess or as one who is an acknowledged "expert" in a given field.

_____ **Artistic Creativity** -- Engage in creative work in any of several art forms.

_____ **Creativity** (general) -- Create new ideas, programs, organizational structures or anything else not following a format previously developed by others.

_____ **Aesthetics** -- Be involved in studying or appreciating the beauty of things, ideas, etc.

_____ **Supervision** -- Have a job in which I am directly responsible for the work done by others.

_____ **Change and Variety** -- Have work responsibilities which frequently change in their content and setting.

_____ **Precision Work** -- Work in situations where there is little tolerance for error.

_____ **Stability** -- Have work routine and job duties that are largely predictable and not likely to change over a long period of time.

_____ **Security** -- Be assured of keeping my job and a reasonable financial reward.

_____ **Fast Pace** -- Work in circumstances where there is a high pace of activity, work must be done rapidly.

_____ **Recognition** -- Be recognized for the quality of my work in some visible or public way.

_____ **Excitement** -- Experience a high degree of (or frequent) excitement in the course of my work.

_____ **Adventure** -- Have work duties which involve frequent risk-taking.

_____ **Profit, Gain** -- Have a strong likelihood of accumulating large amounts of money or other material gain.

_____ **Independence** -- Be able to determine the nature of my work without significant direction from others; not to have to do what others tell me to.

_____ **Moral Fulfillment** -- Feel that my work is contributing significantly to a set of moral standards which I feel are important.

_____ **Location** -- Find a place to live (town, geographical area) which is conducive to my life style and affords me the opportunity to do the things I enjoy most_____ **Community** - Live in a town where I can get involved in community affairs.

_____ **Work Alone** -- Do projects by myself without any significant amount of contact with others.

_____ **Knowledge** -- Engage myself in the pursuit of knowledge, truth and understanding.

_____ **Physical Challenge** -- Have a job that makes physical demands which I would find rewarding.

_____ **Time Freedom** -- Have work responsibilities which I can work at according to my own time schedule; no specific working hours required.

2. Now choose four of these Work Values which are the most important to you and write them in the box below. Each of these values will be relevant to the career exploration that you will do in later exercises. If you can think of any work values (desired satisfactions) that are not included in the list above and which are especially important to you, add them to the four values you list in the box.

Example:

Recognition
Help Others
Creativity
Independence

Work Values

3. For each value you have chosen, indicate how you would like to use it in your career/job. For example, "I would like to help others by talking to them about their problems."

Describe Your Best Accomplishments

Over the course of your life, you've probably accomplished an amazing variety of things. At school, in the community, with your family and among friends you've already achieved some impressive goals. This period of transition is an ideal opportunity to recall some of these accomplishments and write them down. Not only will you feel good when you see just how much you have accomplished; the process will also help you to understand the personal qualities and skills that you displayed.

Write down as many accomplishments as you can think of which you found to be most satisfying (one or two is fine). It doesn't matter whether they are academic-related, family achievements, community work, hobbies or leisure activities. All that matters is that you are proud of these accomplishments.

Skills and values that describe your accomplishments:

List of Hobbies and Interests:

Childhood Dreams of a Career:

Current Career Fantasies:

SKILLS

This is a list of skills found in a cross-section of careers. Circle the skills that you believe reflect your strengths. (from The Complete Job - Search Handbook, by Howard Figler)

administering programs
advising people
analyzing data
appraising services
arranging social functions
auditing financial records
budgeting expenses
calculating numerical data
checking for accuracy
classifying records
coaching individuals
collecting money
compiling statistics
confronting other people
constructing buildings
coordinating events
corresponding with others
counseling people
creating new ideas
deciding uses of money
delegating responsibility
designing data systems
dispensing information
displaying artistic ideas
distributing products
dramatizing ideas and problems
editing publications
enduring long hours
entertaining people
estimating physical space
evaluating programs
exhibiting plans
expressing feelings
finding information
handling complaints
handling detail work
imagining new solutions
initiating with strangers
inspecting physical objects
interpreting languages
interviewing people
inventing new ideas
investigating problems
listening to others
locating missing information
managing an organization
measuring boundaries
mediating between people
meeting the public
monitoring progress of others
motivating others
negotiating contracts
operating equipment
organizing people and tasks
persuading others
planning agendas
planning organizational needs
politicking others
predicting futures
preparing materials
printing by hand
processing human interactions
programming computers
promoting events
protecting property
questioning others
raising funds
reading volumes of material
recording scientific data
recruiting people for hire
rehabilitating people
remembering information
repairing mechanical devices
repeating same procedure
researching in library
reviewing programs
running meetings
selling products
serving individuals
setting up demonstrations
sketching charts or diagrams
supervising others
teaching classes
tolerating interruptions
updating files
visualizing new formats
working with precision
writing clear reports
writing for publication

CAREER CHART

Work Skills	**Work Values**	**Best Accomplishments**
Hobbies/Interests	**Career Fantasies**	**Career Options**

APPENDIX J: HOLLAND'S OCCUPATIONAL TYPES

Interests and Occupations

It has been found that each of us can be assigned to one or more of six broad interest areas or types - Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

In addition, occupations or jobs can be categorized using the same six types. The requirements of each job establish what its type will be.

Part of the process of self-exploration in career decision-making can involve identifying your most prominent interest areas or types and identifying jobs or occupations that are similar.

The following is a list of each of the six interest areas or types and information that may help you decide which ones are most descriptive of your interests, values, hobbies, and personality.

REALISTIC (R)

Realistic people like activities, jobs, and co-workers who represent such interest areas as nature and the outdoors, mechanical, construction, and repair activities, and military activities. They are interested in action rather than thought and prefer concrete problems to ambiguous, abstract problems.

Typical Work Activities

- Doing jobs that produce tangible results
- Using tools that require fine motor coordination and manual dexterity
- Operating precision machinery

Values

- Reliable
- Practical
- Modest
- Persistent

Preferred Environments

- The outdoors, small rural communities
- Situations permitting casual dress
- Organizations with clearly drawn lines of authority
- Engineering and technical firms

Typical Hobbies

- Repairing old things
- Building and rebuilding
- Reading magazines about outdoor sports, cars, airplanes, boats
- Adventurous hobbies (skydiving, auto racing)

Realistic Occupations can include:

- Carpenter
- Engineer
- Pilot
- Veterinarian
- Military Personnel
- Appliance Repairer
- Occupational Therapist

INVESTIGATIVE (I)

Investigative people have a strong scientific orientation. They enjoy gathering information, uncovering new facts or theories, and analyzing and interpreting data. They prefer to rely on themselves in their work rather than on others in a group project.

Typical Work Activities

- Performing ambiguous or abstract tasks
- Solving problems through thinking
- Working independently
- Doing scientific or laboratory work

Values

- Independent, self motivated
- Analytical, curious
- Reserved
- Original, creative

Preferred Environments

- Unstructured organizations that allow freedom in work styles
- Achievement oriented institutions
- Universities and colleges
- Research and design firms
- Medical facilities

Typical Hobbies

- Work!
- Complex activities that require learning many facts (skiing, sailing, scuba diving)
- Computers
- Reading
- Astronomy
- Chess

Investigative Occupations can include:

- Biologist
- Mathematician
- Computer Operator
- Computer Programmer
- Chemist
- Sociologist
- Economist
- Systems Analyst
- Physician
- Psychologist

ARTISTIC (A)

Artistic people value aesthetic qualities and have a great need for self-expression. This type, more than any other, includes some people who score high more because they enjoy being spectators or observers - in this case, of the arts - than because they actually participate. Artistic types frequently express their artistic interests in leisure or recreational activities as well as in vocational activities or environments.

Typical Work Activities

- Composing, writing
- Creating artwork (e.g. painting, sculpting, photography)
- Working independently
- Acting, performing

Values

- Independent, nonconforming
- Impulsive, expressive
- Impractical, disorderly
- Intuitive, complicated
- Sensitive, emotional

Preferred Environments

- Unstructured, flexible organizations that allow self-expression
- Artistic studios (preferable one's own)
- Theaters and concert halls
- Institutions that teach artistic skills (e.g. universities, music and dance schools, art institutes)
- Advertising, public relations, and interior-decorating firms

Typical Hobbies

- Drawing, sketching, painting
- Photography
- Attending dance and musical concerts
- Going to theaters, museums, and galleries
- Reading
- Writing poetry or stories
- Collecting art work
- Playing a musical instrument

Artistic Occupations can include:

- Art museum director
- Author-reporter
- Advertising executive
- Interior decorator
- Anthropologist
- Lawyer
- Art teacher
- Librarian
- Costume designer
- Public relations director
- Ballet dancer
- Orchestra conductor

SOCIAL (S)

Social people, unlike the first three types in the R-I-A-S-E-C interest areas, like to work with people; they enjoy working in groups, sharing responsibilities, and being the center of attention. They like to solve problems through discussions of feelings and interaction with others.

Typical Work Activities

- Teaching, explaining
- Helping
- Selecting and training
- Solving problems, leading discussions

Values

- Humanistic, idealistic
- Ethical, responsible
- Kind, generous
- Concerned for the welfare of others

Preferred Environments

- Social-service agencies
- Schools
- Personnel offices
- Medical-service and health-care facilities

Typical Hobbies

- Entertaining others
- Doing volunteer and community service work
- Organizing group social events (e.g. hayrides, picnics, excursions, neighborhood parties)

Social Occupations can include:

- Elementary School Teacher
- Mental Health Worker
- Student Personnel Worker
- Social Worker
- Physical Education Teacher
- Playground Director
- Speech Pathologist

ENTERPRISING (E)

Enterprising people seek positions of leadership, power, and status. They enjoy working with other people toward organizational goals and economic success. They like to take financial and interpersonal risks and to participate in competitive activities.

Typical Work Activities

- Selling, purchasing
- Political maneuvering
- Giving speeches, talks, presentations
- Managing people and projects

Values

- Status-conscious
- Ambitious, competitive
- Optimistic, energetic, popular
- Attracted to money, power, and material possessions

Preferred Environments

- Industrial and manufacturing firms
- Seats of power and finance (e.g. large corporations, executive offices, brokerage firms)
- Retail and wholesale f m s (e.g. auto dealerships, department stores, real-estate firms)
- Fund-raising organizations

Typical Hobbies

- Belonging to clubs and organizations
- Sporting events, as participant or spectator
- Political activities
- Attending conventions

Enterprising Occupations may include:

- Life Insurance Agent
- Corporation Executive
- Computer Salesperson
- Marketing Executive
- Sales Manager
- Personnel Director
- Nursery Manager
- Investments manager
- Flight Attendant

CONVENTIONAL (C)
Conventional people, like Enterprising people, work well in large organizations but they prefer subordinate roles rather than leadership positions. They especially like activities that require attention to detail and accuracy.

Typical Work Activities

- Typing and filing
- Organizing office procedures
- Keeping records and financial books
- Writing business reports

Values

- Conscientious, persevering
- Self-controlled, conservative
- Orderly, systematic
- Precise, accurate

Preferred Environments

- Large corporations
- Business offices
- Financial Institutions (e.g. banks, credit companies)
- Accounting firms

Typical Hobbies

- Collecting (e.g. stamps, coins)
- Home-improvement projects
- Building models (e.g. airplanes, dollhouses, electric trains)
- Civic and fraternal organizations

Conventional Occupations can include:

- Accountant
- Proofreader
- Secretary
- Statistician
- Business Education Teacher
- Cashier
- Banker
- Credit Manager
- Internal Revenue Service Agent

(Some material from User's Guide for the SVIB-SCII by Jo-Ida C. Hansen)

APPENDIX K: CAREER RESOURCES

Popular Sources of Occupational Information (in library)

There are books that you may use in the Career Services library that describe the nature of occupation, qualifications, education, training, potential for advancement, sources for more information, income, and employment prospects.

Web Sites and books for further career exploration:

Occupational Outlook Handbook

http://www.bls.gov/oco/

This site provides descriptions of occupations that include the nature of the work, working conditions, job outlook, training, qualifications, and earnings. Related occupations and sources of additional information are also listed.

America's Career InfoNet

http://www.acinet.org/acinet/

(From home page, click on "Career Exploration" then click on "Explore Options for Work and Learning.")

This site is a comprehensive source of occupational information designed to help you make informed career decisions. Included are categories such as general outlook for the chosen occupation by state or region, wage/employment outlook, possibilities for employment within a specific occupation, as well as video clips of over 200 occupations.

College Board Career Search

http://www.collegeboard.org/

(From home page, click on "Explore" then click on "Career Search" on left-hand side of screen.)

This site provides general career information, what to expect from a certain occupation, and what to do in school to work toward the job you want. It includes 33 categories and hundred of subcategories of careers from the Dictionary of Occupational Titles.

WetFeet.Com

http://www.wetfeet.com/asp/home.asp

(Click on "Careers & Industries" then click on "More Career Profiles" under 'Career' heading.)

This site presents 46 general occupational categories. It provides a general career overview, educational and/or licensing requirements, job outlook, wage information, and specific opportunities available within each category.

CareerPlanit.Com
http://www.careerplanit.com/resources/
(From this page, click on "Career Profile Search")

Search by your major for a list of related jobs, or pick an occupation and learn which majors prepare one best for that job. Information includes description of work, qualifications needed, salary ranges, etc.

Review.Com
http://www.review.com/career/
(From left-hand side of this page, click on "Careers" then click on "Find a Career.")

This site is a division of Princeton Review, which provides occupational information in addition to that found in the Occupational Outlook Handbook. Enter an occupation and read about major employers, associated careers, and quality of life for someone in a chosen career.

Dictionary of Holland Occupational Codes

Dictionary of Occupational Titles

Guide for Occupational Exploration

Occupational Information Overview

VGM's Careers Encyclopedia

APPENDIX L: RECRUITMENT MATERIALS

DO YOU HAVE TROUBLE MAKING DECISIONS?

Is your major "Undecided"?

Wish you knew what you wanted to do after college?

Are you having trouble choosing a career?

THE

CAREER EXPLORATION

WORKSHOP

is the answer for you!

The workshop will help you gain insight, learn strategies, and find resources to help you with your decision. You will have the opportunity to take standardized career assessments and receive individualized results. The workshop meets for 3 hours.

Location and dates will be announced. To register or for more information, call 491-6053 or stop by the University Counseling Center located in the basement of C-Clark Building C-23. Register early! Space is very limited.

Sponsored by: University Counseling Center and Career Services

APPENDIX M: TREATMENT FIDELITY CHECK FORM

TREATMENT FIDELITY CHECK

TAPE # (circle): A B C RATER (circle): 1 2

Please listen to the tape provide and mark your best responses to the following items:

1) Level of clarity of the presentation: 0 (very low) to 10 (very high) _____

2) Level of energy of group facilitators: 0 (very low) to 10 (very high) _____

3) Level of adherence to treatment protocol 0 (very low) to 10 (very high) _____

4) Level of certainty of group condition: 0 (v. uncertain) to 10 (very certain) _____

5) Identify the group condition (circle): Standard Plus Standard Control

Comments:

VITA

JACKIE HUONG NGUYEN

EDUCATION

Ph.D. Candidate	**Drexel University**, Philadelphia, PA Clinical Psychology (APA Accredited), expected Winter 2010
M.A.	**MCP Hahnemann University**, Philadelphia, PA Clinical Psychology (APA Accredited), 1999
B.A.	**The Johns Hopkins University**, Baltimore, MD Psychology, 1993

EXPERIENCE

June 2008- Present	**Principal, Career Counseling and Consulting** Optimal Careers, LLC, Fort Collins, CO
May 2007- June 2008	**Assistant Director, Counseling** Career Services, University of Colorado, Boulder, CO
July 2002- May 2007	**Outreach Coordinator and Senior Staff Counselor** University Counseling Center, Colorado State University, Fort Collins, CO
October 2001 - June 2002	**Staff Counselor**, Counseling and Psychological Services University of Pennsylvania, Philadelphia, PA
August 2001- May 2002	**Staff Counselor**, Center for Counseling & Student Development University of Delaware, Newark, DE
August 2000 - July 2001	**Pre-doctoral Intern**, Counseling & Psychological Services University of Pennsylvania, Philadelphia, PA
July 1999 - June 2000	**Psychology Practicum**, Adult Outpatient Psychiatry Service MCP Hahnemann University, Philadelphia, PA
September 1998 - June 1999	**Psychology Practicum**, Counseling & Psychological Service University of Pennsylvania, Philadelphia, PA
May 1997 - May 1998	**Child Lead Evaluator/Psychology Practicum** ADHD/School Problems Clinic, Children's Seashore House, Philadelphia, PA
November 1993 - June 1996	**Clinical Specialist**, Kennedy-Krieger Institute The Johns Hopkins School of Medicine, Baltimore, MD