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**THE EFFECTS OF A CAREER-PLANNING COURSE
ON COMMUNITY COLLEGE STUDENTS' CAREER SELF-EFFICACY
AND CAREER INDECISIVENESS**

by

JEFFEREY SAMUEL LIP

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2014

MAJOR: COUNSELING

Approved by:

Advisor

Date

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2014

DEDICATION

The meaning of life is to find your gift. The purpose of life is to give it away.

Pablo Picasso

This work is dedicated to my wonderful wife,

Sarah Elizabeth Lip,

who is my rock, my everything, the love of my life, and has always been there for me.

ACKNOWLEDGMENTS

I want to acknowledge and express my sincere appreciation to Dr. George Parris for serving as my advisor and providing the support and direction necessary for this journey. I also wish to express my deepest gratitude to my committee members, Dr. Arnold Coven, Dr. Stuart Itzkowitz, and Dr. A. Antonio Gonzales-Prendes for their time, guidance, and thoughtful insight. I would also like to thank Dr. Tami Wright for playing a role in making this achievement possible for me.

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CHAPTER 1

INTRODUCTION

The process of career development for college students was a growing field and was an important area to explore in the field of counseling. With college tuition increasing at many universities and community colleges, students in a post-secondary educational institution were feeling the pressure to select a major or degree program and to find a career in a timely manner. For some college students, the process of selecting the path to pursue an academic degree was an overwhelming procedure. Counselors at the post-secondary education level were there to provide guidance in assisting undecided college students with selecting a major or degree program.

College career counselors used numerous career development theories as a foundation when conducting career counseling with undecided students. According to Sharf (2002), career counseling was defined as an emphasis on career development of an individual with special attention to values and attitudes, self-understanding, career information, career planning and decision making. Career counseling theories incorporated disciplines such as developmental, social, personality and cross-cultural psychologies to foster positive career development for undecided college students. With the many different career development theories that exist, a college career counselor attempted to help increase a student's career decision-making and career self-efficacy.

Within the field of counseling, career college counselors helping undecided college students find a degree program to study had been the subject of prior research. Choosing a major and career path were primary concerns among freshman and sophomore college students across the nation (Orndorff & Herr, 1996). It was estimated that 77% of all freshman and sophomore college students nationally were undecided on an academic major (McDaniels, Carter, Heinzen, Candrl, & Wieberg, 1994). In a survey conducted by Hannah and Robinson (1994), data gathered

from 96 institutions in the American Association of State Colleges and Universities found that approximately 50% of their entering freshmen expressed a need for special assistance in making occupational and educational decisions.

With the number of undecided students increasing at the college level, different researchers had attempted to determine the cause of the lack of decision-making at the post-secondary educational level. Kelly and White (1986) conducted a record review at Pennsylvania State University to examine academic characteristics of freshmen students. The Freshman Testing Counseling and Advising Program (FTCAP) was designed to assist the freshman and sophomore students at Pennsylvania State University to develop their educational plans and goals. Data were collected from the Educational Planning Survey and the Profile of Academic Abilities. High school records and scholastic aptitude tests were included in the information from the Profile of Academic Abilities. The findings of the study indicated that the majority of freshman and sophomore college students often lacked the knowledge and experience required to make a planned decision concerning their choice of major and career direction. Based on these data, the counseling department at Pennsylvania State University students became aware of the need to develop and implement more college programs to help foster the career planning and career decision-making of their underclassman students.

Orndorff and Herr (1996) indicated that the primary reason why most freshman and sophomore college students struggled with choosing a major or a career was due to a lack of exposure. College students frequently choose from different majors and careers with which they became familiar while growing up without understanding that an academic major was a proxy for an occupation or career path. In separate studies, researchers (Moore, 1976; Rayman, 1993)

argued that most freshman and sophomore college students lacked adequate levels of self-understanding or career awareness needed to make educated career decisions.

To gain assistance with selecting a college major and the career development process, college students had several options. Some options for career development assistance at the college level included seeing a college counselor, visiting the college career center, or enrolling into a career-planning course. Besides career counseling, a college counselor also assisted students with academic and personal/social counseling (Bishop, 1990). A college career center supported students with career needs through individual and group structured career development and self-exploration activities. With the options available to college students in need of assistance in selecting a college major and career, enrolling into a career-planning course was a great opportunity for undecided college students to gain college academic credit while also getting assistance in the whole process of finding a major and career.

Community Colleges

Community colleges were two-year colleges that can be referred to as either technical or junior colleges (Price, 2005). Price went on to identify four characteristics of community colleges:

1. They were community-based institutions that work in close partnership with high schools, community groups, and employers in extending high-quality programs at convenient times and places.
2. Community colleges were cost effective. Annual tuition and fees at public community colleges averaged approximately half those at public four-year colleges and less than 15% of private four-year institutions. In addition, since most community colleges were generally close to their students' homes, these students also saved a substantial

amount of money on the room, board, and transportation expenses traditionally associated with a college education.

3. Community colleges provided a caring environment, with faculty members who were expert instructors, known for excellent teaching and meeting students at the point of their individual needs, regardless of age, sex, race, current job status, or previous academic preparation. Community colleges join a strong curriculum with a broad range of counseling and career services that were intended to assist students in making the most of their educational opportunities.
4. Many community colleges offered comprehensive programs, including transfer curricula in such liberal arts programs, such as chemistry, psychology, and business management that led directly to a baccalaureate degree and career programs that prepared students for employment or assisted those already employed in upgrading their skills. Community colleges also offered a wide range of development programs in mathematics, languages, and learning skills designed to prepare the student for success in college studies. (p. 3)

Community college teachers were either full-time or adjunct faculty members (Cohen & Brawer, 1989). Most community college teachers had an academic master's degree or had equivalent experience in the occupation they teach. Compared to university teachers, community college teachers were less likely to hold advanced graduate degrees. The main responsibility of community college teachers was to teach. Scholarly inquiry, research and writing for publication were rarely conducted by community college teachers. Full-time community college teachers typically taught four to five classes per term. Many adjunct community college teachers typically worked other jobs in addition to their part-time teaching at the community college level.

Concerns in the Field of Career Counseling

The lack of published career research, the uncertainty of which career theory was the most effective when working with undecided students, and concerns regarding which counseling intervention was the most useful with undecided students were major concerns in the field of career counseling. With the varying types of undecided students enrolling in the career-planning course at the community college, determining which career theory was the most effective can be difficult (Gordon, 2007; Gordon & Sears, 2010). The lack of published career research regarding the effectiveness of a college career-planning course at the community college level was problematic (King & Raushi, 1994; Gordon, 2007). Most career research studies that reference the effectiveness of a college career-planning course had been conducted at the university level instead of the community college level. With student enrollment at the community college level increasing every year, more research was needed regarding the effectiveness of a college career-planning course at the community college level.

Another concern in the field of career counseling was the uncertainty of which counseling intervention was the most effective in assisting undecided community college students (Gordon, 2007; Gordon & Steele, 2003). Undecided college students had a variety of resources and program elements available to them on college campuses. Career centers, individual and group counseling sessions, career workshops and career-planning courses were just some of the different counseling resources available to undecided college students.

Statement of the Problem

The number of freshman and sophomore students enrolling for college was increasing and for many of these students, choosing a particular degree program or major was a challenging process. Between 1990 and 2000, college enrollment in degree-granting institutions increased by 11% (Snyder & Dillow, 2012). College enrollment continued to increase between 2000 and 2010

with a 37% increase. The number of college students between the ages of 18 to 24 years old increased from 27.3 million to 30.7 million between 2000 and 2010. Gordan and Steele (2003) and Reece and Miller (2006) conducted a study that indicated that over the past 25 years, first-year college students have become slightly more anxious about choosing a degree program or major. Researchers estimated that between 20% and 50% of students entered their freshman year undecided about their majors and future careers. Between 50% and 70% of all undergraduates expected to change their major and future career plans at least once during college (Gordan & Steele, 2003; Reece & Miller, 2006). College students' initial choices of careers also were unrealistic because they often were based on little knowledge about the academic requirements of the major, job relationships and their own abilities.

With the increased need for career services at the post-secondary educational level, different reasons existed as to why some college students struggled with the process of selecting a college degree program or major. Before beginning college, some students may be pressured by their parents to make a decision about their major and career goals to save time and money (Grites, 1981). With constant changes in the job market and economy, college students had added stressors in making an appropriate career decision (Smith & Gast, 1998). Lancaster, Rudolph, Perkins and Pattern (1999) conducted a study using 268 university students. The purpose of their research was to assess the psychometrics of the Career Decision-making Difficulties Questionnaire (CDDQ) in "undecided" and "decided" college groups. The findings of the study showed that many "undecided" and "decided" college students lacked the necessary elements in making an informed decision on the most appropriate degree program or major.

Purpose of the Study

For students who come to college needing assistance in the process of selecting an appropriate major or career, a career-planning course was extremely valuable. College students taking a career-planning course at the post-secondary level gained career maturity, developed insight into the career decision-making process, and improved dysfunctional career thoughts (Reese & Miller, 2006). By completing a career-planning course, students also improved their career decision-making self-efficacy. Derived directly from Bandura's (1997) social learning theory, self-efficacy was a person's belief that he or she can successfully accomplish tasks. Taylor and Betz (1983) defined career decision-making self-efficacy as a person's belief that he or she can successfully accomplish the tasks and behaviors associated with making career decisions. Self-efficacy was an important factor to consider when students were choosing a career or major because it had been observed to be a major factor in selecting work environments (Bandura, 1997). With the increasing number of college students who were undecided on their majors and careers, along with the increase of tuition and college expenses, students who needed career support benefited from taking a career-planning course.

The purpose of the study was to evaluate the effectiveness of a career-planning course for college students who were undecided on a major or want to change or confirm their major at community college. The career-planning course was designed to assist students in becoming more aware of themselves and others and cognizant of career and career options, as well as develop decision-making skills, and develop skills related to planning and implementing realistic life/career goals (Sukenni, Raufman, & Bendat, 2012). From this study, the career-planning course assisted students in improving their career decision-making self-efficacy because the development of career decision-making skills was one of the career-planning course goals. A

reduction in career decision-making difficulties for students was also seen in this study because the career-planning course was designed to help educate students in becoming more aware of different careers and career options.

Research Questions and Associated Hypothesis

This study addressed the following research questions and associated hypotheses.

1. To what extent do students enrolled in a career-planning course differ from students who are not enrolled in this course on career decision-making self-efficacy and career indecisiveness?

H₀₁: Students enrolled in a career-planning course do not differ on career decision-making self-efficacy from students who are not enrolled in this course.

H₀₂: Students enrolled in a career-planning course do not differ on career indecisiveness from students who are not enrolled in this course.

2. To what extent does career decision-making self-efficacy change from the beginning of the career-planning course to completion of the course?

H₀₃: Students enrolled in a career-planning course will not experience changes in career decision-making self-efficacy from beginning to completion of the course.

3. To what extent does career indecisiveness change from the beginning of the career-planning course to completion of the course?

H₀₄: Students enrolled in a career-planning course will not experience changes in career indecisiveness from the beginning to completion of the course.

Need for the Study

Undecided college students in need of assistance in selecting a major or degree program and college counselors benefited from this study. As the number of undecided college freshman and sophomore students continued to increase, enrolling in a career-planning course was an important counseling intervention. According to McAuliffe (1991), career-planning courses were developmental and prevention-oriented counseling interventions that reached thousands of students. Counselors who generally taught career-planning courses were helping students obtain accurate information about themselves and the world of work, while teaching them decision-making skills.

At the college level, counselors typically taught the career-planning courses (McAuliffe, 1991). By having counselors teach these courses, a greater number of students who were in need of career counseling were helped when compared to the use of individual career counseling sessions. In the career-planning courses, students experienced emotional support, empathic understanding, and encouragement from the other students in class by sharing each student's own personal work experiences (Gold, Kivlighan, Kerr, & Kramer, 1993). Counselors teaching the career-planning courses used each student's personal work experiences as linking techniques to develop cohesiveness within the career-planning courses. This effective counseling technique was difficult to achieve through individual career counseling sessions.

Theoretical Framework

Social learning theory (Bandura, 1997) indicated that the types of choices people make were based on their beliefs in their abilities to perform a task and do it well. According to Bandura, people's beliefs about their capabilities to produce desired effects exert strong influences on how they think and subsequently behave. Bandura also indicated that people with a

strong sense of self-efficacy approach tasks with positive confidence in their abilities and with heightened and sustained efforts. People with a weaker sense of self-efficacy experienced lower confidence in their abilities and less commitment to attaining the goals they choose to pursue under social learning theory (Bandura, 1997). Based on social learning theory and career decision-making self-efficacy, Taylor and Betz (1983) formulated that the observed anxiety in career indecisiveness resulted from low self-efficacy.

The effectiveness of a career-planning course and its effects on career decision-making self-efficacy, which was explored in the present study, was useful in determining if this type of course was useful in assisting students who were undecided about their future careers. Overall effectiveness for most career-planning courses was measured in different categories: student self-reports, objective and attitudinal measures (e.g., information-seeking behavior, appropriateness of career choice and career maturity) were used to determine if a career-planning course was effective in helping students with career issues (Spokane & Oliver, 1983). Oliver and Spokane (1988) also found evidence that group career treatments generally produced better outcomes than one-to-one career counseling.

Definition of Terms

For the purposes of this study, the following terms were defined.

Career. As defined by the National Career Development Association (2003), “career is the totality of work, paid and unpaid, that one does in his/her lifetime” (p. 2).

Career-Decision Self-Efficacy. Taylor and Betz (1983) described career-decision self-efficacy as the belief that individuals had in their ability to accomplish behaviors and tasks associated with making career decisions.

Career Development. As defined by the National Career Development Association (2003), “career development is the total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to influence the nature and significance of work in the total lifespan of any given individual” (p. 2).

Career Maturity. Super (1977) defined career maturity as “the way in which an individual successfully completes certain career development tasks that are required according to his current developmental phase” (p.294).

Career-Planning Course. Gordon (2007) identified that a career-planning course has the main topics of career choice factors, career information and job-seeking techniques. For the purpose of this study, the career-planning course encouraged students to explore their abilities, interests, values, skills and other aspects of self. Career decision-making and goal-setting processes were emphasized while utilizing current technology for career research and job search skills. In addition to educational planning, students gained an understanding of how to apply all their career knowledge in the ever-changing world of work.

College Career Center. A college career center was also known as a career library facility and it provided college students information about academic major fields and careers (Gordon, 2007). Access to the Internet and printed materials were two resources typically in a college career center.

College Career Counselor. Counselors at the college level were trained to assist students with academic, personal and career issues (Gardner & Jewler, 2004). Gardner and Jewler described the college career counselor as a person that guided a student through the complexities of choosing courses that follow the interests and meet the requirements of a major. For the purpose of this study, a college career counselor taught the career-planning course and

assisted students with improving their career decision-making self-efficacy and career indecisiveness.

College Major. Gordon and Sears (2010) defined a college major as “a specialized area of study intended to give you a concentration of knowledge in a particular academic field. The number of courses or credit hours required in a major (in addition to the general coursework specified by your institution) will depend on the knowledge and skills you will need to either prepare for specific occupational fields or to prepare more generally to enter many career areas” (p. XV).

Self-Efficacy. Bandura (1997) identified self-efficacy as the confidence that individuals had in their ability to master specific tasks.

Undecided Student. Gordon (2007) identified the undecided student as “students unwilling, unable or unready to make educational and/or vocational decisions” (p. X). “Exploratory, “open-major” or “special major” were some other more positive terms to describe an undecided student.

Limitations

The limitation of this study was the composition of the collected sample and sampling techniques. A convenience sample of students enrolled in a large Southeast Michigan Community College was used in the study. The findings possibly were not generalizable to students at other community colleges or baccalaureate degree-granting colleges.

Assumptions

An assumption of this study was that students enroll in the career-planning course because of a lack of decision-making skills related to selection of a major or future career plans. Students who were aware of what career path they liked to follow did not enroll in this type of course. A

second assumption was that the participants in the study responded to the surveys in an honest, open manner to ensure that the study results accurately depicted their levels of self-efficacy and decision making skills.

Summary

This chapter included background information on the process of career development, the different career development theories and the college counselor's role in assisting undecided college students. Information was presented on the issue of the increasing number of college freshman and sophomore students struggling with process of selecting a degree program. The purpose of the study in regards to the effectiveness of a college career-planning course was discussed. Bandura's Social Learning Theory in regards to career decision-making self-efficacy was explored. This chapter concluded with research questions, hypothesis and definition of terms. The second chapter presented a review of related literature on career planning for college students. The methods that were used to collect and analyze the data were included in the third chapter. The findings of the statistical analyses used to describe the sample and present the results of the inferential analyses used to address the research questions and test the hypotheses were presented in the fourth chapter. A discussion of the findings and recommendations for counselors and further research were provided in the fifth chapter.

CHAPTER 2

LITERATURE REVIEW

Introduction

The majority of the literature reviewed for this study involved investigating undecided college students and the effectiveness of a career-planning course. This chapter provided the origins of indecision, career indecision types, characteristics of undecided college students and career decision-making influences. Theoretical frameworks relevant to counseling undecided students were explored in this chapter. The topics that were incorporated in this chapter also included a review of the literature on two types of undecided students and the effectiveness of career-planning courses based on career decision-making self-efficacy and a reduction in career decision-making difficulties.

Undecided College Students

Researchers in the past have viewed undecided college students as “indecisive” college students (Gordon, 2007). Osipow (1999) indicated that indecision was a developmental phase that was part of the decision-making process. In the past, indecision was viewed as an adolescent and early adulthood issue. Indecision is now viewed from a broad life-span perspective due to the many career plans being changed constantly due to the fluctuating job market. By understanding that indecision was a developmental phase that can be viewed as a broad life-span perspective, learning about the origins of indecision was the next important step in understanding identifying undecided college students.

Origins of Indecision

One of the important beginnings of the understanding of identifying undecided college students was in a study done by Tyler in 1953. Tyler (1953) viewed indecisiveness as a result of

unsatisfactory habits or thinking that changes the student's total life. Students cannot make career or educational decisions until the personal problems or uncertainties were resolved. Tyler also pointed out that the impact of immaturity in indecisiveness and how making choices was part of developmental sequences. If earlier decisions were not resolved, then a student would not be able to make later decisions.

Other earlier studies that tried to define undecided students revolved around defining "indecisive" and associating undecided students as indecisive college students. Crites (1969) defined an indecisive student as "one who cannot make a vocational choice even after all the conditions for doing so, such as a choice supply, incentive to make a choice and the freedom to choose are provided" (p. 306). Goodstein (1965) believed that indecisive students often had trouble making decisions in all aspects of life. Personal and social conflicts associated with high levels of anxiety caused increased levels of career decision-making difficulties.

New research in the field of undecided students suggested that personality attributes of indecisive and undecided students do not share the same characteristics (Osipow, 1999). Germeijs and De Boeck (2002) created a scale for indecisiveness because they believed that career indecision and indecisiveness were two separate constructs. The eleven features of the "indecisiveness scale" were: difficulty, don't know how, feeling uncertain, takes a long time, delaying, avoidance, leaving to others, reconsideration, worrying, regretting and calling oneself indecisive. From the indecisiveness scale, Germeijs and De Boeck developed the indecisiveness factor and the career indecision factor. The indecisiveness factor referred to students having problems with decision-making in general. Educational decision-making problems referred to the career indecision factor. One of the most important things to conclude from the Germeijs and De Boeck study was that different approaches needed to be used for clients with different career

issues. From all the past research that was published about trying to define undecided students and indecisiveness, more recent research has focused around career indecision types in trying to understand the undecided student.

Career Indecision Types

Savickas (1995) described the evolution in the study of indecision as “first moving from dichotomy to unidimensional continuum and then to a multidimensional concept” (p. 364). The first part of Savickas’ phrase, “first moving from dichotomy to unidimensional continuum,” referred to the last 70 years of research and how many research studies have focused around the attempt of determining the differences between decided and undecided students (Gordon, 1998). In the research performed regarding the determination of the differences between decided and undecided students, the majority of research indicated that there were few significant differences between the two groups. With regards to the evolution in the study of indecision, the phrase, “then to a multidimensional concept,” referred to the concept of using multiple sets of variables to identify heterogeneous subtypes of undecided students.

When identifying different career indecision types, the variables used and the instruments utilized to measure the variable are both equally important in defining the career indecision types (Gordon, 1998). Vocational identities, anxiety, loss of control and career salience were some of the different variables used in determining the different career indecision types (Gordon, 2007). Different theoretical frameworks were also important in defining the career indecision types. Gordon (1998) summarized fifteen studies done on career indecision types and determined the presence of any patterns or similarities among the types.

Gordon (1998) created seven categories of students from a continuum of decided to indecisive. Very decided, somewhat decided, unstable decided, tentatively undecided,

developmentally undecided, seriously undecided and chronically indecisive were the seven categories. In each category, Gordon suggested advice and counseling approaches to be used to help counsel students. Tentatively undecided, developmentally undecided, seriously undecided and chronically indecisive were the four categories explored in further detail due to this study being about undecided college students.

Tentatively Undecided

Lucas and Epperson (1988) identified tentatively undecided students as having a relatively high level of vocational identity and being comfortable with themselves. Other characteristics of tentatively undecided students were being close to deciding a career, confident about making decisions when it feels right, intuitive decision makers and relatively well-adjusted. Tentatively undecided students overall feel comfortable with themselves and their situation and admit to being undecided. Due to a variety of reasons, tentatively undecided students were not motivated to commit to a vocational choice at the present time. Considering more than one career choice or needing more career information were two various reasons why tentatively undecided students had a difficult time becoming decided students.

Counselors that worked with tentatively undecided students may have suggested a career-planning course (Gordon, 1998). Gordon indicated that tentatively undecided students benefitted from an organized exploration program that had activities that included informational interviewing, using a career library and exploring computerized career information programs. Learning about values and how they pertained to the world of work was another important concept for counselors to remember when working with tentatively undecided students. Having a greater closeness to making a decision and an increased vocational maturity were the main factors that separated tentatively undecided students from developmentally undecided students.

Developmentally Undecided

Fuqua, Blum and Hartman (1988) described developmentally undecided students as students that could resolve indecision through maturation. Developmentally undecided students were dealing with the normal developmental tasks associated with the career decision-making process. Multon et al. (1995) indicated that developmental undecided students preferred to gather information about themselves and the world of work while developing their career decision-making skills. Savickas and Jarjoura (1991) described developmentally undecided college students as “crystallizing a preference through broad exploration of self and occupations” (p. 87).

Similar to the tentatively undecided students, researchers discovered that when counselors worked with developmentally undecided students, counselors should suggest that these students take a career-planning course (Gordon, 1998). The developmentally undecided students responded well to career-planning course activities and interventions (Larson et al., 1988). The different career-planning course exercises and activities provided developmentally undecided students with useful career knowledge and information about their interests, abilities and values (Chartrand et al., 1994). By taking a career-planning course, developmentally undecided students also had access to computerized career information systems, an understanding on how to improve their decision-making skills and an opportunity to learn more about preparing for job interviews.

Seriously Undecided

Wanberg and Muchinsky (1992) described seriously undecided students as having low levels of self-clarity, vocational identity and self-esteem. Seriously undecided students believed that their lives were controlled by chance or powerful individuals. Lucas and Epperson (1990) reported that seriously undecided students displayed low levels of vocational identity and

depended on others for reinforcement and advice in regards to choosing a career. According to Lucas and Epperson, these students were “in emotional distress” (p. 386).

A more personalized approach was found to be more beneficial for some of the counselors that worked with the seriously undecided students due to the students’ low levels of vocational identity and self-esteem (Gordon, 1998). Gordon pointed out that the perceptions of external barriers and the dependence on other individuals prevent the seriously undecided students from being able to take responsibility for their own career decision-making. By taking a more personalized approach with seriously undecided students, Savickas and Jarjoura (1991) suggested that counselors address the personal concerns of these students before any type of career exploration activities can take place. The level of anxiety associated with making a career choice was what separated the seriously undecided students from the chronically indecisive students.

Chronically Indecisive

Goodstein (1965) described chronically indecisive students as students who felt excessive anxiety associated with making a career choice. For chronically indecisive students, anxiety was the main cause of the indecision that can be debilitating and severe. The excessive anxiety permeated in other facets of the chronically indecisive students’ lives. Lucas and Epperson (1990) indicated that chronically indecisive students were “distressed, unclear about their career options and relied on other’s help and approval when making decisions” (p. 386).

Gordon (1998) recommended that counselors working with chronically indecisive students help treat the anxiety of these students before working on career related issues. Long-term counseling that focused on acute vocational dysfunction and delay were other suggestions that Van Matre and Cooper (1984) recommended when working with chronically indecisive

students. A career-planning course that had structured and extensive career learning activities helped chronically indecisive students gain insight about themselves and deal with some of their anxiety (Larson et al., 1988).

Characteristics of Undecided College Students

Choice Anxiety

Choice anxiety, career identity, career maturity and emotional intelligence were some of the general characteristics of undecided college students. In regards to choice anxiety, Goodstein (1965) was able to describe two groups of undecided students. In the first group of undecided students, the students were undecided due to a number of reasons and the inability to make a decision causes these students to feel anxiety. Social or educational pressure to make a choice increased the students' anxiety. Goodstein indicated that counselors that worked with this group of undecided students needed to help them gain occupational information or teach them decision-making skills.

In the second group of undecided students, the anxiety associated with making choices was debilitating for the students and they had a difficult time making a decision about anything (Goodstein, 1965). Goodstein identified this group of undecided students as indecisive. Besides having difficulty making choices, these indecisive students had personal social conflicts. Counselors working with these indecisive students had to assist these students with their personal social issues before counselors could help them with their anxiety in making decisions.

Career Identity

An important antecedent of indecision was the lack of career identity (Gordon, 2007). Identity was defined by Holland (1997) as "the possession of a clear and stable picture of one's goals, interests and talents" (p. 5). A significant positive correlation was identified between

vocational choice and identity in a study done by Holland and Holland (1977). Holland and Holland indicated that undecided students did not differ in their personal characteristics, but were only different in their own sense of career identity and vocational maturity. Savickas (1985) discovered that when career identity crises had been successfully resolved, clear career goals and higher levels of career maturity were achieved. Counselors working with undecided college students that possessed a lack of career identity needed to help these students develop clear career goals and objectives.

Career Maturity

Savickas (1984) viewed career maturity as the readiness of an individual to make age-appropriate and informed career decisions in addition to having the ability to cope with appropriate career development tasks. Career maturity was an important concept at institutions of higher learning because most colleges required their students to make a college major choice even if the students were not developmentally ready (Gordon, 2007). Powell and Luzzo (1998) pointed out an important relationship between career maturity and career decision-making. When undecided students had more control over their own career development, these students had a more positive attitude toward the career decision-making process. Gordon (2007) suggested that counselors at the college level that work with undecided students that need assistance in improving their career maturity helped these students become more aware of the tasks associated with the career decision-making process and assist these students with developing the skills necessary in accomplishing this process.

Emotional Intelligence

In regards to the career decision-making process, the role of emotional intelligence was found to be important. Brown, George-Curran and Smith (2003) determined that undecided students that reported higher abilities in generating, perceiving and accessing emotions were able to report greater confidence in their career decision-making process. Emmerling and Cherniss (2003) indicated that undecided students who had difficulty in identifying, perceiving and experiencing emotions had a decreased ability to use emotions to execute different career decision-making process tasks. Gordon (2007) indicated that counselors who work with undecided students want to pay attention to the important role that emotions play in the career decision-making process. The emotional interplay among feelings, judgments and actions was an important area to consider for counselors who were assisting students with making educational and career decisions. With choice anxiety, career identity, career maturity and emotional intelligence being identified as general characteristics of undecided college students, career decision-making influences also played a role in the life of undecided college students.

Career Decision-Making Influences

Family Influences

Family influences, career barriers and retention were three factors of career decision-making influences for undecided college students. Holland (1997) and Roe (1957) indicated that one of the antecedents that influence career choice was family factors. In regards to family factors, parents were one of the most influential family factors (Pearson & Dellman-Jenkins, 1997). Pearson and Dellman-Jenkins indicated that one of the largest impacts on students' decision to attend college was the parents' encouragement. Guerra and Braungart-Rieker (1999) also researched that college students' perceptions of their parental relationship were related to

their career decision-making. College counselors needed to be aware of the large impact that families can have on the career choices and education of their students (Gordon, 2007). Cultural backgrounds that involved close family alliances factor into college students' career decision-making and college counselors also should be aware of these family ties.

Career Barriers

Gender and ethnic discrimination, lack of educational opportunities and perceived lack of ability were early references to career barriers (Crites, 1969; Farmer, 1976). Career barriers associated with ethnicity and gender were the focus of more recent career studies (McWhirter, 1997). When compared to European American students, ethnic minority students had greater education and career-related barriers associated with financial aid and child care concerns (Luzzo & McWhirter, 2001). Lower levels of self-efficacy for coping with and managing career related barriers were also reported from ethnic minority students compared to European American students.

In regards to gender, women reported greater levels of career-related barriers compared to men (Luzzo & McWhirter, 2001). Some of the career-related barriers that women reported experiencing at higher levels compared to men were having a more difficult time getting hired, being subjected to negative comments about their gender and experiencing sex discrimination. Swanson, Daniels and Tokar (1996) reported that the number and type of career-related barriers that students perceived could be a limiting factor in the career decision-making process. College counselors working with students that experienced career-related barriers wanted to determine the extent of how the career-related barriers are hindering the students' career progress and then worked with these students in determining ways to overcome these career-related barriers (Gordon, 2007).

Retention

Most career studies that focused were around the topic of undecided students suggested that undecided college students were attrition-prone (Lewallen, 1993). Lewallen however found no significant differences between college students who were decided and undecided in regards to predictors of persistence. Habley and McClanahan (2004) collected retention data using the ACT retention survey. Students that completed the ACT retention survey reported that the most important student characteristic that contributed to attrition was the lack of goals and educational aspirations. Colleges that completed the ACT retention survey reported that career workshops and courses were among the most common retention practices used.

Cueseio (2003) emphasized that one of the most influential factors in the retention of college students was the counselors. The five reasons that Cueseio lists as to why the counseling connection had such a large impact on retention were:

1. Student satisfaction with the college experience.
2. Effective educational and career planning and decision-making.
3. Student utilization of campus support services.
4. Student-faculty contact outside the classroom.
5. Student mentoring. (p. 1)

Cueseio stressed that training counselors to understand the characteristics of undecided students was especially important to the retention of undecided students in college. Tinto (1997) determined that to increase the retention of undecided students in college, college programs must include a wide variety of counseling, advising and services that keep undecided students deeply involved at every level of campus life.

Theoretical Frameworks

Schunk (2000) indicated that “theories provide frameworks for interpreting environmental observations and serve as bridges between research and education” (p. 3). A variety of theoretical frameworks were used when researching undecided college students, but no one theory sufficiently explained undecided college students (Gordon, 1998). Gordon (2007) then went on to indicate that “the insights these theoretical constructs provide can be applied in many practical approaches to help undecided students through their transition to decidedness.” (p. 55). Due to the study determining the effectiveness of a college career-planning course, the theories discussed pertained to the major career theories used in a college career-planning course. A developmental approach, career decision theory, Holland’s theory of personalities and work environments and the social learning theory of career decision-making were the theories primarily used in a career-planning course. The four theories used in a career-planning course were all used to guide and support the research done on evaluating the effectiveness of a college career-planning course for college students who were undecided on a major or wanted to change or confirm their major at the community college level.

Developmental Approach

Each college student had his or her own needs, characteristics and rate of maturation that was unique to his or her own development (Erikson, 1968). Gordon (2007) viewed the developmental approach for undecided students as “individuals continually engaged in a series of developmental tasks that ultimately enable them to adapt and change in a pluralistic world” (p. 56). With a developmental approach for undecided college students, counselors had to consider a variety of different program elements and services that incorporated both career and student development principles and concepts. When using a developmental approach with undecided

college students in a career-planning course, counselors had to remember the five main concepts of a developmental approach and the implications for undecided students when using this approach.

Gordon (2007) indicated that the first main concept in a developmental approach was that “all human beings develop through a life cycle that has continuity and form” (p. 56). Undecided college students were not easily grouped as a whole and because each student develops at his or her own unique level and pace, generalizations were difficult to determine (Buehler, 1962). An implication for counselors working with undecided college students under this first main concept was that counselors should be basing their services for these students on the students’ needs and not institutional requirements. When counselors put the students’ needs at the forefront of a counseling session, counselors should also be aware of what stage the students were developmentally.

The second main concept in a developmental approach described by Gordon (2007) was “development is stage and task related” (p. 57). Donald Super was able to formulate different life/career development stages and the tasks in regards to development associated with each stage. An implication for working with undecided college students under this second main concept was that counselors needed to be aware of the developmental stage that undecided students were in and the tasks associated with the stage. College counselors should have an understanding that many undecided and decided college students were not developmentally ready to make important life and career decision at a young age. Chickering and Reisser (1993) indicated that young adult college students were more concerned about establishing interpersonal relationships, developing social and physical competencies, and finding emotional independence.

Gordon (2007) indicated that the third main concept in a developmental approach was that “certain developmental tasks are more dominant at certain stages in the life cycle than others” (p. 57). To be better developmentally adjusted, college students must accomplish certain developmental tasks. An excellent example would be that college students should learn about the career choice process before making the choice on a college major or career. An implication for working with undecided college students under this third main concept was that counselors needed to be aware that career development tasks were often age related. An undecided college freshman student at the age of 18 was approaching the career decision-making process from a different perspective compared to a 30-year old undecided college student returning back to college after taking a five-year hiatus from college.

The fourth main concept in a developmental approach described by Gordon (2007) was “development tasks progress from the simple to the increasing complex” (p. 58). Gordon further indicated that “as students assimilate new knowledge and learn new behaviors, they must integrate them with existing knowledge and patterns, so that they may function successfully at more complex and appropriate levels of thought and behavior” (p. 58). An implication for working with undecided college students under this fourth main concept was that counselors needed to be aware that the counseling services and programs offered to undecided students should reflect the different levels of ability to differentiate and integrate aspects of the career decision-making process. College counselors needed to be sensitive to the level of ability and complexity that the undecided students were at and to have an understanding of where the students were at in the career decision-making process before they began a counseling intervention at that level (Baxter-Magolda, 1992).

Gordon (2007) indicated that the fifth main concept in a developmental approach was that “many developmental tasks are interrelated and are dealt with simultaneously” (p. 59). During college, students’ personal, social and career concerns were all interrelated. Undecided students that developed social competence and succeeded academically were able to have a larger impact on their career options. An implication for working with undecided college students under this fifth main concept was that counselors needed to be aware that some students prioritized career concerns as a lower issue compared to personal and academic concerns. College counselors needed to develop counseling programs geared towards acknowledging personal and academic concerns while integrating major and career exploration tasks.

Career Decision Theory

In a career-planning course, career decision theory helped explain undecided college students’ decision-making process. Tiedeman and O’Hara (1963) indicated four planning stages that were relevant in understanding the decision-making process of undecided students. The four stages each had a series of tasks that needed to be resolved before undecided students could progress to the next level of the decision-making process. Tiedeman and O’Hara viewed the four stages as progressive, but the stages may also be regressive. Students recycled through the four stages at different points in their lives when the various career choices needed to be resolved. The exploration, crystallization, choice and clarification stages are the four planning stages.

In the exploration stage, Tiedeman and O’Hara (1963) indicated that undecided students have vague anxiety about their future. Undecided students in this stage had no plan of action and knew little about the process of career exploration and choice. In the exploration stage, all career choices appeared positive for undecided students. An implication for working with undecided college students in the exploration stage was that counselors were necessary in order to assist

these students in identifying their interests and strengths and how these two items relate to college academic programs (Gordon, 2007).

The second stage in the career decision theory was the crystallization stage and the majority of undecided students were in this particular stage (Tiedeman & O'Hara, 1963). In the crystallization stage, undecided students were beginning to choose a career choice and were looking to identify some alternative career choices. Undecided students were also able to weigh the advantages and disadvantages of certain career alternatives. An implication for working with undecided college students in the crystallization stage was that counselors had to assist these students in finding creative ways to explore their interests in their alternative career choices (Gordon, 2007). The more career information resources and opportunities that counselors provided to these students, the more career exposure these students had in identifying the advantages and disadvantages of the different careers that exist.

In the choice stage, Tiedeman and O'Hara (1963) indicated that undecided students had made a definite commitment to a career goal. Students in the choice stage felt satisfied and relieved about their particular career choice. An implication for working with undecided college students in the choice stage was that counselors had to ensure that the students' career choices were realistic (Gordon, 2007). Knowing relevant information about the career choice and their abilities to perform in it were some of the realistic items that counselors were reviewing with undecided students in the choice stage.

The fourth and last stage in the career decision theory was the clarification stage (Tiedeman & O'Hara, 1963). Since a career choice had been made, the next plan of action involved initiation and implementation of the career choice. An implication for working with undecided college students in the clarification stage was that counselors provided support to

students through the stage (Gordon, 2007). Counselors supporting students through the clarification stage meant assisting the students with determining how the career choice fits in their life goals, reviewing the decision-making process and providing anxiety counseling as needed.

As undecided college students progressed through the four planning stages of the career decision theory, Tiedeman and O'Hara (1963) also described various levels of indecision among individual undecided students. The three levels of indecision that individual undecided students could be categorized into were completely undecided, tentatively decided and uncommitted decided. Completely undecided students were students considering no career choice. Undecided students considering two or more career choices were identified as tentatively decided students. Uncommitted decided students had not made a career choice. For all three levels of indecision, enrolling into a career course was one of the best possible counseling interventions for these students.

Holland's Theory

One of the most utilized career theories in career-planning courses was John Holland's theory of personalities and work environments. Holland (1997) indicated his "theory consists of several simple ideas and their more complex elaborations" (p. 1). Realistic, Investigative, Artistic, Social, Enterprising and Conventional were the six personality and work environment types of Holland's theory. Holland (1997) explained that certain characteristics were associated with each personality type and that personality types, "create a special disposition that leads to the way (students) think, perceive and act in special ways" (p. 2). After students' personality types had been identified, students would then want to find work environments that were compatible with their personality types.

Realistic people had a personality type that incorporated working with machines or tools in their careers or hobbies in a work environment involving physical labor (Sharf, 2002). The personality type of investigative people included solving challenges and puzzles that required the use of intellect in a work environment that consisted of searching for solutions to problems through scientific and mathematical means. Artistic people had a personality type that embodied working with music, art or writing to express themselves within a work environment that was open and free with an opportunity for personal and creative expression. The personality type of social people comprises of helping people in a work environment that embraced being kind, friendly and generous to other people. Enterprising people had a personality type that consisted of the acquisition of wealth and a work environment that was in a setting involving financial and economic issues regarding money and power. Conventional people had a personality type that constituted being dependable, valuing money and being able to follow orders and rules in a work environment of planning and organization in an office.

The two most critical concepts in Holland's theory were the personality types and work environments. Holland (1997) indicated that students preferred work environments that were compatible with their interests, attitudes, abilities and values. Students' personality types and how they interacted with their environment influenced their behavior. Consistency, identity and congruence were some other keys terms in Holland' theory. The degree of relatedness between personality types and work environments was how Holland defined consistency. A hexagon with the six personality types and work environments was used to demonstrate consistency in Holland's theory. Holland (1997) defined identity as the "possession of a clear and stable picture of one's goals, interests and talents" (p. 5). Congruence was viewed as opportunities and rewards in a work environment that are compatible with students' needs in Holland's theory.

In understanding some of the major definitions associated with Holland's theory of personality types and work environments, college counselors teaching career-planning courses used specific applications of Holland's theory with assisting undecided college students. A specific application that used the concepts associated with Holland's theory was the Strong Interest Inventory (SII). The SII was a career assessment that gave insight into a student's interests to help undecided students determine appropriate career choices for themselves (Sharf, 2002). In a career-planning course, the SII was used as one of the primary career assessment tools in determining undecided college students' interest areas from the vast amount of occupations that exist.

Another specific application that used the concepts associated with Holland's theory was the Myers-Briggs type theory. Katherine Cook Briggs and Isabel Briggs Myers developed the Myers-Briggs type theory (Sharf, 2002). Carl Jung was the first psychiatrist that explored the different psychological types of people. Briggs and Myers then applied the studies of Jung to their formation of the Myers-Briggs Type Indicator (MBTI). The MBTI was used as an instrument for understanding normal personality differences. In a career-planning course, the MBTI was the preferred career assessment tool used in determining undecided college students' personality. With Holland's theory, counselors teaching career-planning courses used the SII and the MBTI to help gather useful information on undecided college students that guided these students on their journey towards selecting a meaningful career choice.

Social Learning Theory

John Krumboltz's Social Learning Theory of Career Decision Making was another career theory used in college career-planning courses with undecided students. Krumboltz (1996) developed a learning theory that assumes that a student's unique learning experiences play a

large role in the development of a student's career decision-making process. In Social Learning Theory of Career Decision Making, indecision was viewed as necessary and desirable because indecision developed learning activities for undecided students. In place of the term "indecision", Krumboltz used the term "open-mindedness."

Krumboltz believed that the responsibility of stimulating new career learning activities for undecided students fell upon counselors (Gordon, 2007). The learning of new career interests, skills, values, beliefs and work habits was all achieved by taking a career-planning course. Activities offered in a career-planning course that stimulated new learning opportunities would be job shadowing, worksite observations, informational interviews and internships. Career courses also offered activities that stimulated goal clarification, role-playing and cognitive restructuring that helped undecided students learn more career decision-making skills.

Types of Undecided College Students

When designing counseling interventions for undecided college students, counseling departments needed to develop a profile of the undecided students that counselors were servicing. Entering first-year students, major changers, undecided upper-class students, special category undecided students and undecided community college students were some of the different types of undecided college students that existed (Gordon, 2007). Due to this study being about the effectiveness of a career-planning course at the community college level, the types of undecided students discussed pertained to the largest kinds of undecided students that enroll into a community college career-planning course. Entering first-year and undecided community college students were the two largest types of undecided students that enroll into a career-planning course.

Entering First-Year Students

The largest and most common type of undecided college students was the entering first-year student (Gordon, 2007). Entering first-year students were viewed as unready, unable and unwilling students that had a difficult time selecting a specific academic direction. When providing counseling services for entering first-year students, counselors determined specific areas of need. The most common areas of need for entering first-year students were informational deficits, developmental skill deficits and personal or social concerns. All three of these areas of need were addressed in the curriculum of a career-planning course.

The entering first-year undecided college students lacked information in three general areas (Gordon, 2007). Personal characteristics were the first general area of information that was a deficit for entering first-year students. Personal values, goals, abilities, and interests were some of the personal characteristics that entering first-year students need to develop. The second general area of information that entering first-year students were deficient in was information about available academic areas of study on a given college campus. Many entering first-year students needed assistance in interpreting or integrating information about college catalogs and schedules that provided information about available academic areas of study on a college campus. A lack of information about occupational areas was the third general area of information that was a deficit for entering first-year students. By taking a career-planning course, entering first-year students gained valuable information about personal characteristics, available academic areas of study on a college campus and occupational areas.

Developmental skill deficits were the second common area of need for entering first-year students (Gordon, 2007). Entering first-year undecided college students were unable to formulate a choice because they lacked appropriate decision-making skills. Counselors needed to assist

entering first-year students with the developmental task of implementing vocational and educational choices (Chickering & Reisser, 1993). In a career-planning course, entering first-year students learned developmental tasks that supported the advancement of their decision-making skills.

Personal or social concerns were the third common area of need for entering first-year students (Gordon, 2007). Gordon viewed personal or social concerns for entering first-year undecided college students as self-conflict. Values-goal, interest-ability, interest-energy and admire-please were self-conflicts that entering first-year students had the possibility to face. Entering first-year students learned how to deal with these various self-conflicts by taking a career-planning course.

Undecided Community College Students

Undecided community college students were another type of undecided students that enroll into a career-planning course. Students that were undecided at the community college level displayed many of the same characteristics of undecided students at the university level (Gordon, 2007). Many community college students enrolled at a community college with the intention of transferring to a four-year institution. With a large amount of community college students planning to transfer to a four-year institution, undecided community college students needed assistance with scheduling at the community college level and an awareness of the transfer criteria they may face.

King and Raushi (1994) identified certain themes associated with undecided community college students. Many undecided community college students were the first in their family to attend college. Some undecided community college students required remedial coursework due

to inadequate college preparation. Being commuters with a large segment being adult-aged students were other themes associated with undecided community college students.

A developmental approach was recommended when counseling community college students (King & Raushi, 1994). Counselors helped community college students make effective decisions by taking into consideration community college students' unique personal qualities and the other priorities in their lives that they have established. Enrolling into a career-planning course was a counseling intervention that was recommended for undecided community college students. King and Raushi (1994) indicated that a career-planning course for undecided community college students included:

Identifying and providing services for exploration upon entry; creating programs to teach decision making as a process; helping students, especially adults, identify and use life patterns that have been successful in other situations; and embracing a developmental approach so that the student's "whole-life context" is incorporated into the decision-making process. (p. 99)

Effectiveness of a Career-Planning Course

Maverick (1926) indicated that career-planning courses have served college students for over seventy-five years. Career information, career choice factors and job-seeking techniques were typically what most career-planning courses offer to students enrolling for the course (Devlin, 1974). There were several advantages of enrolling into a career-planning course. A career-planning course assisted undecided students with focusing on the career-planning process and concentrating on a specific area of interest (Gordon, 2007). Undecided students learned a series of career decision-making steps by enrolling and attending a career-planning course. Career activities that included gathering information about one's self, academics and careers were all part of a career-planning course curriculum.

The effectiveness of a career-planning course based on career decision-making self-efficacy and a reduction in career decision-making difficulties were two other advantages of enrolling into a career-planning course. In a study completed by Reece and Miller (2006), an increase in career decision-making self-efficacy for setting career goals, obtaining career information and career planning for students who completed a career-planning course was shown compared to students who did not enroll in a career-planning course. A reduction in career decision-making difficulties was also noticed for the students that enrolled in the career-planning course compared to the students that did not. Reece and Miller further indicated that a career-planning course was effective if the course used an established career theory to teach the students enrolled in the course.

Summary

Trying to understand undecided students, theoretical frameworks used for undecided students, the types of undecided students and the effectiveness of a career-planning course were all main topics discussed in this chapter. This chapter highlighted pertinent literature reviews on the origins of indecision, career indecision types, characteristics of undecided college students and career decision-making influences. The topics reviewed also included theoretical frameworks relevant to counseling undecided students and two types of undecided students. This chapter concluded with reviewing the effectiveness of a career-planning course based on career decision-making self-efficacy and a reduction in career decision-making difficulties.

CHAPTER 3

METHODOLOGY

Introduction

This chapter described the methodology that was used to collect and analyze the data needed to address the research questions and test the associated hypotheses. Relevant information concerning the restatement of the problem, research design, setting for the study, participants, instrumentation, data collection procedures and data analyses were included in this discussion.

Restatement of the Problem

This study sought to determine that students that were completing a career-planning course showed statistically significant gains in career decision-making self-efficacy compared with students that were taking a college orientation course. It was also expected that students completing a career-planning course had a statistically significant reduction in career decision-making difficulties.

Research Design

A quasi-experimental nonequivalent control group research design was used as the framework for this study. Due to the participants not being randomly assigned to the intervention and control groups, the study failed to meet the criteria for a true experiment. The students in both groups were pretested and post-tested at the same time. Between the two testing periods, the intervention group completed a career-planning course. Figure 1 presented a graphical representation of the research design. The Os represented the pretest and posttest, with the X indicating the intervention.

$$\begin{array}{ccc} O_1 & X & O_2 \\ \hline O_1 & & O_2 \end{array}$$

Figure 1: Nonequivalent Control Group Research Design

The researcher was aware of threats to the internal and external validity of the study. For example, a nonequivalent control group research design was subjected to threats from maturation, history, instrumentation, and interaction of selection and maturation (Campbell & Stanley, 1963). By determining that the experimental and control groups were similar on the pretest, most threats to internal and external validity were controlled. According to Campbell and Stanley, “Assuming that these desiderata are approximated for purpose of internal validity, we can regard the design [nonequivalent control group research design] as controlling the main effects of history, maturation, testing, and instrumentation” (p. 48). Interaction between the two groups was a threat to the validity of the design if the students in the intervention class discussed what they had learned during the intervention with members of the control group. To control this threat, the researcher cautioned the students to refrain from discussing the course with their peers who were not enrolled in the career-planning course.

Setting for the Study

A community college located in a suburban area adjacent to a large metropolitan city was the setting for the study. This community college had an enrollment of more than 27,000 students with a median age of 23 years, and a range from 15 to 100 years. Approximately 57% of the enrolled students were female, with 41 % indicating their gender as male. Two percent of the students chose not to report their gender. The community college had a racially diverse student body, with African American (24.1%), Caucasian (58.8%), Asian (3.1%), Hispanic (2.8%), and

other ethnic groups (11.2%). The students at this community college were enrolled for a variety of reasons, including transfer to a baccalaureate college or university, completion of an associate's degree or program certificate, job enhancement skills, etc. Ten career-planning courses were held each semester at the community college.

Participants

The research participants were a convenience sample of students enrolled in three sections of a career-planning course at the community college. A convenience sample, as identified by McMillian and Schumacher (2001), was one in which subjects were selected based on accessibility and expedience. Since the current study required that data be collected while classes were in session, using a convenience sample was an efficient way to find research participants already enrolled in the courses (career-planning course and an orientation to college course). Approximately 27 students were enrolled in each section of the career-planning course, with a maximum of 81 students included in the experimental group. A second group of approximately 81 students were obtained from college orientation classes that did not include career planning as part of the curriculum. The only inclusion criterion for the experimental group was the student must be enrolled in the career-planning course. For the control group, the students could not be enrolled in the career-planning course.

Description of the Intervention

The career-planning course was designed to help community college students gain self and career awareness, learn career decision-making skills and assist students with their career planning (Sukenni, Raufman & Bendat, 2012). The curriculum for the career-planning course was from a career workbook from Sukenni, Raufman and Bendat (2012) called *The Career Fitness Program Exercising Your Options* (10th ed.). The career-planning course had been in

existence since 1980 and any student at the community college could register for the class. One of the goals of the career-planning course was assisting students with understanding that career planning was a life-long process that involved continuous evaluation. Assisting students with developing awareness of personal interest, values, skills and personality characteristics and helping them understand how to relate these items to a career choice was another goal of the career-planning course. Some of the other goals of a career-planning course were exploring and analyzing occupational information, setting realistic short and long-term goals and learning how to plan and organize a job campaign. Table 1 presented the weekly course objectives in the eight-week career-planning course.

Table 1

Weekly Career-Planning Course Sessions

Week	Course Topics
1	Course overview Student introductions Your expectation of this course and what you wanted to gain Discussed current life roles/college and work experience Chapter 1: Testing Your Career Savvy: Get Into Shape* Chapter 2: Building Your Career Success Profile: Discover Your Personal Power
2	Chapter 3: Confirming Core Values: Strengthen Your Balance Chapter 4: Assessing Your Personality & Interests: Express Your Real Self Discussed Myers Briggs Type Indicator and Strong Interest Inventory
3	Chapter 5: Evaluating Your Skills: Accentuate Your Assets Introduced Informational Interviews Career Cruising Presentation
4	Chapter 6: Examining The World Of Work: Broaden Your Outlook Chapter 7: Exploring Career Information: Expand Your Horizons
5	Chapter 8: Developing Your Decision Making: Strategize Your Game Plan Chapter 9: Targeting Your Job Search: Mobilize Your Network
6	Chapter 10: Crafting A Winning Resume & Portfolio: Market Your Unique Brand Chapter 11: Interviewing Strategically: Become Your Own Coach
7	Chapter 12: Focusing On The Future: Keep The Momentum Going
8	In class PowerPoint presentations

*Course text book: Sukenni, D., Raufman, L., & Bendat, W. (2012). *The Career Fitness Program Exercising Your Options* (10th ed.). Upper Saddle River, NJ: Prentice Hall.

Description of the Control

The orientation to college course was designed to help community college students gain an understanding of the skills necessary to make a successful transition to college (Baldwin, 2012). The curriculum for the career-planning course was from a college orientation workbook from Baldwin (2012) called *The Community College Experience Brief Edition* (3rd ed.). The college orientation course had been in existence 1980 and any student at the community college could register for the class. One of the goals of the college orientation course was for students to establish personal and academic goals and to become aware of the obstacles that prevented them from reaching their goals. Learning about college life, locating internal and external resources at

a community college and developing communication skills that promoted success were some of the other goals in the college orientation class. Table 2 presented the weekly course objectives in the six-week college orientation course.

Table 2

Weekly College Orientation Course Sessions

Week	Course Topics
1	Course overview Student introductions Chapter 1: Understanding the College Campus*
2	Chapter 2 Setting goals and staying motivated Chapter 3 Managing your time and energy Library tour – introduction to library services
3	Chapter 4 Cultivating relationships and appreciating diversity Chapter 5 Reading, listening, and note taking
4	Chapter 6 Learning, Memory and Studying for tests
5	Chapter 8 Making healthy choices
6	Chapter 9 Planning for the next semester College guest speaker

*Course text book: Baldwin, A. (2012) *The Community College Experience Brief Edition* (3rd ed.) Upper Saddle River, NJ: Prentice Hall.

Variables in the Study

The independent variable in this study was group membership. Students enrolled in the career-planning courses were in the treatment group and the students enrolled in the orientation to college courses were in the control group.

The dependent variables were the five subscales from the Career Decision Making Self-Efficacy Scale – Short Form (CDMSES-SF) including (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) making plans for the future, and (e) problem solving. The three categories, lack of readiness, lack of information, and inconsistent

information, and the 10 subcategories, lack of motivation, general indecisiveness, dysfunctional beliefs, career decision making process, self, occupations, ways of obtaining information, unreliable information, internal conflicts, and external conflicts, from the Career Decision-making Difficulties Questionnaire (CDDQ) also were used as dependent variables in this study.

Additional variables, including age, gender, ethnicity, number of credit hours, educational aspirations, and kind of career interests were collected on the demographic survey.

Instruments

Three measures were used to collect data for the study. A demographic questionnaire developed by the researcher was used first to obtain information about the personal and educational characteristics of the sample. The Career Decision Making Self-Efficacy Scale–Short Form (CDMSES-SF; Reece & Miller, 2006) was used to measure students’ self-efficacy relative to his/her career decision-making behaviors. The Career Decision-making Difficulties Questionnaire (CDDQ; Reece & Miller, 2006) was used to identify areas of difficulty in the career decision-making process.

Career Decision-Making Self-Efficacy Scale–Short Form (CDMSES-SF)

The CDMSES-SF (Taylor & Betz, 1983) was a 25-item questionnaire that was developed to determine students’ perceived self-efficacy related to career decision-making behaviors. The CDMSES-SF was a condensed version of the 50-item Career Decision Self-Efficacy Scale (CDMSES). Bandura’s self-efficacy hypothesis was used as the theoretical foundation for the CDMSES (Reece & Miller, 2006). The theoretical foundation of the CDMSES was rooted in Bandura’s self-efficacy hypothesis. This hypothesis stated that a behavior associated with low self-efficacy beliefs was likely to be avoided whereas a behavior associated with high self-efficacy beliefs was likely to be sustained (Luzzo, 1996). By using a transitive line of reasoning,

the relationship between Bandura's hypothesis and career decision-making was developed. Low scores on the CDMSES were associated with an avoidance of decision-making behaviors in contrast to high scores of the CDMSES that resulted in an increase in career decision-making behaviors. As a result of the train of logic developed through the relationships between scores on the CDMSES and decision-making behaviors, Taylor and Betz (1983) developed a standardized measure of self-efficacy that determined the participant's level of confidence in accordance to career decision-making behavior (Luzzo, 1996).

To represent the behaviors relevant to the career decision-making process used in the CDMSES-SF, Taylor and Betz (1983) selected behaviors indicative of the five career-choice competencies developed by Crites' (1961) model of career maturity. The five competencies represented in the CDMSES-SF were: (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) making plans for the future, and (e) problem solving (Luzzo, 1996). In the 25-item questionnaire of the CDMSES-SF, five tasks (items) were used to measure each of the five competency areas (subscales). Participants were asked to indicate their confidence level in their ability to complete each task successfully. Table 3 presented the items that were included on each of the five subscales.

Table 3

Career Decision-Making Self-Efficacy Scale–Short Form (CDMSES-SF) Subscales

Subscale	Description	Items
Accurate self-appraisal	Being able to accurately appraise one's own interests, values and abilities as they related to educational and career decisions.	5, 9, 14, 18, 22
Gathering occupational information	Being able to find sources of information about college majors and occupations, which included the ability to speak with people employed in the occupations of interest.	1, 10, 15, 19, 23
Goal selection	Being able to identify one or more college majors and careers to pursue by matching one's own characteristics to the demands and rewards of the different careers.	2, 6, 11, 16, 20
Making plans for the future	Understanding how to implement an educational or career choice, which included being able to job search, resume write, job interview and enroll in educational programs.	3, 7, 12, 21, 24
Problem solving	Being able to use coping strategies and figure out alternative plans when educational and career plans did not go as intended.	4, 8, 13, 17, 25

Scoring.

The participants were asked to rate each of the items using a 10-point Likert-type scale ranging from 9 (complete confidence) to 0 (no confidence) for each task. The numeric ratings for each subscale were summed to obtain a total score for each subscale. The total score was then divided by 5 to create a mean score for each participant. The use of a mean score allowed direct comparison across the subscales and provided results based on the original unit of measure. A total CDMSES-SF score for a participant was calculated by summing the confidence ratings for all five subscale scores.

Reliability.

In a reliability generalization study for the CDMSES-SF done by Nilsson, Schmidt and Meek (2002), the researchers found that the internal consistency coefficients ranged from .69 to

.83 for the subscales and .92 to .97 for the total score. In a study done by Taylor and Betz (1983), the internal consistency of the CDMSES was .86 to .89 for the subscales and .97 for the total score. Luzzo (1993) conducted a study to assess the test-retest reliability of the CDMSES and found a test-retest reliability of .83 for the subscales. Based on these findings, the CDMSES appeared to have both good internal consistency and stability as a measure of reliability.

Cronbach alpha coefficients were calculated to determine the reliability of the CDMSES for the current sample. The alpha coefficients ranged from .78 for accurate self-appraisal to .85 for goal selection. These alpha coefficients provided evidence that the CDMSES was a reliable instrument for use with the community college sample in this study.

Validity.

Research articles describing the validity of the CDMSES-SF were limited compared to the CDMSES (Reece & Miller, 2006). Taylor and Betz (1983) researched the discriminant validity of the CDMSES and found that the relationship between the CDMSES expectations and the academic aptitude of the Scholastic Aptitude Test (SAT) and American College Test (ACT) were small in magnitude and generally nonsignificant. In the relationship between the CDMSES total scores and the SAT verbal and math subscale scores, the correlations were .19 and .18. For the relationship between the CDMSES total scores and the ACT English and math subscale scores, the correlations were .15 and -.02. These findings indicated that the CDMSES was not related to academic ability as measured that ACT and SAT scores, providing support for the discriminant validity of the CDMSES.

Robbins (1985) executed an investigation assessing the validity of the CDMSES. To assess the validity of the CDMSES, the relationship of the participants' scores on established measures of self-esteem and vocational identity were used and compared to the participants'

CDMSES total scores. A moderate score of .53 was found in the relationship between self-esteem and CDMSES total scores. In the relationship between vocational indecision and CDMSES total scores, a negative score of -.51 was discovered. The negative score between vocational indecision and the CDMSES total scores indicated that the more undecided students were about their career pathways, the lower their CDMSES expectations were. The relationship between vocational decidedness and CDMSES total scores yielded a relationship of .46. This finding between vocational decidedness and CDMSES total scores indicated that students who were more vocationally decided tended to be more confident in their ability to complete career decision-making tasks successfully.

Readability.

The readability of the CDMSES-SF was tested for grade level readability using the Flesch-Kincaid Readability Scale. The survey items had an 8.1 grade level which all of the participants were able to read and comprehend without difficulty.

Career Decision-making Difficulties Questionnaire (CDDQ)

The CDDQ was a popular diagnostic instrument used to identify areas of difficulty in the career decision-making process among students (Reece & Miller, 2006). The 44-item questionnaire was based on a hierarchical taxonomy developed by Gati, Krausz and Osipow (1996; see Figure 2). The three broad categories of difficulty from the taxonomy in the CDDQ were Lack of Readiness, Lack of Information and Inconsistent Information (Gati & Saka, 2001a). In the Lack of Readiness category, the three subcategories of specific difficulty regarding the career-decision making process were the lack of motivation, general indecisiveness, and dysfunctional beliefs. The four subcategories of specific difficulty in the Lack of Information category that focus on the lack of information or knowledge were the

career-decision making process, self, various occupations and ways of obtaining additional information. In the Inconsistent Information category, the three subcategories of specific difficulty were unreliable information, internal conflicts and external conflicts.

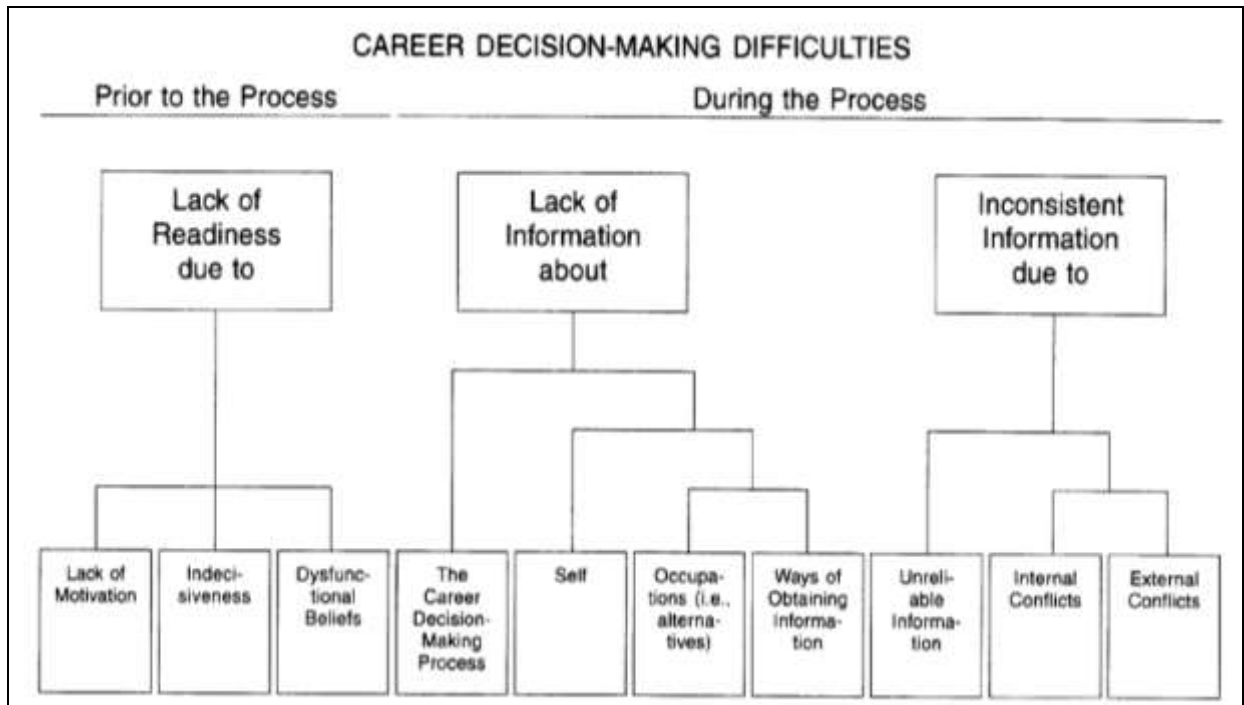


Figure 2: Career Decision-making Difficulties Questionnaire (Gati, Krausz & Osipow, 1996, p. 520)

Scoring.

Participants were asked to rate their level of difficulty for the statements in each subcategory of the CDDQ. The participants' responses for each statement were then rated on a 9-point scale ranging from 9 (describes me well) to 1 (does not describe me). The numeric ratings for items on each subcategory were summed to obtain a total score. The total score was divided by the number of items on the subcategory to create a mean score that ranges from 1 to 9. The use of a mean score provided a score that reflected the original rating scale and allowed direct comparisons across the 10 subcategories and 3 categories. A total score—in which each scale

score was defined as the mean of the items' rating—from the 10 specific difficulty subcategories was calculated and used to determine the participants' pattern of career decision-making difficulties (Gati & Amir, 2010). Items 7 and 12 were validity items and were not included in the scoring of any of the subscales. The major categories were mean scores for combinations of subscales:

- Readiness $(R_m+R_i+R_d)/3$
- Lack of Information $(L_p+L_s+L_o+L_a)/4$
- Inconsistent Information $(I_u+I_i+I_e)/3$

A total score was obtained by summing the mean scores for each of the 10 subscales and dividing by 10. Table 4 provided a description of each of the subcategories and the scale items included on each subcategory.

Table 4

Career Decision-making Difficulties Questionnaire – Subcategories

Categories and Subcategories	Description	Items on Subcategory
Lack of Readiness due to		
Lack of Motivation (Rm)	A high score in this area reflected a lack of willingness to make a decision at this point.	1-3
Indecisiveness (Ri)	A high score in this area reflected a general difficulty in making decisions	4-6
Dysfunctional Beliefs (Rd)	A high score in this area reflected a distorted perception of the career decision-making process, irrational expectations of it and dysfunctional thoughts about it.	8-11
Lack of Information about		
The Decision Making Process (Lp)	A high score in this area reflected a lack of knowledge about how to make a decision wisely, and specifically a lack of knowledge regarding the specific steps involved in the career decision-making process.	13-15
Self (Ls)	A high score in this area reflected a situation where one felt that one did not have enough information about oneself (e.g., about career preferences, abilities, etc.)	16-19
Occupations (Lo)	A high score in this area reflected a lack of information regarding the existing array of career options: what alternatives existed and/or what each alternative's characteristics were.	20-22
Ways of Obtaining Information (La)	A high score in this area reflected a lack of information about ways of obtaining additional information or help that may facilitate decision making.	23-24
Difficulties related to Inconsistent Information regarding		
Unreliable Information (Iu)	A high score in this area indicated that the individual felt that he/she had contradictory information about himself/herself or about the considered occupations.	25-27
Internal Conflicts (Ii)	A high score in this area reflected a state of internal confusion. Such internal conflict may stem from a difficulty in compromising in the many factors the individual viewed as important, when some of these factors were incompatible with each other.	28-32
External Conflicts (Ie)	A high score in this area indicated a gap between an individual's preferences and the preferences voiced by others who were significant to him/her or a contradiction between the opinions of two significant others.	33-34

Reliability.

A body of research had been used to test the internal consistency and stability of the CDDQ. The alpha coefficients ranged from .55 to .96 (Gati, 2011). Test-retest correlations used to assess the stability of the CDDQ ranged from .67 to .85. The alpha coefficients for the present study were aligned with previous findings for each of the three scales and the total questionnaire. The test-retest correlations were lower than for previous studies, but all were statistically significant. In addition, the length of time between the two measures was eight weeks, which was longer than the earlier studies. Table 5 presented results of the studies to assess the reliability of the CDDQ.

Table 5

CDDQ – Reliability

Study	<u>Cronbach Alpha Coefficients</u>			
	Lack of Readiness	Lack of Information	Inconsistent Information	Total Questionnaire
Gati, Krause & Osipow (1996)	.70	.93	.91	.95
Gati, Krause & Osipow (1996)	.63	.95	.89	.95
Osipow & Gati (1998)	.62	.94	.86	.94
Gati, Osipow, Krausz & Saka (2000)	.68	.86	.85	.90
Gati & Saka (2001a)	.58	.88	.87	.91
Gati & Saka (2001b)	.61	.87	.77	.88
Mau (2001)	.66	.96	.92	.96
Mau (2001)	.55	.93	.82	.92
Current Study	.70	.94	.88	.94
		<u>Test-Retest Reliabilities</u>		
Gati, Krause & Osipow (1996)	.67	.74	.72	.80
Gati & Saka (2001b)	.81	.69	.75	.79
Mau (2001)	.56	.85	.78	-
Current Study (8-week between pre and post)	.38	.52	.54	.54

Note: Gati, 2011, p. 9-10

Validity.

Validity studies on the CDDQ had shown that the CDDQ correlated with other career decision-making assessments (Reece & Miller, 2006). Osipow, Carney and Barak (1976) reported a correlation of .77 between the CDDQ and Career Decision Scale. A correlation coefficient of -.50 was reported between the CDDQ and CDMSES (Osipow & Gati, 1998). Kleiman and Gati (2004) and Gati and Saka (2001b) tested the Internet and paper-and-pencil versions of the CDDQ and supported the construct, convergent, concurrent and discriminant validities of the CDDQ.

Readability.

The readability of the Career Decisions Difficulties Questionnaire was tested using the Flesch-Kincaid Readability Scale. The results of this analysis indicated that the readability of the grade level was 13.2, which was at a community college freshman level. The students who participated in the survey did not have any difficulty in reading and comprehending the survey items.

Demographic Survey

A researcher developed demographic survey was used to collect data from the participants regarding their personal and school demographics. The items used a combination of fill-in-the-blank and forced-choice response formats to obtain information on their age, gender, ethnicity, number of college credits, educational aspirations, and career interests.

Data Collection Procedures

After securing the university's Internal Review Board's approval and the community college, the researcher discussed the study with other instructors of career-planning courses and orientation to college courses at the community college where he was an adjunct instructor. The

researcher asked the instructors if he could enter their career planning classrooms to distribute surveys to the students. After obtaining permission from the other instructors, the researcher entered several career planning classrooms and orientation to college classrooms during the first week of the semester to discuss the study with the students.

The researcher had survey packets available that included a copy of the CDMSES-SF, CDDQ, and the demographic survey. In addition, a copy of the research information sheet was included in the packet. The use of a research information sheet provided the same information as the informed consent form, but did not require a signature of the participant. The return of the completed surveys provided evidence of the participant's willingness to be included in the study. After discussing the study, the researcher distributed survey packets to potential participants who were informed that participation was strictly voluntary and that any information they provided would be anonymous. The students who choose to participate completed the surveys in class. Students who did not want to be included in the study were asked to sit quietly and read or work on homework. At the end of the eight-week class, the participants in both the experimental and control groups completed the CDMSES-SF and CDDQ a second time. All participants were eligible to be in a raffle for \$10.00 I-Tunes gift cards. The participants were given a raffle ticket when they returned the survey packets. At the end of the eight-week data collection period, the researcher had a drawing for the gift cards. All data were collected in the classrooms. Students who were absent on the day when data were collected were excluded from the study.

Data Analysis

The data from the survey were entered into a computer file for analysis using IBM-SPSS ver. 21. The data analysis were divided into four sections. The first section used frequency distributions, cross tabulations, and measures of central tendency and dispersion to provide a

profile of the demographic characteristics of the participants. The second section provided baseline data on the subscales on the two instruments, the CDMSES-SF and the CDDQ, which were used in the study. The two groups' pretest mean scores were compared using t-tests for two independent samples to determine if the experimental and control groups were statistically equivalent prior to starting the intervention. The results of the inferential statistical analyses that were used to test the hypotheses and address the research questions were presented in the third section of the data analysis. The inferential statistical analyses included multivariate analysis of covariance (MANCOVA) and t-tests for dependent samples. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05. Table 6 presented the statistical analyses that were used to test each of the hypotheses.

Table 6

Statistical Analyses

Research Questions/Hypotheses	Variables	Statistical Analysis
<p>1. To what extent do students enrolled in a career-planning course differ from students who are not enrolled in this course on career decision-making self-efficacy and career indecisiveness?</p> <p>H01: Students enrolled in a career-planning course do not differ on career decision-making self-efficacy from students who are not enrolled in this course.</p> <p>H02: Students enrolled in a career-planning course do not differ on career indecisiveness from students who are not enrolled in this course.</p>	<p><u>Dependent Variables</u></p> <p>Posttest scores on Career decision making self-efficacy</p> <ul style="list-style-type: none"> • Accurate self-appraisal • Gathering occupational information • Goal selection • Making plans for the future • Problem solving <p>Posttest scores on Career indecisiveness</p> <p>Lack of Readiness due to</p> <ul style="list-style-type: none"> • Lack of Motivation (Rm) • Indecisiveness (Ri) • Dysfunctional Beliefs (Rd) <p>Lack of Information about</p> <ul style="list-style-type: none"> • The Decision Making Process (Lp) • Self (Ls) • Occupations (Lo) • Ways of Obtaining Information 	<p>Separate one-way multivariate analysis of covariance (MANCOVA) were used to determine if a difference existed on post-test scores for career decision-making self-efficacy and career indecisiveness between the experimental and control groups following completion of the treatment. The pretest scores for the two measures were used as the covariates in this analysis.</p> <p>If a statistically significant difference was found on the MANCOVA, the between subjects effects were examined to determine which of the subscales were contributing to the statistically significant result.</p> <p>The mean scores for each of the</p>

Research Questions/Hypotheses	Variables	Statistical Analysis
	<p>(La) Difficulties related to Inconsistent Information regarding</p> <ul style="list-style-type: none"> • Unreliable Information (Iu) • Internal Conflicts (Ii) • External Conflicts (Ie) <p><u>Independent Variable</u> Group membership</p> <p><u>Covariates</u> Pretest scores on Career decision making self-efficacy</p> <ul style="list-style-type: none"> • Accurate self-appraisal • Gathering occupational information • Goal selection • Making plans for the future • Problem solving <p>Pretest scores on Career indecisiveness</p> <p>Lack of Readiness due to</p> <ul style="list-style-type: none"> • Lack of Motivation (Rm) • Indecisiveness (Ri) • Dysfunctional Beliefs (Rd) <p>Lack of Information about</p> <ul style="list-style-type: none"> • The Decision Making Process (Lp) • Self (Ls) • Occupations (Lo) • Ways of Obtaining Information (La) <p>Difficulties related to Inconsistent Information regarding</p> <ul style="list-style-type: none"> • Unreliable Information (Iu) • Internal Conflicts (Ii) • External Conflicts (Ie) 	<p>subscales were compared between the experimental and control groups to determine the direction of any statistically significant differences.</p>
<p>2. To what extent does career decision-making self-efficacy change from the beginning of the career-planning course to completion of the course?</p>	<p><u>Dependent Variables</u> Pretest and Posttest scores on Career decision making self-efficacy</p> <ul style="list-style-type: none"> • Accurate self-appraisal • Gathering occupational information • Goal selection • Making plans for the future • Problem solving 	<p>t-Tests for dependent samples were used to determine if students in the experimental group experienced changes in career decision-making self-efficacy.</p>
<p>H03: Students enrolled in a career-planning course will not experience changes in career decision-making self-efficacy from beginning to completion of the course.</p>	<p><u>Dependent Variables</u> Pretest and Posttest scores on Career decision making self-efficacy</p> <ul style="list-style-type: none"> • Accurate self-appraisal • Gathering occupational information • Goal selection • Making plans for the future • Problem solving 	

Research Questions/Hypotheses	Variables	Statistical Analysis
3. To what extent does career indecisiveness change from the beginning of the career-planning course to completion of the course? H04: Students enrolled in a career-planning course will not experience changes in career indecisiveness from the beginning to completion of the course.	Pretest and Posttest scores on Career indecisiveness Lack of Readiness due to <ul style="list-style-type: none"> • Lack of Motivation (Rm) • Indecisiveness (Ri) • Dysfunctional Beliefs (Rd) Lack of Information about <ul style="list-style-type: none"> • The Decision Making Process (Lp) • Self (Ls) • Occupations (Lo) • Ways of Obtaining Information (La) Difficulties related to Inconsistent Information regarding <ul style="list-style-type: none"> • Unreliable Information (Iu) • Internal Conflicts (Ii) • External Conflicts (Ie) 	t-Tests for dependent samples were used to determine if students in the experimental group experienced changes in career indecisiveness.

Summary

This chapter included a description of the methodological procedures, a research question and hypotheses and the research and statistical design. Data collection, data analysis and an overview of the CDMSES-SF and CDDQ instruments were also discussed in this chapter. Reliability and validity information of the CDMSES-SF and the CDDQ were presented. The results of the data analysis used to test the hypotheses and address the research questions were presented in the fifth chapter.

CHAPTER 4

RESULTS OF DATA ANALYSIS

Introduction

This chapter presents the results of the data analyses that were used to describe the sample and address the research questions developed for this study. The chapter is divided into three sections. The first section provides a profile of the participants using crosstabulations and measures of central tendency and dispersion. The comparison of the experimental and control groups on the pretest scores for career decision-making self-efficacy and career indecisiveness is presented in the second section of the chapter. The results of the inferential statistical analyses used to test the hypotheses and address the research questions are presented in the third section of the analysis.

The purpose of the study was to evaluate the effectiveness of a career-planning course for college students who were undecided on a major or want to change or confirm their major at community college.

The participants were students from one community college located in a suburban county in a large Midwestern state. Seventy-three students in the experimental group were enrolled in three sections of a career-planning course, with sixty-four students in the control group enrolled in three sections of a college orientation course. Twenty students in the experimental group and 12 students in the control group were eliminated because of a lack of posttest scores. These students had either dropped out of the class or were absent on the day the posttest was administered. A total of 105 students (53 in the experimental group and 52 in the control group) were included in the analyses.

Description of the Participants

The participants provided their age on the demographic survey. Descriptive statistics were used to summarize the responses. Table 7 presents results of this analysis.

Table 7

Descriptive Statistics – Age by Group Membership

Group	N	M	SD	Median	Range	
					Minimum	Maximum
Experimental	53	24.26	8.83	21	18	54
Control	52	22.62	7.54	20	18	55
Total	105	23.45	8.22	20	18	55

The mean age of the students in the experimental group was 24.26 ($SD = 8.83$) years, with a median age of 21 years. Participants in the experimental group ranged in age from 18 to 54 years. The mean age of the participants in the control group was 22.62 ($SD = 7.54$) years. The range of ages among participants in the control group was 18 to 55, with a median age of 20.

The students were asked to indicate their gender and ethnicity on the survey. Their responses were crosstabulated by group membership. Table 8 presents results of this analysis.

Table 8

Crosstabulation – Gender and Ethnicity by Group Membership

Gender and Ethnicity	<u>Group Membership</u>					
	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Gender						
Male	24	45.3	19	36.5	43	41.0
Female	29	54.7	33	63.5	62	59.0
Total	53	100.0	52	100.0	105	100.0
Ethnicity						
African American	26	49.0	43	82.6	69	65.6
American Indian/ Alaskan Native	1	1.9	0	0.0	1	1.0
Caucasian	20	37.7	3	5.8	23	21.9
Hispanic	1	1.9	0	0.0	1	1.0
Middle Eastern	3	5.7	3	5.8	6	5.7
Multi-Ethnic	2	3.8	3	5.8	5	4.8
Total	53	100.0	52	100.0	105	100.0

The majority of participants in the experimental group ($n = 29, 54.7\%$) and in the control group ($n = 33, 63.5\%$) were female. The largest group of students ($n = 69, 65.6\%$) reported their ethnicity as African American. Of this number, 26 (49.0%) were in the experimental group and 43 (82.6%) were in the control group. Twenty-three (21.9%) participants reported their ethnicity as Caucasian, including 20 (37.7%) in the experimental group and 3 (5.8%) in the control group.

The participants were asked to provide information regarding their education. Their responses to these items were crosstabulated by group membership. Table 9 provides the results of this analysis.

Table 9

Crosstabulation – Educational Characteristics by Group Membership

Educational Characteristics	<u>Group Membership</u>					
	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Student Status (Credit Hours)						
0 to 15 credits	27	50.9	37	71.1	64	61.0
16 to 30credits	6	11.3	4	7.7	10	9.5
31 to 45 credits	10	18.9	8	15.4	18	17.1
46 to 60 credits	7	13.2	3	5.8	10	9.5
More than 60 credits	3	5.7	0	0.0	3	2.9
Total	53	100.0	52	100.0	105	100.0
Educational Aspirations						
Certificate	7	13.2	2	3.8	9	8.6
Associate's degree	8	15.1	17	32.7	25	23.8
Bachelor's degree	18	34.0	15	28.9	33	31.4
Undecided	16	30.2	17	32.7	33	31.4
Other	4	7.5	1	1.9	5	4.8
Total	53	100.0	52	100.0	105	100.0
Career Path						
Arts and communication	14	26.4	8	15.4	22	21.0
Business	12	22.6	10	19.2	22	21.0
Engineering	6	11.3	5	9.6	11	10.5
Health sciences	11	20.8	18	34.6	29	27.5
Human services	10	18.9	11	21.2	21	20.0
Total	53	100.0	52	100.0	105	100.0

The majority of students ($n = 64$, 61.0%) had from 0 to 15 credits. This number included 27 (50.9%) in the experimental group and 37 (71.1%) in the control group. Of the 18 (17.1%) students who had 31 to 45 credits, 10 (18.9%) were in the experimental group and 8 (15.4%) were in the control group.

Thirty-three (31.4%) students had a bachelor's degree as their educational aspiration. Of this number, 18 (34.0%) were in the experimental group and 15 (28.9%) were in the control group. Sixteen (30.2%) students in the experimental group and 17 (32.7%) in the control group were undecided concerning their educational aspirations.

The largest group of participants ($n = 29$, 27.5%), including 11 (20.8%) in the experimental group and 18 (34.6%) in the control group, reported interest in the health sciences pathway. Twenty-two (21.0%) students had reported interest in the career pathway of arts and communication. Of this number, 14 (26.4%) were in the experimental group and 8 (15.4%) were in the control group. Twelve (22.6%) students in the experimental group and 10 (19.2%) students in the control group were interested in pursuing business as their career pathway.

Pretest Differences

To determine if the experimental and control group were different on the pretest, the scores on the subscales measuring Career Decision-Making Self-Efficacy (CDMSE) were compared using *t*-tests for two independent samples. The results of these analyses are presented in Table 10.

Table 10

t-Tests for Two Independent Samples – Career Decision-Making Self-Efficacy

Subscales	<i>N</i>	<i>M</i>	<i>SD</i>	Median	Range		<i>t</i>	<i>p</i>
					Minimum	Maximum		
Accurate Self-Appraisal								
Experimental	53	3.80	.76	3.80	1.80	5.00	1.82	.071
Control	52	4.07	.71	4.20	2.40	5.00		
Occupational Information								
Experimental	53	3.74	.79	3.60	2.20	5.00	2.80	.006
Control	52	4.15	.72	4.40	1.60	5.00		
Goal Selection								
Experimental	53	3.50	.86	3.40	1.80	5.00	3.22	.002
Control	52	4.01	.76	4.20	1.80	5.00		
Future Plans								
Experimental	53	3.51	.91	3.40	1.60	5.00	2.37	.020
Control	52	3.92	.84	4.00	1.40	5.00		
Problem Solving								
Experimental	53	3.54	.83	3.60	1.80	5.00	1.65	.103
Control	52	3.80	.76	3.80	1.60	5.00		

$p \leq .05$

Being able to appraise one's own interests, values and abilities accurately as they relate to educational and career decisions is the description of the accurate self-appraisal subscale on the CDMSES-SF (Taylor & Betz, 1983). The mean scores for accurate self-appraisal did not differ significantly between the experimental group ($M = 3.80$, $SD = .76$) and the control group ($M = 4.07$, $SD = .71$), $t(103) = 1.82$, $p = .071$. Although the experimental group had lower scores than the control group, the differences were not sufficient to be considered statistically significant.

On the gathering occupational information subscale of the CDMSES-SF, the description of this subscale is being able to find sources of information about occupations and college majors and also having the ability to communicate with people employed in the occupations of interest (Taylor & Betz, 1983). The comparison of the mean scores for the subscale measuring occupational information differed significantly between the experimental group ($M = 3.74$, $SD = .79$) and the control group ($M = 4.15$, $SD = .72$), $t(103) = 2.80$, $p = .006$. The control group had significantly higher scores than the experimental group.

Being able to identify one or more careers and college majors to pursue by matching one's own characteristics to the rewards and demands of the different careers is the description of the goal selection subscale on the CDMSES-SF (Taylor & Betz, 1983). When the experimental group ($M = 3.50$, $SD = .86$) and the control group ($M = 4.01$, $SD = .76$) were compared on the goal selection subscale using t-tests for two independent samples, the results were statistically significant, $t(103) = 3.22$, $p = .002$. The control group had significantly higher scores for goal selection than the experimental group.

On the making plans for the future subscale of the CDMSES-SF, the description of this subscale is understanding how to implement a career or educational choice and also being able to job search, resume write, job interview and enroll into educational programs (Taylor & Betz,

1983). The comparison of the subscale, future plans, between the experimental group ($M = 3.51$, $SD = .91$) and the control group ($M = 3.92$, $SD = .84$) was statistically significant, $t(103) = 2.37$, $p = .020$. Based on this finding, it appears that the control group had significantly higher scores for future plans than the experimental group.

Being able to figure out alternative plans and use coping strategies when career and educational plans do not go as intended is the description of the problem solving subscale on the CDMSES-SF (Taylor & Betz, 1983). When the scores for problem solving were compared, the experimental group ($M = 3.54$, $SD = .83$) had lower scores than the control group ($M = 3.80$, $SD = .76$) and this difference was not statistically significant, $t(103) = 1.65$, $p = .103$. Although the control group had higher scores, this difference was not sufficient to be considered significant.

The pretest scores for career indecisiveness for the categories and subcategories on the Career Decision-making Difficulties Questionnaire (CDDQ) were compared between the experimental and control groups using t-tests for two independent samples. Table 11 presents results of this analysis.

Table 11

t-Tests for Two Independent Samples – Career Indecisiveness

Categories and Subcategories	<i>N</i>	<i>M</i>	<i>SD</i>	Median	Range		<i>t</i>	<i>p</i>
					Minimum	Maximum		
Lack of Readiness								
Experimental	53	4.60	1.19	4.44	2.64	7.25	1.03	.309
Control	52	4.35	1.39	4.01	1.67	7.72		
Lack of Motivation								
Experimental	53	2.77	1.55	2.33	1.00	6.33	.49	.623
Control	52	2.62	1.73	2.00	1.00	6.67		
Indecisiveness								
Experimental	53	5.97	1.97	6.33	2.67	9.00	1.64	.104
Control	52	5.31	2.20	5.83	1.00	9.00		
Dysfunctional Beliefs								
Experimental	53	5.07	1.81	5.00	1.00	9.00	.14	.887
Control	52	5.12	1.74	5.12	2.25	9.00		
Lack of Information								
Experimental	53	4.79	1.87	4.96	1.00	8.25	2.98	.004
Control	52	3.60	2.22	2.83	1.00	8.35		
Decision-Making Process								
Experimental	53	5.05	2.27	5.67	1.00	9.00	2.53	.013
Control	52	3.94	2.25	3.83	1.00	8.33		
Self								
Experimental	53	4.96	2.29	5.25	1.00	9.00	2.34	.021
Control	52	3.84	2.64	3.13	1.00	9.00		
Occupations								
Experimental	53	4.81	2.12	5.00	1.00	9.00	2.49	.014
Control	52	3.66	2.57	2.83	1.00	9.00		
Ways of Obtaining information								
Experimental	53	4.35	2.00	4.50	1.00	8.50	3.34	.001
Control	52	2.96	2.25	2.00	1.00	8.50		
Inconsistent Information								
Experimental	53	3.67	1.66	3.58	1.00	7.32	.71	.477
Control	52	3.41	2.14	2.94	1.00	8.56		
Unreliable Information								
Experimental	53	4.05	2.21	4.00	1.00	9.00	1.29	.202
Control	52	3.47	2.43	3.17	1.00	8.67		
Internal Conflicts								
Experimental	53	3.88	1.82	3.80	1.00	7.80	1.28	.204
Control	52	3.39	2.08	2.80	1.00	9.00		
External Conflicts								
Experimental	53	3.09	2.21	2.50	1.00	8.50	-.57	.568
Control	52	3.37	2.62	2.50	1.00	9.00		

* $p \leq .05$

One of the categories on the CDDQ is lack of readiness (Gati, Krausz, & Osipow, 1996). In the lack of readiness category are the subcategories of lack of motivation, indecisiveness and dysfunctional beliefs. The mean scores for lack of readiness did not differ significantly between the experimental group ($M = 4.60, SD = 1.19$) and the control group ($M = 4.35, SD = 1.39$), $t(103) = 1.03, p = .309$. Although the experimental group had higher scores than the control group on the lack of readiness category, the differences were not sufficient to be considered statistically significant.

For the lack of motivation subcategory on the CDDQ, a high score in this subcategory reflects a lack of willingness to make a decision at this point (Gati, Krausz, & Osipow, 1996). The comparison of the mean scores for the subcategory measuring lack of motivation did not differ significantly between the experimental group ($M = 2.77, SD = 1.55$) and the control group ($M = 2.62, SD = 1.73$), $t(103) = .49, p = .623$. Although the experimental group had higher scores than the control group on the lack of motivation subcategory, the differences were not sufficient to be considered statistically significant.

A high score in the subcategory of indecisiveness on the CDDQ reflects a general difficulty in making decisions (Gati, Krausz, & Osipow, 1996). When the experimental group ($M = 5.97, SD = 1.97$) and the control group ($M = 5.31, SD = 2.20$) were compared on the indecisiveness subcategory using t-tests for two independent samples, the results were statistically not significant, $t(103) = 1.64, p = .104$. The experimental group had higher scores for indecisiveness than the control group, but the differences were not sufficient to be considered statistically significant.

For the dysfunctional beliefs subcategory on the CDDQ, a high score in this subcategory reflects a distorted perception of the career decision-making process, irrational expectations of it

and dysfunctional thoughts about it (Gati, Krausz, & Osipow, 1996). The comparison of the subcategory, dysfunctional beliefs, between the experimental group ($M = 5.07$, $SD = 1.81$) and the control group ($M = 5.12$, $SD = 1.74$) was not statistically significant, $t(103) = .14$, $p = .887$. Based on this finding, it appears that the control group had higher scores for dysfunctional beliefs than the experimental group. The differences though between the experimental and control groups were not considered statistically significant.

Lack of information is another category on the CDDQ (Gati, Krausz, & Osipow, 1996). In the lack of information category are the subcategories of the decision making process, self, occupations and ways of obtaining information. When the scores for lack of information were compared, the experimental group ($M = 4.79$, $SD = 1.87$) had higher scores than the control group ($M = 3.60$, $SD = 2.22$) and this difference was statistically significant, $t(103) = 2.98$, $p = .004$. Based on this finding, it appears that the experimental group had significantly higher scores for lack of information than the control group.

For the decision-making process subcategory on the CDDQ, a high score in this subcategory reflects a lack of knowledge about how to make a decision wisely, and specifically a lack of knowledge regarding the specific steps involved in the career decision-making process (Gati, Krausz, & Osipow, 1996). The mean scores for decision-making process subcategory did differ significantly between the experimental group ($M = 5.05$, $SD = 2.27$) and the control group ($M = 3.94$, $SD = 2.25$), $t(103) = 2.53$, $p = .013$. The experimental group had significantly higher scores for the decision-making process subcategory than the control group and the differences were sufficient to be considered statistically significant.

A high score in the subcategory of self on the CDDQ reflects a situation where one feels that one does not have enough information about oneself, for example about career preferences,

abilities, etc. (Gati, Krausz, & Osipow, 1996). When the scores for the self subcategory were compared, the experimental group ($M = 4.96$, $SD = 2.29$) had higher scores than the control group ($M = 3.84$, $SD = 2.64$) and this difference was statistically significant, $t(103) = 2.34$, $p = .021$. Based on this finding, it appears that the experimental group had significantly higher scores for the self subcategory than the control group.

For the occupations subcategory on the CDDQ, a high score in this subcategory reflects a lack of information regarding the existing array of career options, for example, what alternatives exist and/or what each alternative's characteristics are (Gati, Krausz, & Osipow, 1996). The comparison of the mean scores for the subcategory measuring occupations did differ significantly between the experimental group ($M = 4.81$, $SD = 2.12$) and the control group ($M = 3.66$, $SD = 2.57$), $t(103) = 2.49$, $p = .014$. The experimental group had significantly higher scores for occupations than the control group and the differences were sufficient to be considered statistically significant.

A high score in the subcategory of ways of obtaining information on the CDDQ reflects a lack of information about ways of obtaining additional information or help that may facilitate decision making (Gati, Krausz, & Osipow, 1996). When the experimental group ($M = 4.35$, $SD = 2.00$) and the control group ($M = 2.96$, $SD = 2.25$) were compared on the ways of obtaining information subcategory using t-tests for two independent samples, the results were statistically significant, $t(103) = 3.34$, $p = .001$. The experimental group had higher scores for the ways of obtaining information subcategory than the control group and the differences were sufficient to be considered statistically significant.

The third category on the CDDQ is difficulties related to inconsistent information (Gati, Krausz, & Osipow, 1996). In the inconsistent information category are the subcategories of

unreliable information, internal conflicts and external conflicts. The comparison of the category, inconsistent information, between the experimental group ($M = 3.67$, $SD = 1.66$) and the control group ($M = 3.41$, $SD = 2.14$) was not statistically significant, $t(103) = .71$, $p = .477$. Based on this finding, it appears that the experimental group had higher scores for the inconsistent information category than the control group. The differences though between the experimental and control groups were not considered statistically significant.

For the unreliable information subcategory on the CDDQ, a high score in this subcategory indicates that the individual feels that he/she had contradictory information about himself/herself or about the considered occupations (Gati, Krausz, & Osipow, 1996). The mean scores for the unreliable information subcategory did not differ significantly between the experimental group ($M = 4.05$, $SD = 2.21$) and the control group ($M = 3.47$, $SD = 2.43$), $t(103) = 1.29$, $p = .202$. Although the experimental group had higher scores than the control group on the unreliable information subcategory, the differences were not sufficient to be considered statistically significant.

A high score in the subcategory of internal conflicts on the CDDQ reflects a state of internal confusion (Gati, Krausz, & Osipow, 1996). The internal conflict may stem from a difficulty in compromising in the many factors the individual views as important when some of these factors were incompatible with each other. The comparison of the mean scores for the subcategory measuring internal conflicts did not differ significantly between the experimental group ($M = 3.88$, $SD = 1.82$) and the control group ($M = 3.39$, $SD = 2.08$), $t(103) = 1.28$, $p = .204$. Although the experimental group had higher scores than the control group for the internal conflicts subcategory, the differences were not sufficient to be considered statistically significant.

For the external conflicts subcategory on the CDDQ, a high score in this subcategory indicates a gap between the individual's preferences and preferences voiced by others who were significant to him/her or a contradiction between the opinions of two significant others (Gati, Krausz, & Osipow, 1996). When the experimental group ($M = 3.09$, $SD = 2.21$) and the control group ($M = 3.37$, $SD = 2.62$) were compared on the external conflicts subcategory using t-tests for two independent samples, the results were statistically not significant, $t(103) = -.57$, $p = .568$. The control group had higher scores for the external conflicts subcategory than the experimental group, but the differences were not sufficient to be considered statistically significant.

As a result of statistically significant findings for the CDMSES-SF, the control group was entering the study with higher scores than the treatment group. The treatment group had significantly higher scores for the CDDQ than the control group. To compensate for these differences, comparisons of posttest scores between the two groups were made using multivariate analysis of covariance (MANCOVA), with the pretest scores used as the covariate. This type of analysis adjusts the posttest scores and provides results of the treatment.

Research Questions and Hypotheses

Three research questions and associated hypotheses were developed for the study. Each of these questions was addressed using inferential statistical analyses. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

Research Question 1. To what extent do students enrolled in a career-planning course differ at posttest from students who are not enrolled in this course on career decision-making self-efficacy and career indecisiveness?

H₀₁: Students enrolled in a career-planning course do not differ at posttest on career decision-making self-efficacy from students who are not enrolled in this course.

A one-way multivariate analysis of covariance (MANCOVA) was used to determine if the experimental and control group differed on the five subscales measuring Career Decision-Making Self-Efficacy (CDMSE). The independent variable was group membership (experimental or control), with the posttest scores on the five subscales measuring CDMSE used as the dependent variable. The pretest scores for the five subscales measuring CDMSE were used as the covariate in this analysis. Table 12 presents the results of this analysis.

Table 12

One-way Multivariate Analysis of Covariance – Career Decision-Making Self-Efficacy by Group Membership

Hotelling's Trace	F ratio	DF	p	η^2
.10	1.82	5, 94	.116	.09

* $p \leq .05$

The results of the one-way MANCOVA comparing the five subscales by group membership was not statistically significant, $F(5, 94) = 1.82$, $p = .116$, $\eta^2 = .09$. Four of the covariates, pretest scores for occupational information, goal selection, future plans, and problem solving were statistically significant, indicating they were the adjusted posttest scores to remove the effects of prior knowledge. The pretest scores for accurate self-appraisal was not a statistically significant covariate. To examine the lack of statistically significant differences among the five subscales, adjusted mean scores and standard errors of the mean were calculated. The results of this analysis are presented in Table 13.

Table 13

Descriptive Statistics – Career Decision-Making Self-Efficacy by Group Membership

Subscale	<i>N</i>	Adjusted Mean*	<i>SEM</i>
Accurate Self-Appraisal			
Experimental	53	4.34	.08
Control	52	4.07	.09
Occupational Information			
Experimental	53	4.38	.08
Control	52	4.07	.08
Goal Selection			
Experimental	53	4.18	.09
Control	52	3.97	.09
Future Plans			
Experimental	53	4.17	.08
Control	52	3.99	.08
Problem Solving			
Experimental	53	4.13	.09
Control	52	3.78	.09

*Adjusted for covariates

After adjusting for the covariates (pretest scores on the five subscales measuring CDMSE), the participants in the experimental group had slightly higher posttest scores for each of the subscales. However, these differences were not sufficient to be considered statistically significant. As a result, the null hypothesis of no difference in CDMSE is retained.

H₀₂: Students enrolled in a career-planning course do not differ at posttest on career indecisiveness from students who are not enrolled in this course.

A one-way MANCOVA was used to determine if the three categories of the CDDQ measuring career indecisiveness, readiness, lack of information and inconsistent information, differed between the experimental and control groups. Posttest scores for the three categories were used as the dependent variables, with group membership used as the independent variable. The pretest scores for the three categories were used as the covariates in this analysis.

Table 14

One-way Multivariate Analysis of Covariance – Career Indecisiveness (3 categories) by Group Membership

Hotelling's Trace	<i>F</i> ratio	<i>DF</i>	<i>p</i>	η^2
.08	2.45	3, 98	.069	.07

* $p \leq .05$

The results of the one-way MANCOVA used to determine if the experimental and control groups differed on the posttest scores for the three categories measuring career indecisiveness after removing the effects of the pretest scores on these categories were not statistically significant, $F(3, 98) = 2.45$, $p = .069$, $\eta^2 = .07$. Descriptive statistics including adjusted mean scores and standard error of the mean were obtained to examine the lack of significant differences on the three categories between the experimental and control groups.

Table 15

Descriptive Statistics – Career Indecisiveness (3 categories) by Group Membership

Categories	<i>N</i>	Adjusted Mean*	<i>SEM</i>
Readiness			
Experimental	53	4.41	.19
Control	52	4.56	.19
Lack of Information			
Experimental	53	3.05	.26
Control	52	3.98	.26
Inconsistent Information			
Experimental	53	3.11	.25
Control	52	3.87	.25

*Adjusted for covariates

The comparison of the adjusted posttest mean scores were slightly higher for the control group than for the experimental group, although the difference between the two groups was not substantial enough to be statistically significant.

A second one-way MANCOVA was used to determine if the subcategories measuring career indecisiveness differed between the experimental and control groups. The posttest scores for the 10 subcategories were used as the dependent variables and group membership was used as the independent variables. The pretest scores for the 10 subcategories were used as the covariates in this analysis. Table 16 presents results of this analysis.

Table 16

One-way Multivariate Analysis of Covariance – Career Indecisiveness (10 subcategories) by Group Membership

Hotelling's Trace	<i>F</i> ratio	<i>DF</i>	<i>p</i>	η^2
.37	3.07	10, 84	.002	.27

* $p \leq .05$

The comparison of the posttest scores for the 10 subcategories measuring career indecisiveness by group membership after removing the effects of the pretest scores for these subscales was statistically significant, $F(10, 84) = 3.07, p = .002, \eta^2 = .27$. The large effect size of .27 indicated that in addition to having statistical significance, the difference also had practical significance. This finding provided support that the difference between the experimental and control groups is not based on sample size, but reflected a true difference between the two groups. To determine which of the subcategories was contributing to the statistically significant difference on the one-way MANCOVA, the between subjects effects was examined. Table 17 presents results of this analysis.

Table 17

Between Subjects Effects – Career Indecisiveness

Subcategories	<i>N</i>	Adjusted Mean†	<i>SEM</i>	<i>DF</i>	<i>F</i>	<i>p</i>	η^2
Lack of Motivation							
Experimental	53	2.70	.26	1, 93	1.97	.164	.02
Control	52	3.25	.27				
Indecisiveness							
Experimental	53	5.58	.28	1, 93	.98	.324	.01
Control	52	5.17	.28				
Dysfunctional Beliefs							
Experimental	53	5.02	.24	1, 93	.23	.630	.01
Control	52	5.19	.25				
Decision-Making Process							
Experimental	53	3.45	.31	1, 93	3.80	.054	.04
Control	52	4.34	.31				
Self							
Experimental	53	3.08	.28	1, 93	3.55	.063	.04
Control	52	3.85	.29				
Occupations							
Experimental	53	3.18	.27	1, 93	2.92	.091	.03
Control	52	3.87	.27				
Ways of Obtaining Information							
Experimental	53	2.57	.27	1, 93	9.66	.002	.09
Control	52	3.80	.27				
Unreliable Information							
Experimental	53	3.25	.29	1, 93	1.82	.181	.02
Control	52	3.82	.29				
Internal Conflicts							
Experimental	53	3.55	.26	1, 93	.83	.364	.01
Control	52	3.90	.26				
External Conflicts							
Experimental	53	2.55	.29	1, 93	9.43	.003	.09
Control	52	3.88	.29				

* $p \leq .05$

†Adjusted for covariates

Two of the 10 subcategories, ways of obtaining information and external conflicts were contributing to the statistically significant outcomes on the one-way MANCOVA. The comparison of the adjusted posttest mean scores measuring ways of obtaining information for the

experimental group ($M_a = 2.57$, $SEM = .27$) was significantly lower than the control group ($M_a = 3.80$, $SEM = .27$), $F(1, 93) = 9.66$, $p = .002$, $\eta^2 = .09$. The small effect size provided evidence that the comparison of the two groups had little practical significance, although the difference was statistically significant. This result indicated that at the end of the intervention, the control group had significantly higher scores on the subcategory measuring ways of obtaining information than the experimental group.

The adjusted posttest scores for the subcategory measuring external conflicts differed between the experimental group ($M_a = 2.55$, $SEM = .29$) and the control group ($M_a = 3.88$, $SD = .29$), $F(1, 93) = 9.43$, $p = .003$, $\eta^2 = .09$. The small effect size indicated that while the comparison was statistically significant, it had little practical significance. This finding provided support that while the difference between the two groups was statistically significant because of the sample size, the difference between the adjusted means was not useful for judging the usefulness of the intervention on external conflicts. Based on these findings, the null hypothesis of no difference between the experimental group and control group on career indecisiveness could not be rejected.

Research Question 2. To what extent does career decision-making self-efficacy change from the beginning of the career-planning course to completion of the course?

H_{03} : Students enrolled in a career-planning course will not experience changes in career decision-making self-efficacy from beginning to completion of the course.

The pretest and posttest scores for the experimental group were compared using t-tests for dependent samples. The results of these analyses are presented in Table 18.

Table 18

t-Test for Dependent Samples – Career Decision-Making Self-Efficacy (Experimental Group only)

Career Decision-Making Self-Efficacy Subscales	Time				DF	t	p
	Pretest		Posttest				
	M	SD	M	SD			
Accurate Self-Appraisal	3.80	.76	4.25	.67	52	3.80	<.001
Occupational Information	3.74	.79	4.26	.67	52	5.22	<.001
Goal Selection	3.50	.86	4.04	.74	52	4.60	<.001
Future Plans	3.51	.91	4.05	.74	52	4.64	<.001
Problem Solving	3.54	.83	4.05	.76	52	3.96	<.001

* $p \leq .05$

The comparison of accurate self-appraisal from pretest ($M = 3.80$, $SD = .76$) to posttest ($M = 4.25$, $SD = .67$) was statistically significant, $t(52) = 3.80$, $p < .001$. The change from pretest ($M = 3.74$, $SD = .79$) to posttest ($M = 4.26$, $SD = .67$) for the subscale occupational information was statistically significant, $t(52) = 5.22$, $p < .001$. When the pretest scores ($M = 3.50$, $SD = .86$) was compared to the posttest scores ($M = 4.04$, $SD = .74$) for the subscale goal selection were compared, the result was statistically significant, $t(52) = 4.60$, $p < .001$. The change in scores for future plans from pretest ($M = 3.51$, $SD = .91$) to posttest ($M = 4.05$, $SD = .74$) was statistically significant, $t(52) = 4.64$, $p < .001$. The comparison of scores for problem solving from pretest ($M = 3.54$, $SD = .83$) to posttest ($M = 4.05$, $SD = .76$) was statistically significant, $t(52) = 3.96$, $p < .001$. Based on these findings, the participants in the study increased their career decision-making self-efficacy from the beginning of the intervention to completion of the study. The null hypothesis of no change from pretest to posttest is rejected.

Research Question 3. To what extent does career indecisiveness change from the beginning of the career-planning course to completion of the course?

H₀₄: Students enrolled in a career-planning course will not experience changes in career indecisiveness from the beginning to completion of the course.

The pretest and posttest scores for the three categories measuring career indecisiveness were compared using t-tests for dependent samples. The results of this analysis are presented in Table 19.

Table 19

t-Test for Dependent Samples – Career Indecisiveness (3 categories) (Experimental Group only)

Career Decision-making Difficulties Questionnaire Categories	<u>Time</u>		<u>Time</u>		<i>DF</i>	<i>t</i>	<i>p</i>
	<u>Pretest</u>		<u>Posttest</u>				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Readiness	4.60	1.19	4.50	1.29	52	.554	.554
Lack of Information	4.79	1.87	3.37	2.00	52	5.06	<.001
Inconsistent Information	3.67	1.66	3.25	1.81	52	1.88	.066

* $p \leq .05$

The pretest scores ($M = 4.79$, $SD = 1.87$) for the category, lack of information, decreased significantly at the end of the intervention ($M = 3.37$, $SD = 2.00$), $t(52) = 5.06$, $p < .001$. This finding provided evidence that students who participated in the intervention decreased their career indecisiveness in regard to the lack of information. The mean scores for the remaining two categories, readiness and inconsistent information also decreased from pretest to posttest, although the changes were not sufficient to be statistically significant.

Table 20

t-Test for Dependent Samples – Career Indecisiveness (10 subcategories) (Experimental Group only)

Career Decision-making Difficulties Questionnaire Subcategories	Time				DF	t	p
	Pretest		Posttest				
	M	SD	M	SD			
Lack of Motivation	2.77	1.55	2.79	1.76	52	.075	.940
Indecisiveness	5.97	1.97	5.69	2.02	52	.910	.367
Dysfunctional Beliefs	5.07	1.81	5.01	1.70	52	.213	.832
Decision-Making Process	5.05	2.27	3.79	2.51	52	3.36	<.001
Self	4.96	2.89	3.40	2.18	52	4.87	<.001
Occupations	4.80	2.12	3.45	1.93	52	4.29	<.001
Ways of Obtaining Information	4.35	2.00	2.86	2.02	52	5.06	<.001
Unreliable Information	4.05	2.21	3.36	2.06	52	2.19	.033
Internal Conflicts	3.88	1.82	3.70	1.87	52	.692	.492
External Conflicts	3.09	2.21	2.71	1.94	52	1.22	.230

* $p \leq .05$

The four subcategories comprising the category, lack of information, provided evidence of statistically significant changes from pretest to posttest. The pretest scores for decision-making process ($M = 5.05$, $SD = 2.27$) decreased to a mean of 3.79 ($SD = 2.51$) on the posttest. This result was statistically significant, $t(52) = 3.36$, $p < .001$. The comparison of the pretest scores ($M = 4.96$, $SD = 2.89$) and posttest scores ($M = 3.40$, $SD = 2.18$) for self was statistically significant, $t(52) = 4.87$, $p < .001$. When the pretest scores ($M = 4.80$, $SD = 2.12$) for occupations were compared to the posttest scores ($M = 3.45$, $SD = 1.93$), the difference was statistically significant, $t(52) = 4.29$, $p < .001$. The mean scores for the ways of obtaining information subcategory decreased significantly from pretest ($M = 4.35$, $SD = 2.00$) to posttest ($M = 2.86$, $SD = 2.02$), $t(52) = 5.06$, $p < .001$. When the pretest scores ($M = 4.05$, $SD = 2.21$) for unreliable information were compared to the posttest scores ($M = 3.36$, $SD = 2.06$), the

difference was statistically significant, $t(52) = 2.19, p = .033$. The remaining subcategories did not change significantly, although all but lack of motivation decreased from pretest to posttest. As a result of the mixed findings on the comparisons of the categories and subcategories, no decision could be made on the null hypothesis.

Summary

The fourth chapter has presented the results of the statistical analyses that were used to describe the sample and test the hypotheses. Conclusions and recommendations that can be made based on the findings can be found in the fifth chapter.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter includes a summary, conclusions and recommendations section about the study. A brief summary of literature, the methods used, the study findings and the research questions and hypotheses are discussed in the summary section. A discussion of the study findings, implications and limitations of the study are presented along with recommendations for future research.

Summary

The purpose of the study was to evaluate the effectiveness of a career-planning course for college students who were undecided on a major or wanted to change or confirm their major at community college. To assist students in becoming more aware of themselves and others and cognizant of different career and career options were some reasons why a career-planning course exists (Sukenni, Raufman, & Bendat, 2012). Other reasons why a career-planning course exists were to develop decision-making skills along with skills related to planning and implementing realistic life/career goals (Sukenni, Raufman, & Bendat, 2012). In this study, the career-planning course assisted students in improving their career decision-making self-efficacy (CDMSE). A reduction in career decision-making difficulties for students taking a career planning class also was seen in this study.

The majority of the reviewed literature involved investigating undecided college students and the effectiveness of a career-planning course. In regards to undecided college students, researchers in the past have viewed undecided college students as “indecisive” college students (Gordon, 2007). Osipow (1999) noted that indecision was a developmental phase that was part of

the decision-making process. Gordon (2007) found that more recent research focused on career indecision types in trying to understand the undecided student compared to past research that was published trying to define undecided students and indecisiveness.

The majority of undecided college students in this study were identified as tentatively and developmentally undecided career indecision types. Tentatively undecided students were described as having a relatively high level of vocational identity and being comfortable with themselves (Lucas & Epperson, 1988). Developmentally undecided students were described as students that could resolve indecision through maturation (Fuqua, Blum, & Hartman, 1988). Gordon (1998) indicated that when counselors worked with tentatively and developmentally undecided students, counselors should suggest that these students take a career-planning course. Choice anxiety, career identity, career maturity and emotional intelligence were some of the general characteristics of undecided college students (Brown, George-Curran, & Smith, 2003; Goodstein, 1965; Holland, 1997; Savickas, 1984). Family influences, career barriers and retention were three factors of career decision-making influences for undecided college students (Lewallen, 1993; McWhirter, 1997; Pearson & Dellman-Jenkins, 1997).

As this study was about the effectiveness of a career-planning course at the community college level, entering first-year and undecided community college students were the two largest types of undecided students who enroll into a career-planning course. The largest and most common type of undecided college students were the entering first-year student and they were viewed as unready, unable, and unwilling students who had a difficult time selecting a specific academic direction (Gordon, 2007). Gordon (2007) also indicated that undecided community college students displayed many of the same characteristics of undecided students at the university level. King and Raushi (1994) identified that many undecided community college

students were the first in their family to attend college; some required remedial coursework due to inadequate college preparation, and many were commuters.

The literature reviewed in regards to the effectiveness of a career-planning course indicated that a variety of theoretical frameworks were used when researching undecided college students, but no one theory sufficiently explained undecided college students (Gordon, 1998).

In this study, a developmental approach, career decision theory, Holland's theory of personalities and work environments, and the social learning theory of career decision-making were the theories primarily used in the career-planning course. The career-planning course assisted undecided students with focusing on the career-planning process and concentrating on a specific area of interest (Gordon, 2007). A study completed by Reece and Miller (2006) found an increase in career decision-making self-efficacy and a reduction in career decision-making difficulties for students who completed a career-planning course when compared to students who had not enrolled in a career-planning course.

Methods

A quasi-experimental, nonequivalent control group research design was used in this study. As intact classes of students enrolled in career-planning courses at one community college was used in the study, random assignment to the treatment and control groups was not possible. The setting for the study was at one campus of a multi-campus community college located in a metropolitan area.

Findings

A total of 105 students participated in the study. Of this number, 53 were enrolled in the career-planning course (experimental group) and 52 were attending a college orientation course (control group). The students in the experimental group ranged in age from 18 to 54, with a mean

age of 24.26 (SD = 8.83), while students in the control group had a mean age of 22.62 (SD = 7.54), with a range from 18 to 55. The majority of the participants in both groups were female and African American. Most of the students were new to the college, with from 0 to 15 credit hours. The educational aspirations for both groups generally were completion of bachelor degrees; with a similar number of students reported they were undecided about their education. The career pathways that both groups were interested in pursuing were primarily the health services, arts and communications and business pathways

Pretest Equivalencies

To determine if the experimental and control group were similar on the pretest scores for the five subscales measuring career decision-making self-efficacy, t-tests for two independent samples were used. The results indicated that the two groups differed on three of the subscales, occupational information, goal selection, and future plans. In each case, the control group had statistically significantly higher pretest mean scores than the experimental group. No statistically significant differences were found for accurate self-appraisal and problem solving.

Career indecisiveness was measured using three categories that encompassed 10 subcategories. The mean scores for each category and subcategory were compared between the experimental and control groups using t-tests for two independent samples. The results of these analyses indicated that the category, lack of information, and the four subcategories differed significantly between the two groups. In each case, the control group had significantly lower scores than the experimental group. The remaining categories and subcategories did not differ between the two groups.

Due to these findings of statistically significant differences on some of the scales, the analysis used to test the hypotheses that compared the experimental and control groups at the end

of the intervention was multivariate analysis of covariance. The covariates in each of these tests were the pretest scores for the two scales.

Research Questions and Hypotheses

Three research questions and associated hypotheses were developed for the study. Each of these hypotheses was tested using inferential statistical analyses. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

1. To what extent do students enrolled in a career-planning course differ at posttest from students who are not enrolled in this course on career decision-making self-efficacy and career indecisiveness?

H₀₁: Students enrolled in a career-planning course do not differ at posttest on career decision-making self-efficacy from students who are not enrolled in this course.

H₀₂: Students enrolled in a career-planning course do not differ at posttest on career indecisiveness from students who are not enrolled in this course.

A one-way multivariate analysis of covariance (MANCOVA) was used to test for differences on career decision-making self-efficacy between the experimental and control groups. The results of this analysis were not statistically significant, indicating that after adjusting for the effects of the pretest, the posttest scores did not differ between the two groups. The second MANCOVA tested for differences in the three categories measuring career indecisiveness between the experimental and control groups. The findings on this MANCOVA also indicated that no differences were found on the posttest scores after adjusting for the pretest scores on the three categories. However, when the posttest scores for the 10 subcategories were compared between the two groups, a statistically significant difference was obtained on the

MANCOVA. In examining the between subjects effects for the 10 subcategories, two statistically significant differences were noted for ways of obtaining information and external conflicts. For both subcategories, the experimental group had significantly lower scores than the control group. The remaining subscales did not differ between the two groups. Based on these findings, the null hypothesis of no difference was retained.

2. To what extent does career decision-making self-efficacy change from the beginning of the career-planning course to completion of the course?

H₀₃: Students enrolled in a career-planning course will not experience changes in career decision-making self-efficacy from beginning to completion of the course.

The pretest and posttest scores for the experimental group were compared using t-tests for dependent samples to determine the direction and extent of change resulting from the intervention. Statistically significant differences were found for each of the five subscales measuring career decision-making self-efficacy, accurate self-appraisal, occupational information, goal selection, future plans, and problem solving. For each subscale, the posttest scores were significantly higher at the end of the intervention than at the beginning of the intervention. The results of these analyses provided evidence to reject the null hypothesis.

3. To what extent does career indecisiveness change from the beginning of the career-planning course to completion of the course?

H₀₄: Students enrolled in a career-planning course will not experience changes in career indecisiveness from the beginning to completion of the course.

The experimental group's pretest and posttest scores for career indecisiveness were compared using t-tests for dependent samples. One category, lack of information differed

significantly, with the scores decreasing from pretest to posttest. The other two categories, lack of readiness and inconsistent information, did not differ significantly from pretest to posttest. When the 10 subcategories were compared from pretest to posttest, the four subcategories comprising the lack of information category (decision-making process, self, occupations, and ways of obtaining information) and one subcategory (unreliable information) in the inconsistent information category differed significantly. In each instance, the posttest scores were significantly lower than the pretest scores, indicating a decrease in career indecisiveness. The remaining five subcategories for lack of readiness and inconsistent information did not differ from pretest to posttest. Due to the mixed findings on this hypothesis, no decision could be made.

Conclusions

After adjusting for the covariates (pretest scores on the five subscales measuring CDMSE), the experimental group had higher posttest scores than the control group for each of the subscales despite the lack of statistically significant findings. Contrary to the findings of the present study, Reese and Miller (2006) found statistically significant differences between students taking a career-planning course and students completing an Introduction to Psychology course for career self-efficacy, especially for the occupational information, goal selection, and planning subscales. They found that students in the career-planning course had higher scores following completion of the course than students in the psychology course. The primary differences between the Reese and Miller (2006) study and the present study was the length of the intervention. At the community college, the career-planning course was eight weeks, while the university course in the Reese and Miller (2006) study was 15 weeks. Perhaps, the extended time in the course could account for the significance of the findings in the Reese and Miller

(2006) study. Eight weeks may have been sufficient for students to develop increased levels of career self-efficacy, but not long enough to create a statistically significant difference from the control group. In addition, the Reese and Miller study was conducted in a university with students who may have been more committed to learning about careers and then choosing a major area of study. Community college students who are considering transferring to a university may not be ready to select a major and want to leave their options for career choice open until they make the move from community college to university.

Research had indicated that counselors typically taught career planning and college orientation courses. Cueseio (2003) indicated that counselors typically taught the college orientation course as a way to form working relationships immediately with students. Folsom and Reardon (2003) noted that counselors who taught the career-planning course supported their students with the career-planning process and helped them focus on specific areas of interest.

After removing the effects of the pretest scores on the three categories measuring career indecisiveness, the control group had higher posttest scores than the experimental group, although the differences between the two groups were not statistically significant. Higher scores on career indecisiveness indicated greater career indecision. The higher adjusted posttest scores for the control group were not unexpected as it was hypothesized that the experimental group would have less career indecisiveness. When the 10 subcategories measuring career indecisiveness were compared between the two groups, two subcategories were found to differ significantly: ways of obtaining information and external conflicts.

For the subcategory, ways of obtaining information, a high score in this area reflected a lack of information about additional information or help that may facilitate decision-making (Gati, Krausz, & Osipow, 1996). Gordon (2007) identified that a career-planning course

emphasized career decision-making and goal-setting processes. Many career-planning courses assist students through a series of decision-making steps (Folsom & Reardon, 2003) and thus may have been responsible for students in the experimental group having lower career indecisiveness for the ways of obtaining information subcategory than the students in the control group.

For the external conflicts subcategory, a high score in this area indicated a gap between an individual's preferences and the preferences voiced by others who were significant to him/her or a contradiction between the opinions of two significant others (Gati, Krausz, & Osipow, 1996). Some objectives in a career-planning course focus around the student making career related decisions based on his/her personality, interests, and assets (Sukennik, Raufman, & Bendat, 2012). Personality (Myers-Briggs Type Indicator) and interest (Strong Interest Inventory) tests were completed in the career-planning course to assist students in having more information about themselves available prior to making career-related decisions. While personality and interest tests were conducted in the career-planning course and not in the college orientation course, lower scores for the external conflicts subcategory were expected for the students in the career-planning course, while the control group was expected to remain constant over the eight weeks of the study.

Even with statistically significant posttest scores for the ways of obtaining information and external conflicts subcategories, the three categories and the other eight subcategories measuring career indecisiveness were not statistically significant. The lack of statistical significance for the three categories and the eight subcategories measuring career indecisiveness in this study may be a function of the length of the intervention. The eight weeks of the career-planning course may not have been sufficient to create a statistically significant difference

between the two groups. The students in the two courses also may have been acquainted and may have discussed what was being taught in the career-planning course, resulting in some confounding of the findings. In addition, both the career-planning and the college orientation courses were taught by counselors. Some overlap may have occurred when the same counselor taught both courses. In the field of career counseling, counselors tried to improve the career readiness of their students, support in increasing information about the decision-making process and assist their students with difficulties related to inconsistent information (Osipow & Gati, 1998). Due to counselors teaching both the career-planning and college orientation courses in this study, the null hypothesis of no difference between the experimental group and control group on career indecisiveness could not be rejected.

Research question two examined the change in career decision-making self-efficacy from pretest to posttest for the experimental group. Statistical significant findings were found in the five subscales measuring career decision-making self-efficacy (CDMSE). The experimental group increased their CDMSE from the beginning of the intervention to completion of the study. The accurate self-appraisal subscale measuring CDMSE from pretest to posttest was statistically significant. One of the activities in the career-planning course was completing the Myers-Briggs Type Indicator (MBTI) personality test. The MBTI personality test was a test typically given in the career-planning course and not in other academic courses. The MBTI personality results helped the students become more aware of the integration of information about themselves and the world of work (Sharf, 2002). With increased knowledge about oneself and the world of work, students in the career-planning course were able to appraise their interests, values, and abilities related to educational and career decisions more accurately.

The gathering occupational information subscale measuring CDMSE from pretest to posttest in the experimental group was statistically significant. This finding supported previous research by Reese and Miller (2006) who found that the occupational information subscale also increased from pretest to posttest for students in the career-planning course. Students in the present study completed the Strong Interest Inventory (SII) and became familiar with the Occupational Information Network (O*Net). The purpose of these course activities was to assist students in gaining information about their career interests and the world of work (Sukennik, Raufman, & Bendat, 2012). The SII was an interest test typically completed in the career-planning course and not in other academic courses. After completing the SII, students in the career-planning course used O*NET to understand worker characteristics, worker requirements, experience requirements, occupation requirements, occupation-specific requirements, and occupations characteristics (Sharf, 2002). With increased knowledge of how to gather occupational information, students in the career-planning course were able to find sources of information about college majors and occupations.

The change for the goal selection subscale from pretest to posttest was statistically significant. Similar results were obtained for the goal selection subscale in a research study by Reece and Miller (2006). In this study, chapter eight from *The Career Fitness Program Exercising Your Options* (10th ed.; Sukenni, Raufman & Bendat, 2012), a career workbook, focused on deciding and choosing a college major by matching one's own characteristics to the demands and rewards of the different careers. The findings of the present study and previous research provided support for the positive change in goal selection from pretest to posttest.

The increase in scores from pretest to posttest for the subscale, making plans for the future, was statistically significant. In a research study by Reese and Miller (2006), the making

plans for the future subscale also increased from pretest to posttest for students in the career-planning course. Chapters nine, ten and eleven from the career workbook were concerned with job searching, resume writing, job interviewing, and enrolling in educational programs (Sukenni, Raufman & Bendat, 2012). Students in the career-planning course became more aware of the importance of attaining these skills before beginning to search for work in their chosen careers. They also began to understand the relevance of educational programs in gaining the knowledge necessary to become proficient at their chosen occupation.

When measuring CDMSE from pretest to posttest for the problem solving subscale for the experimental group, results were statistically significant. Folsom and Reardon (2003) indicated that a career-planning course supported students when they were involved in the decision-making process and educational and career plans did not go as intended. Chapter 12 in the workbook focused on making plans for the future by embracing career fitness as a way of life (Sukenni, Raufman, & Bendat, 2012). With Chapter 12 focusing on developing coping strategies and making alternative plans when original career and educational plans do not go as intended, it was understandable as to why the scores for the problem solving subscale increased significantly from pretest to posttest. As the increase in scores on the five subscales measuring CDMSE from pretest to posttest was statistically significant, the null hypothesis of no change from pretest to posttest was rejected.

Research question number three examined the change in scores for career indecisiveness from pretest to posttest for the experimental group. Of the three categories examined for career indecisiveness, only the lack of information category was statistical significant. In the lack of information category, the scores for decision-making process, self, occupations, and ways of obtaining information subcategories decreased significantly. The decline in scores was in the

expected direction as students were able to decrease their career indecisiveness when making decisions about their careers and college programs. These findings supported research by Folsom and Reardon (2003) who noted that the career planning course increased students' knowledge about making decisions wisely by addressing the steps involved in the career decision-making process. The career-planning course included curriculum that presented information regarding decision-making, overcoming barriers in the decision-making process and choosing an effective decision-making style (Sukenni, Raufman & Bendat, 2012).

The comparison of the self subcategory measuring career indecisiveness from pretest to posttest in the experimental group was statistically significant. From the MBTI and SII results, students in the career-planning course gained important information about themselves. By completing the MBTI personality test and the SII, students in the career-planning course experienced less career indecisiveness in the self subcategory due to having results about their personality, interests, abilities, and career preferences (Sukenni, Raufman & Bendat, 2012).

When measuring career indecisiveness from pretest to posttest in the experimental group for the occupations subcategory, the results were statistically significant. After completing the SII and then using O*Net, the students in the career-planning course gained important knowledge regarding the existing array of career options (Sukenni et al., 2012). With increased knowledge of how to find information about the different careers in the world of work, it was expected that scores for the occupations subcategory for measuring career indecisiveness would decrease significantly.

The ways of obtaining information subcategory measuring career indecisiveness from pretest to posttest decreased significantly for members of the experimental group. For this study, Chapter 7 from the career workbook focused on exploring career information (Sukenni et al.,

2012). In terms of career indecisiveness, being able to obtain information is important in helping students become more proficient at making career-related or college program decisions.

Although the category, inconsistent information, did not change significantly from pretest to posttest; one subcategory, unreliable information decreased significantly from pretest to posttest. Students typically enroll for a career-planning course because of a lack of information about themselves regarding preferences for certain occupations (Gordon, 2007). The unreliable information subcategory measures students' perceptions of contradictory information that may impede the decision-making process. Students' scores decreased, indicating they were better able to determine which information was useful in making career-related decisions and which information would be better ignored.

Although one of the three categories and five of the 10 subcategories measuring career indecisiveness differed significantly from pretest to posttest and all changes were in the expected direction, a decision on the null hypothesis of no change in career indecisiveness could not be made. The eight weeks of the intervention may not have been sufficient to decrease career indecisiveness in all categories.

Implications of the Study

Enrolling in a career-planning course is an important counseling intervention because of the increasing number of college freshman and sophomore students who have difficulty in making decisions, especially regarding career planning and college major selection. Compared to individual career counseling sessions, career planning courses offer linking techniques to develop cohesiveness within the career-planning and are able to help support more undecided students at a time. Counselors continue to have the responsibility of providing career support services to the growing number of undecided students at the college and community college

level. Counselors in these classes might suggest having guest speakers to provide additional information regarding potential careers. The counselors teaching career-planning courses need to be prepared to provide curriculum to support undecided students with low career decision-making self-efficacy and high career indecisiveness.

The community college administration should use the results of this study and the results of the Reese and Miller (2006) to increase the length of the course to 15 weeks. Adding the additional 7 weeks could provide more exposure to careers and help students develop an understanding of the importance of choosing a possible career. Perhaps, adding a job shadowing component to the career planning course would be helpful for students to learn about the requirements and responsibilities associated with their career choices.

Career counselors at community colleges need to participate in professional development to maintain their knowledge of different occupations and the skills needed for success. They can then transmit this information to students in career planning courses. As occupations and careers continue to evolve and the skills needed for success change, different kinds of career counseling interventions may be needed at the community college level to help undecided students who are confused and overwhelmed.

Limitations

The study was conducted with a sample drawn from one campus of a large multi-campus Community College located in Southeast Michigan and may not be representative of all students at this community college. The findings may have been different if the study was completed using students from more than one community college campus or at community colleges in other areas of the country where the population is more heterogeneous.

Another limitation of the study was possible confounding of results because the counselors may have been teaching both career planning and college orientation courses in this study. These instructors may have unintentionally wanted to assist their students in the college orientation course to become more aware of decision making regarding college majors and career choices.

The students in the experimental and control groups may have been taking other courses together and may have discussed some of the topics included in the career-planning course. These students were not cautioned not to discuss what was being presented in the career-planning course resulting in some members of the control group becoming more aware of career planning decision making that could have led to increased career-planning self-efficacy.

The surveys used in the study were self-report. The students completing the surveys may have provided responses that were socially desirable, reflecting their perceptions of what the instructor wanted and not their true feelings about the survey items. Although students were cautioned to answer honestly, they may also have been concerned about the confidentiality of their responses.

Recommendations for Further Study

The following recommendations should be considered to extend this study and validate the findings:

- Replicate the study using a larger sample drawn from several community colleges located in the same state to determine if career-planning courses have similar outcomes for students who are undecided regarding college majors or career choice.
- Conduct a study of students who have completed the career-planning course and are now working to determine if they perceive that participation in this type of course

contributed to their ability to choose a career and develop the necessary skills needed to be successful.

- Use a random sample of employers in the county where the community college is located to determine if the students they have hired from the college have the necessary skills and experiences to be effective employees. The information from the employers could be used to adapt curriculum to meet the changing needs of the work place.
- Conduct a longitudinal study to determine if students who complete a career-planning course are better able to choose a college major and compare it to students who do not complete this type of course.
- Investigate the efficacy of expanding the career-planning course to 15 weeks and compare the career self-efficacy and career indecisiveness results between students in the 8-week and 15-week courses. The findings of this study may provide support for the need to expand the course to 15 weeks.

APPENDIX A

SURVEYS

THE CAREER DECISION SELF-EFFICACY SCALE

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Career Decision-making Difficulties Questionnaire

This questionnaire's aim is to locate possible difficulties and problems related to making career decisions.

Please begin by filling in the following information:

Have you considered what field you would like to major in or what occupation you would like to choose?

Yes / No

If so, to what extent are you confident of your choice?

Not confident at all 1 2 3 4 5 6 7 8 9 *Very confident*

Next, you will be presented with a list of statements concerning the career decision-making process. Please rate the degree to which each statement applies to you on the following scale:

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

Circle 1 if the statement does not describe you and 9 if it describes you well. Of course, you may also circle any of the intermediate levels. **Please do not skip any question.**

For each statement, please circle the number which best describes you.

1. I know that I have to choose a career, but I don't have the motivation to make the decision now ("I don't feel like it").

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

2. Work is not the most important thing in one's life and therefore the issue of choosing a career doesn't worry me much.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

3. I believe that I do not have to choose a career now because time will lead me to the "right" career choice.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

4. It is usually difficult for me to make decisions.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

5. I usually feel that I need confirmation and support for my decisions from a professional person or somebody else I trust.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

6. I am usually afraid of failure.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

7. I like to do things my own way.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

8. I expect that entering the career I choose will also solve my personal problems.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

9. I believe there is only one career that suits me.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

10. I expect that through the career I choose I will fulfill all my aspirations.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

11. I believe that a career choice is a one-time choice and a life-long commitment.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

12. I **always** do what I am told to do, even if it goes against my own will.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

13. I find it difficult to make a career decision because I do not know what steps I have to take.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

14. I find it difficult to make a career decision because I do not know what factors to take into consideration.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

15. I find it difficult to make a career decision because I don't know how to combine the information I have about myself with the information I have about the different careers.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

16. I find it difficult to make a career decision because I still do not know which occupations interest me.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

17. I find it difficult to make a career decision because I am not sure about my career preferences yet (for example, what kind of a relationship I want with people, which working environment I prefer).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

18. I find it difficult to make a career decision because I do not have enough information about my competencies (for example, numerical ability, verbal skills) and/or about my personality traits (for example, persistence, initiative, patience).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

19. I find it difficult to make a career decision because I do not know what my abilities and/or personality traits will be like in the future.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

20. I find it difficult to make a career decision because I do not have enough information about the variety of occupations or training programs that exist.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

21. I find it difficult to make a career decision because I do not have enough information about the characteristics of the occupations and/or training programs that interest me (for example, the market demand, typical income, possibilities of advancement, or a training program's prerequisites).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

22. I find it difficult to make a career decision because I don't know what careers will look like in the future.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

23. I find it difficult to make a career decision because I do not know how to obtain additional information about myself (for example, about my abilities or my personality traits).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

24. I find it difficult to make a career decision because I do not know how to obtain accurate and updated information about the existing occupations and training programs, or about their characteristics.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

25. I find it difficult to make a career decision because I constantly change my career preferences (for example, sometimes I want to be self-employed and sometimes I want to be an employee).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

26. I find it difficult to make a career decision because I have contradictory data about my abilities and/or personality traits (for example, I believe I am patient with other people but others say I am impatient).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

27. I find it difficult to make a career decision because I have contradictory data about the existence or the characteristics of a particular occupation or training program.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

28. I find it difficult to make a career decision because I'm equally attracted by a number of careers and it is difficult for me to choose among them.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

29. I find it difficult to make a career decision because I do not like any of the occupation or training programs to which I can be admitted.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

30. I find it difficult to make a career decision because the occupation I am interested in involves a certain characteristic that bothers me (for example, I am interested in medicine, but I do not want to study for so many years).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

31. I find it difficult to make a career decision because my preferences can not be combined in one career, and I do not want to give any of them up (e.g., I'd like to work as a free-lancer, but I also wish to have a steady income).

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

32. I find it difficult to make a career decision because my skills and abilities do not match those required by the occupation I am interested in.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

33. I find it difficult to make a career decision because people who are important to me (such as parents or friends) do not agree with the career options I am considering and/or the career characteristics I desire.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

34. I find it difficult to make a career decision because there are contradictions between the recommendations made by different people who are important to me about the career that suits me or about what career characteristics should guide my decisions.

Does not describe me 1 2 3 4 5 6 7 8 9 *Describes me well*

Finally, how would you rate the degree of your difficulty in making a career decision?

Low 1 2 3 4 5 6 7 8 9 *High*

Demographic Survey

Age

Gender

- Male
- Female
- Other

Ethnicity

- African American/Black
- American Indian/Alaskan Native
- Asian/Pacific Islander
- Caucasian/White
- Hispanic
- Middle Eastern
- Multi-ethnic
- Other _____

Student Status

- 0 to 15 credits
- 16 to 30 credits
- 31 to 45 credits
- 46 to 60 credits
- More than 60 credits

Educational Aspirations

- Certificate
- Associate's Degree
- Bachelor's Degree
- Undecided
- Other _____

The Career Pathway that you are interested in pursuing?

- Arts and Communications (e.g. communications, performing arts, visual and media arts)
- Business, Management, Marketing and Technology (e.g. accounting, finance, marketing)
- Engineering/Manufacturing and Industrial Technology (e.g. skilled trades, construction)
- Health Sciences (e.g. nursing, medicine, dentistry)
- Human Services (e.g. education, hospitality, criminal justice, social service)
- Natural Resources and Agriscience (e.g. horticulture, landscaping, environmental services)

APPENDIX B**RESEARCH INFORMATION SHEET**

Title of Study: *The Effects of a Career-Planning Course on Community College Students' Career Self-Efficacy and Career Indecisiveness*

Principal Investigator (PI): Jefferey Lip
Theoretical and Behavioral Foundations Counseling
(248) 246-2450

Purpose

You are being asked to be in a research study examining the effects of career self-efficacy and career indecisiveness because you are a community college student. Self-efficacy is defined as the confidence that individuals have in their ability to master specific tasks. This study is being conducted at the community college. The estimated number of study participants at the community college is about 125. **Please read this form and ask any questions you may have before agreeing to be in the study.**

In this research study, the investigator will be examining the impact of a career-planning course on community college students' career self-efficacy and career indecisiveness.

Study Procedures

If you agree to take part in this research study, you will be asked to fill out a survey. The survey questions will ask you to provide demographic information, answer questions about career self-efficacy and career indecisiveness. If possible please respond to all questions. The survey will take approximately 20-30 minutes to complete. The survey contains no identifying information. This will insure confidentiality. You will be asked to complete the surveys twice, once at the beginning of the course and again during the last week of the course.

Benefits

As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks

By taking part in this study, you may experience the following risks: As a student you might feel coerced. To reduce this risk the investigator and instructor will not be present and confidentiality of your responses is assured.

Study Costs

Participation in this study will be of no cost to you.

Compensation

Once you complete the surveys the second time and hand them in, you will receive a raffle ticket that will place you in a drawing for a \$10 I-Tunes gift card.

Confidentiality

All information collected about you during the course of this study will be kept without any identifies.

Voluntary Participation/Withdrawal

Taking part in this study is voluntary. You have the right to choose not to take part in this study. You are free to withdraw from participation in this study at any time. Your decisions will not change any present or future relationship with the community college or its affiliates, or other services you are entitled to receive.

The PI may stop your participation in this study without your consent. The PI will make the decision and let you know if it is not possible for you to continue. The decision that is made is to protect your health and safety, or because you did not follow the instructions to take part in the study

Questions

If you have any questions about this study now or in the future, you may contact Jefferey Lip at the following phone number (248) 246-2450. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation

By completing the surveys, you are agreeing to participate in this study.

APPENDIX C


**APPROVAL FROM WAYNE STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD**

**WAYNE STATE
UNIVERSITY**

IRB Administration Office
87 East Canfield, Second Floor
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
<http://irb.wayne.edu>

NOTICE OF EXPEDITED APPROVAL

To: Jefferey Lip
Theoretical & Behavior Foundations

From: Dr. Scott Millis 
Chairperson, Behavioral Institutional Review Board (B3)

Date: September 03, 2013

RE: IRB #: 085213B3E
Protocol Title: The Effects of a Career-Planning Course on Community College Students' Career Self-Efficacy and Career Indecisiveness

Funding Source:
Protocol #: 1308012266

Expiration Date: September 02, 2014

Risk Level / Category: Research not involving greater than minimal risk

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review Category (#7)* by the Chairperson/designee for the Wayne State University Institutional Review Board (B3) for the period of 09/03/2013 through 09/02/2014. This approval does not replace any departmental or other approvals that may be required.

- Receipt of Protocol Summary Form, revision received 08-30-13.
- Receipt of Protocol, received 08-14-13.
- Research Information Sheet, dated 08-15-13.
- A waiver of requirement for written documentation of informed consent has been granted according to 45CFR 46.116(d) and justification provided by the Principal Investigator in the Protocol Summary Form. This waiver satisfies: 1) risk is no more than minimal, 2) the waiver does not adversely affect the rights and welfare of research participants; 3) the only record linking the participant and the research would be the consent document, 4) the principal risk would be potential harm resulting from a breach of confidentiality, and 5) an information sheet disclosing the required elements of informed consent will be provided to participants.

- Federal regulations require that all research be reviewed at least annually. You may receive a "Continuation Renewal Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.
- All changes or amendments to the above-referenced protocol require review and approval by the IRB **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (<http://www.irb.wayne.edu/policies-human-research.php>).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.
2. Forms should be downloaded from the IRB website at each use.

*Based on the Expedited Review List, revised November 1998

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ABSTRACT**THE EFFECTS OF A CAREER-PLANNING COURSE
ON COMMUNITY COLLEGE STUDENTS' CAREER SELF-EFFICACY
AND CAREER INDECISIVENESS**

by

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The principal aim of this study was to evaluate the effectiveness of a career-planning course for college students who were undecided on a major or want to change or confirm their major at community college. The career-planning course was designed to assist students in becoming more aware of themselves and career options. From this study, the career-planning course assisted students in improving their career decision-making self-efficacy. A reduction in career decision-making difficulties for students was seen in this study. A quasi-experimental nonequivalent control group research design was used for this study. To determine if the experimental and control group were similar on the pretest scores for the five subscales measuring career decision-making self-efficacy, t-tests for two independent samples were used. The results indicated that the two groups differed on three of the subscales. Career indecisiveness was measured using three categories that encompassed 10 subcategories. The mean scores for each category and subcategory were compared between the experimental and control groups using t-tests for two independent samples. The results of these analyses indicated that one category and the four subcategories differed significantly between the two groups. Due to these

findings of statistically significant differences on some of the scales, the analysis used to test the hypotheses that compared the experimental and control groups at the end of the intervention was multivariate analysis of covariance (MANCOVA). Differences on career decision-making self-efficacy between the experimental and control groups for the first MANCOVA were not statistically significant. The second MANCOVA tested for differences between the experimental and control groups measuring career indecisiveness and the results were not statistically significant for the three categories, but were statistically significant for the 10 subcategories. The between subjects effects for the 10 subcategories were examined and two subcategories were significant. The pretest and posttest scores for the experimental group were compared using t-tests for dependent samples and all five subscales measuring career self-efficacy were statistically significant. One category and five subcategories were statistically significant for career indecisiveness when the experimental group was compared using t-tests for dependent samples. Recommendations for future research were offered.

