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An investigation of the relationship between career maturity, career decision self-efficacy, and self-advocacy of college students with and without disabilities

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN CAREER MATURITY, CAREER DECISION SELF-EFFICACY, AND SELF-ADVOCACY OF COLLEGE STUDENTS WITH AND WITHOUT DISABILITIES

by

Quiteya Dawn Walker

An Abstract

Of a thesis submitted in partial fulfillment of the requirements
for the Doctor of Philosophy degree in
Counseling, Rehabilitation, and Student Development
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Thesis Supervisor: Associate Professor Jodi Saunders

ABSTRACT

Although much has been written about the relationship between career maturity and career decision self-efficacy of college students, the literature review provided no studies that investigated the relationship between career maturity, career decision self-efficacy, and self-advocacy; therefore the purpose of this study was to explore the relationship between career maturity, career decision self-efficacy, and self-advocacy of college students with and without disabilities. An increasing number of college students with disabilities are attending postsecondary institutions, and the figures are continuing to increase; however, students with disabilities earn lower grades in college than their peers without disabilities, take longer to complete their degrees, have higher dropout rates, and are more likely to be unemployed after college. This quantitative study responds to recent calls in the postsecondary literature for individuals with disabilities to be better prepared when they transition from college. Participants included 347 postsecondary students, 89 of whom reported having a disability. Primarily focused on students with disabilities, this study gathered information regarding postsecondary students' attitudes toward careers, beliefs in their ability to pursue careers, and their self-advocacy knowledge in order to investigate the relationship among them. This study provides empirical support that there is a relationship between career maturity, career decision self-efficacy, and self-advocacy.

The results of the correlation, MANOVA, ANOVA, and hierarchical regression analyses provided four major findings and implications. First, there was a positive correlation between career maturity, career decision self-efficacy, and self-advocacy of college students with and without a disability. Second, the results of the study indicated that students without a disability had higher levels of career maturity and self-advocacy than students with a disability; however, the self-efficacy scores were similar for students with and without a disability. Third, the results of the study focusing specifically on students with disabilities indicated that the career maturity of students who had a high

level of self-advocacy was higher than for the students who had a low level of self-advocacy. However, there was no difference in levels of self-advocacy and career decision self-efficacy of college students with disabilities. Fourth, the results of this study focusing specifically on students with disabilities indicated that self-advocacy and career decision self-efficacy were the only variables that positively affected career maturity. Implications and directions for future research are discussed.

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Graduate College
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CERTIFICATE OF APPROVAL

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PH.D. THESIS

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To My Husband and Our Family

Trust in the LORD with all your heart; do not depend on your own understanding.
Seek his will in all you do, and he will show you which path to take.

Proverbs 3: 5-6
New Living Translation

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CHAPTER I

INTRODUCTION

Overview

Individuals with disabilities are attending college at much higher rates than in earlier years and the numbers are continuing to climb (Aksamit, Morris, & Levenberger, 1987; Beauchamp & Kiewra, 2004; Satcher, 1993). The career development of students who attend college is very important, and the career development for students with disabilities is critical. Even though students with disabilities are enrolling in college at higher rates, they earn lower grades in college than their peers without disabilities (Wehman, 2001), take longer to complete their degrees (Brinckerhoff, McGuire, & Shaw, 2002), have a higher dropout rate (Rumrill, 2001), and are more likely to be unemployed (Roessler, Hennessey, & Rumrill, 2007). Furthermore, research has shown that for students with disabilities, having a college education does not guarantee a successful career (Koch, Hennessey, Ingram, Rumrill, & Roessler, 2006) because the employment rate of students with disabilities is lower than the employment rate of students without disabilities (Collet-Klingenberg, 1998; Dunn, 1996). Despite this outcome, students with disabilities continue to represent an increasing proportion of today's college students (Burgstahler, 2001).

Students with disabilities enroll in college for several reasons. First, it is assumed that students who receive transition services in high school are better prepared for college life (Hitchings et al., 1998; Minskoff, 1994). In 1986, the reauthorization of Public Law No. 94-142 encouraged transition planning, and in 1990, the amendment mandated transition planning to help individuals achieve adult options including postsecondary education (Rojewski, 1992). Second, student disability support services at the postsecondary level should better assist students with disabilities while in college. The students must be qualified for the services based on Public Law No. 93-112, Section 504 of the Rehabilitation Act of 1973 (Office of Civil Rights, 1992). Hitchings et al. (1998)

noted a third and perhaps most important reason that students with disabilities are entering college: Students with disabilities have goals to be professionals just like any other student. Throughout their educational careers, individuals with disabilities experience different processes for receiving accommodations for their disabilities.

Accommodation Process

An individual with a disability experiences three different phases of accommodations throughout the education process. At each phase there are mandates that govern what should be done to ease the student's educational transitions. During the adolescent years, transition planning helps individuals achieve adult options, such as employment and postsecondary education. Rojewski (1992) constructed a model that outlined transition options for student with learning disabilities (see Figure J1). Rojewski suggested that a successful transition program is one in which linkage and transfer occur. Additionally, Rojewski (1992) noted that there were "limited postsecondary services available and the development of alternative service delivery and funding methods must be considered" (p. 148). During the K-12 years, students with a disability have an Individualized Education Program Plan (IEP), which is a written plan/program developed by the school's special education team with input from the parents. The IEP specifies the student's academic goals and the method to obtain these goals as well as identifying transition strategies. These transition strategies should prepare the student for life post high school; however, many students with disabilities are unprepared when it comes to making career decisions as adults while in college. According to Hitchings et al. (1998), college students are often unprepared for career decisions because their parents are their main advocates in high school and often there is no one to speak for the students when they attend college.

The second stage in the process is students' transition from high school to college. When students graduate from high school, they leave childhood and enter adulthood. Researchers have found that students with disabilities have problems adjusting to adult

life (Minskoff, 1994; Satcher, 1993) and being an advocate for themselves without the involvement of their parents. When students with disabilities become adults, they are protected by Public Law No. 93-112, Section 504 of the Rehabilitation Act. This law requires services and supports for these students while in college. Students are given accommodations to assist them in meeting certain educational requirements. This is where the challenge often begins, because college students with disabilities do not automatically receive accommodations; it is up to them to request the services.

Career counselors in the college setting work with students with and without disabilities; however, studies have shown that college students with disabilities are either not completing college or are being hired at a lower rate than students without disabilities (Beauchamp & Kiewra, 2004). Also, Schmidt and Smith (2007) noted that the overall unemployment rate for individuals with disabilities is significantly higher than for the general population. Therefore, a critical question for career counselors and rehabilitation counseling professionals is the following: What are the barriers for students with disabilities in completing college and gaining postsecondary employment? Research has shown that career maturity, career decision self-efficacy, and self-advocacy are critical variables in the career development of college students with and without a disability (Beauchamp & Kiewra, 2004; Hackett & Betz, 1981). However, the literature review provided no evidence of prior research that incorporated all three variables in developing a career theory or in investigating the career development process of college students. Identifying the relationship among these variables would address the value of incorporating them into the career counseling process for college students with disabilities. The first step is to identify whether there is such a relationship. Therefore, the purpose of the current research was to investigate the relationship among career maturity, career decision self-efficacy, and self-advocacy of college students with disabilities.

Statement of the Problem

Students with disabilities represent an increasing proportion of today's college students (Burgstahler, 2001). However, the National Organization on Disabilities (N.O.D.) reported that only 12% of individuals with disabilities graduate from college as opposed to 23% of their non-disabled counterparts (N.O.D., 2000). There is evidence that students with disabilities are not as successful in higher education as students without a disability (Izzo & Lamb, 2002; Murray, Goldstein, Nourse, & Edgar, 2000; Stodden, 2001). Many programs in college do not fully include students with disabilities in career preparation (Burgstahler, 2001) despite the fact that only 35% of adults with disabilities work full or part time compared to 78% of adults without a disability (N.O.D., 2004). This problem is expressed in statements by two participants in Dowrick, Anderson, Heyer, and Acosta's (2005) study: "High school doesn't adequately prepare students [with disabilities] for the college experience," and "postsecondary education doesn't specifically prepare college graduates for employment in terms of finding a career related to their major studies" (p. 46).

Career services alone do not address the needs of students with disabilities (Getzel, Stodden, & Briel, 2001). Roessler et al. (2007) conducted a focus group study in which postsecondary students with disabilities, faculty members, and student personnel professionals recommended strategies for improving career services to students with disabilities. In their study, two of the recommended strategies were self-advocacy and self-determination. The respondents reported the need for students to become better self-advocates and determine their own futures especially in regard to careers. Additionally, Dowrick et al. (2005) conducted a focus group study on the postsecondary education experience of adults with disabilities, and one outcome was the need for self-reliance among the participants in their focus group. This suggested a need for further research to examine the career decision self-efficacy of students with disabilities.

The researcher could not identify literature that investigated the impact of career maturity, career decision self-efficacy, and self-advocacy on the career development of students with disability. Just as K-12 educational institutions' implementation of IEPs has contributed to these students' educational success, so has postsecondary institutions' failure to use a strategy that merges several constructs compounded college students' problems with college life and with post college careers. It has been suggested that students with disabilities who graduate from high school have restricted experiences; thus, they are likely to face developmental lags and may be more immature when experiencing college life and selecting a job, work, or profession (Burkhead & Cope, 1984; Davidson, 1975; Lacey, 1975; Stuckless, 1975). As the enrollment of students with disabilities in college increases, career services provided to this population need to be examined and improved (Roessler et al., 2007). Additionally, career services should be tailored specifically to this population (Enright, Conyers, & Szymanski, 1996). The purpose of this research is to investigate the relationship among career-maturity, career decision self-efficacy, and self-advocacy and how that relationship impacts the career development of individuals with disabilities.

Career Maturity

The college years are viewed as a time in which young people can engage in new levels of self-awareness and career exploration (Beauchamp & Kiewra, 2004); therefore, areas of career awareness that students may have gained in high school can be enhanced during the college years. One important area is career maturity. Studies conducted with students with disabilities have found that these students may have less mature career decision-making (CDM) attitudes than their peers without disabilities (Biller, 1988; Bingham, 1980; Fafard & Haubrich, 1981; Hitchings et al., 1998). Hitchings et al.'s study examined college students with disabilities regarding their ability to describe their disabilities and how they compared to students without disabilities. The participants in this study were 75 undergraduates attending one of two liberal arts universities in the

Midwest. The researchers found that students with disabilities had difficulty recognizing the influence of their disability on the CDM process. This study will demonstrate that transition plans developed in high school may not be adequate for the students post high school (Beauchamp & Kiewra, 2004).

Career maturity can be defined as an individual's readiness to make well-informed, realistic, age-appropriate career choices and decisions (King, 1989; Levinson, Ohler, Caswell, & Kiewra, 1998; Powell & Luzzo, 1998; Savickas, 1984). The career maturity of individuals without a disability has been studied extensively in the literature (Bartlett, 1971; Burkhead & Cope, 1984; Osipow, 1973; Super & Hall, 1978); however, researchers have stated the need for research on the career maturity of persons with a disability (Burkhead & Cope, 1984). Beauchamp and Kiewra (2004) noted that students with disabilities are in a vulnerable position when developing a suitable level of career maturity and that these students need "specifically tailored assessments and interventions" (p. 156). Research has shown that individuals with learning disabilities demonstrate a slower rate of career maturity than students who do not have a learning disability (Beauchamp & Kiewra, 2004; Bingham, 1978, Kendall, 1980). However, students with any type of disability typically need support when making decisions about career and vocational choices.

Career Decision Self-efficacy

Career decision self-efficacy is another area of importance to consider when assisting college students with disabilities. Career decision-making self-efficacy is an individual's expectations regarding her or his ability to perform the specific tasks and behaviors that are important to effective career decision making (Taylor & Betz, 1983). Hackett and Betz (1981) were the first to investigate the relationship between self-efficacy and career-related behaviors. In 1983, they suggested the role of cognitions of self-efficacy in influencing educational and career decisions. According to Lent and Hackett (1987), accurate and strong expectations of personal efficacy are crucial to the

initiation and persistence of behavioral performance in all aspects of human development; therefore, further research is warranted on the impact of this variable on the self-advocacy and career maturity of individuals with a disability. Taylor and Popma (1990) compared the effectiveness of career decision-making self-efficacy (CDMSE), career salience, and locus of control as predictors of the vocational decisiveness of college students and discovered that CDMSE was the only significant predictor. Self-efficacy can also impact career choice and adjustment, and this area should be studied further as it relates to the career maturity and self-advocacy of students with disabilities.

Self-Advocacy

The final construct that will be investigated in this research is self-advocacy. Self-advocacy means that "the student understands his or her disability, is aware of the strengths and of the weaknesses resulting from the functional limitation imposed by the disability, and is able to articulate reasonable need for academic or physical accommodations" (Hartman, 1993, p. 40). Algozzine, Browder, Karronen, Test, and Wood (2001) reported that interventions to teach self-advocacy skills have most often focused on students with learning disabilities in high school or postsecondary settings and have yet to be consistently taught to students with other types of disability. Several studies have examined self-advocacy over the life span, beginning as early as middle school to high school (Barrie & McDonald, 2002; Battle, Dickens-Wright, & Murphy, 1998; Zickel & Arnold, 2001), with a limited number of studies focusing on the college population (Lock & Layton, 2001). Beauchamp and Kiewra (2004) noted that "self-advocacy skills are very important for students with disabilities and are essential for students to be successful in life after high school" (p. 165). These skills are essential at the college level because in order for postsecondary institutions to provide the accommodations needed by students with disabilities, the students must have an understanding of their disabilities and be self-advocates (Mellard & Hazel, 1992; Minskoff, 1994). Additionally, Aune (1991) indicated that when some students with

disabilities transition to college, they are not prepared to self-advocate and seek out the services to which they are entitled, and they are unsure of the career path they should take. Identifying if a relationship exists among the variables of career maturity, career decision self-efficacy, and self-advocacy will add to the career development literature in relation to students with a disability.

Demographic Variables

In addition to studying the type of disability, researchers have investigated a variety of correlates of career maturity, including demographic variables. Researchers have cited the importance of including sociological factors in understanding an individual's career development (Astin, 1984; Stead & Watson, 1999). Langley, du Toit, and Herbst (1992) took this notion one step further by creating a 100-item Career Development Questionnaire as a measure of career maturity based on the work of Super (1980, 1990). This measure included variables that influenced career maturity, such as age, educational level, cultural group, intellectual level, and socioeconomic status. The results showed the importance of studying the impact of these demographic variables on the career maturity of individuals. These variables can be used to further explain differences in an individual's career maturity level (Kornspan & Etzel, 2001; Naidoo, 1998).

Potential Contributions

Due to the increase in enrollment of students with disabilities in higher education, there is a critical need to provide these students with the necessary tools for life in college and post college. Additionally, their experience at the postsecondary level is often different from students without a disability (Roessler et al., 2007). Dowrick et al. (2005) indicated the need for "a more comprehensive network of support services" (p. 45) for students with disabilities. The participants in their research group commented on the importance of disability support services and the need to improve such services. Despite the fact that there are services and tools available to these students, a gap remains in their

success in college and employment post college. This research examines the tools of career maturity, career decision self-efficacy, and self-advocacy skills. Giving these students tools will provide opportunities not only for academic success but also for employment success and job tenure. For students with disabilities to be successful in college, both educators and service providers need to work with the students in all three areas. Students with disabilities need to (a) understand their disability, (b) advocate for themselves, (c) have a high level of career maturity, and (d) believe in themselves as it relates to their careers. To accomplish this, students need deliberate instruction in self-advocacy skills (Izzo & Lamb, 2002; Lehman, Davies, & Laurin, 2000; Wehmeyer, 2002) so that when they leave the supportive school environment, they will understand their strengths and needs well enough to explain the accommodations they need beyond high school (Test et al., 2005). These students also need to have a high level of career maturity and self-efficacy in order to be successful in college (Frieh, Aune, & Leuenberger, 1996; Luzzo 1996). The purpose of this research is to add to the existing literature by showing the relationships between career maturity, career decision self-efficacy, and self-advocacy in relation to students with a disability.

Rationale for the Study

The current study addressed the following question: "Is there a relationship among career maturity, career decision self-efficacy, and self-advocacy as these variables relate to college students with and without a disability?" Several studies have looked at college students with disabilities in the areas of career maturity (Burkhead & Cope, 1984; Hitchings et al., 1998), self-advocacy (Beauchamp & Kiewra, 2004), and self-efficacy (Taylor & Popma, 1990), but the literature review provided no studies that investigated the relationship between career maturity, career decision self-efficacy, and self-advocacy. The purpose of the present study was to investigate the relationships among career maturity, career decision self-efficacy, and self-advocacy in students with a disability. More specifically, this study investigated (a) the relationship between career maturity,

career decision self-efficacy, and self-advocacy of college students with and without a disability; (b) differences in students with and without a disability with regard to career maturity, career decision self-efficacy, and self-advocacy; (c) whether college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students with disabilities who have low self-advocacy; and (d) which variables (age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy) are better predictors of the career maturity of college students with a disability.

Research Questions

The results of this study will form the basis for understanding the relationships among career maturity, career decision self-efficacy, and self-advocacy in college students with a disability. This study will attempt to answer the following research questions:

1. What are the relationships among career maturity, career decision self-efficacy, and self-advocacy for college students?

   Hypothesis 1: College students who have high career decision self-efficacy as measured by the Career Decision-Making Self-Efficacy Scale-Short Form will also demonstrate high career maturity scores as measured by the Career Maturity Inventory Attitude Scale and high self-advocacy knowledge as measured by the Self-Advocacy Knowledge Assessment. College students who have low career decision self-efficacy will also have low career maturity and low self-advocacy knowledge as measured by the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Career Maturity Inventory Attitude Scale-Revised.
2. Is there a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability?

Hypothesis 2: The career decision self-efficacy, self-advocacy, and career maturity scores of college students with disabilities will differ from students without disabilities as measured by the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Career Maturity Inventory Attitude Scale-Revised.

3. Do college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy?

   Hypothesis 3: College students with disabilities who have high levels of self-advocacy will have higher levels of career maturity, and college students with disabilities who have high levels of self-advocacy will have higher levels of career decision self-efficacy as measured by the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Career Maturity Attitude Inventory-Revised.

4. Can the career maturity of college students with disabilities be explained by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy?

   Hypothesis 4: The career maturity of college students with disabilities will be differentially affected by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy as measured by their response on the Demographic Questionnaire Form, Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Career Maturity Attitude Inventory-Revised.

Definition of Terms

The following were key definitions that guided this study.

Disability: An individual with a disability is a person who (a) has a physical or mental impairment that substantially limits one or more major life activities, (b) has a record of such impairment, or (c) is regarded as having such impairment (ADA, 1990).

Career Maturity: An indicator of an individual's attitude toward his or her readiness to make career choices appropriate to age or developmental stage and an important variable in the career developmental process (Burkhead & Cope, 1984).

Career Development: "Career development is seen as the process of managing life, learning, and work over the lifespan. It encompasses the provision of services (in many different jurisdictions and delivery settings) to assist people to gain the knowledge, skills, attitudes, and behaviors that help them to manage their careers more effectively" (http://jobfunctions.bnet.com).

Postsecondary Education: Includes both 2-year and 4-year programs that lead to either an associate's degree or a bachelor's degree.

Self-Advocacy: "The student understands his or her disability, is aware of the strengths and of the weaknesses resulting from the functional limitation imposed by the disability, and is able to articulate reasonable need for academic or physical accommodations" (Hartman, 1993, p. 40).

Self-Determination: "A combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have greater ability to take control of their lives and assume the role of successful adults" (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 2).

Self-Efficacy: A person's beliefs concerning his or her ability to successfully perform a given task or behavior and the major mediator of behavior and behavior change (Bandura 1977).

Career Decision-Making Self-Efficacy: An individual's confidence in her or his abilities to effectively engage in career decision-making tasks and activities (Taylor & Betz, 1983).

Summary

As society changes, a larger proportion of the college student population includes students with disabilities. Educators and counselors need to be able to address the needs of students with disabilities and help them be successful in college and post college life. Having the opportunity to compare the effectiveness of career decision self-efficacy, career maturity, and self-advocacy as predictors of the career development of college students with disabilities will provide counselors and educators with information about how to work with students with disabilities throughout the career decision-making process.

Previous research has shown that career maturity (Frieh et al., 1996), self-efficacy (Luzzo, 1996), and self-advocacy (Lock & Layton, 2001) skills contribute to the success of students with disabilities in the college setting. Research has also shown an increase in the number of students with disabilities in postsecondary education (Aksamit et al., 1987) and the need for students with learning disabilities to have these skills both at the college level and during post college life (Test et al., 2005). Therefore, this study will investigate the relationships among career maturity, career decision self-efficacy, and self-advocacy in understanding the career development of students with disabilities.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Students with disabilities are attending college at a higher rate than in previous years (Koch et al., 2006; Stodden, Whelley, Chang, & Harding, 2001); however, their success rate in college and post college has not increased. Multiple studies have demonstrated that college graduates with disabilities are more likely to be unemployed than graduates without disabilities (American Council on Education [ACE], 1999; DeLoach, Sparger, & Pullen, 1988; Frank, Karst, & Boles, 1989). A survey conducted by Louis Harris and Associates (1998) on Americans with disabilities showed that 71% of Americans with disabilities between the ages of 18 and 64 were not working, even though 79% indicated they wanted to work; in contrast, there was only a 20% unemployment rate for people without a disability (Taylor, 1994). These statistics show that it is critical to address the career decision-making process while students with a disability are in college. According to Goldstein (1988), success in adult life is measured by employment, and individuals with disabilities are aiming for this success; however, their path to success is not evenly laid out. Individuals with disabilities may encounter many problems as they transition through various stages to reach the main goal of living a meaningful and successful adult life. Some of these problems include but are not limited to educational, social, and mental barriers. The following section will discuss the transition process from high school to college for students with disabilities.

Transitioning to Postsecondary Education

We cannot assume that all transition programs at the secondary level are meeting the career preparation needs of students who have disabilities. As Aune (1991) pointed out, “Secondary programs have not been able to close the gap in meeting the transition needs of students with disabilities; in spite of national focus on transition issues, transition programs in high schools are still not the norm” (p. 178). Fairweather (1989)

conducted a national telephone survey of over 1500 secondary local education agencies; only 45% had a transition program of any kind, and their main emphasis was transition to work. This shows that transition from secondary to post-secondary education may be minimal; therefore, transition programs need to be in place at the postsecondary level to increase the success rate of students with disabilities.

Despite the fact that transition programs are implemented at the secondary level, there continues to be evidence that students are unprepared for the demands they face in postsecondary institutions (Mangrum & Strichart, 1984). However, some studies have provided counselors with a model for preparing students for postsecondary education (Aune, 1991; Rojewski, 1992). Aune's study was conducted with 200 secondary students with disabilities who had Individualized Education Plans (IEPs). Out of all the students who attended postsecondary education during the fall semester, 89% completed one full year of college. Based on Aune's results, one recommendation was to follow students with a disability who participate in high school transition programs throughout the completion of their postsecondary programs. From the results of this study, it is reasonable to hypothesize that being involved in such programs during the college years would increase the college retention rate of students with a disability.

Rojewski (1992) examined and compared various model transition programs for students with disabilities. His study outlined the key components of different transition programs to identify how they were similar in relation to the services offered to students with mild disabilities. He also outlined four main paths that are available to students with disabilities as they transition from school to adult life (see Figure J1). The four paths a student can take are: Path 1, moving directly from high school to employment; Path 2, moving from high school to postsecondary education or training; Path 3, moving from high school to postsecondary education or training to employment; and Path 4, moving from postsecondary education/training to employment. Rojewski stated that a successful transition is one in which there is a linkage. The current research focused on Path 3,

which is moving from high school to postsecondary education to employment. Both Rojewski and Aune addressed the fact that there needs to be a strong connection between secondary and postsecondary educational transitions.

Students with disabilities are attending colleges at higher rates; however they are falling behind in rates of graduation. Bruck (1987) conducted four follow-up studies of adults with childhood diagnoses of a disability. In three of the four studies, he found that most of the students with learning disabilities enrolled in college after finishing high school; however, a high number of those students took more years to complete their college programs than did the students without a disability. Sitlington and Frank (1990) conducted a survey of 911 high school graduates with learning disabilities. They found that 50% of those students enrolled in some type of postsecondary education program. However, one year after high school graduation, only 6.5% of those students were still in school. Both studies showed that students with disabilities are participating in postsecondary education, but their graduation rates need to increase.

Mellard and Hazel (1992) stated, “College is just another setting in which the individual with a learning disability is confronted with another set of challenges” (p. 257). In the high school setting, there are several services available to assist students in functioning with their disability. It might be assumed that in high school, students with disabilities are receiving the services they need to prepare them for the postsecondary setting; however, this is not always so. There are several reasons why students with disabilities face difficulties when they transition to postsecondary education. The first is that services available at the secondary level are not available at the postsecondary setting. While in high school, students have a team of individuals to assist them with planning and interventions (Mellard & Hazel, 1992); when they enroll in college, the students must request services on their own by providing documentation of their disability and request specific accommodations without the assistance they had in high school (Fairweather & Shaver, 1990). Second, there are many distinctions between the

new postsecondary setting and the high school experience, and some of these differences can be a burden to students with disabilities. They include (a) a decrease in teacher-student contact, (b) more academic competition, (c) a different personal support network, and (d) loss of a protective environment. The areas that impact students with disabilities the most are a different personal support network and the loss of a protective environment. Finally, students have a social responsibility to function as individuals (Mellard & Hazel, 1992). This responsibility asks a lot of these students, given that at least 3 months earlier, they were protected by the law and other individuals in their high school settings. Based on the reality of postsecondary expectations, students with a disability have more factors that limit their success both in college and post college than students without a disability.

More transition planning and guidance at the postsecondary level is warranted (Mellard & Hazel, 1992). Mellard and Hazel noted that "nonacademic characteristics may have greater impact than academics on a person's employability" (p. 269). Postsecondary programs can address a number of nonacademic areas that will assist students with disabilities in their transition to adult life: (a) understanding and acceptance of their disability (Adelman & Vogel; 1990; Dalke & Schmitt, 1987; Hoffman et al., 1987; Houck, Engelhard, & Geller, 1989); (b) development of self-advocacy skills (McWhirter & McWhirter, 1990; Scheiber & Talpers, 1987; and (c) increased self-efficacy (Luzzo, 1995). The nonacademic areas this research addresses are the relationships among career maturity, career decision self-efficacy, and self-advocacy. These three components have been examined individually and in pairs (i.e., career maturity and self-advocacy), but the literature review provided no evidence of researcher attempts to discover how all three variable interact with one another.

Research in the career development area is abundant; however, there are certain areas that warrant more research, specifically in the career development of individuals with disabilities (Patton & McMahon, 1999). Research on career maturity, career

decision self-efficacy, and self-advocacy is numerous; however, the literature review provided no studies that investigated the relationship between career maturity, career decision self-efficacy, and self-advocacy. Having knowledge about the relationship among these three variables will provide opportunities to enhance the career development of individuals with disabilities. This knowledge will allow future researchers to (a) create career models specifically for the population of students with disabilities, (b) create career development programs at the postsecondary level, and (c) create or modify a career development theory that is specific to the career development of college students with disabilities. The next section will discuss both past and present career theories and their application to career counseling and implications for students with disabilities.

Application of Theories

Career guidance began in the early 1800s as the term "vocational guidance," and it was a tool to filter students from school to work. Career guidance starts in elementary school and typically ends when an individual graduates from high school; however, research has proven the need for better career development services during postsecondary education as well (Getzel et al., 2001; Rumrill, 2001). Ireh (2000) recommended that career guidance should continue past high school because career concerns occur throughout one's lifetime, and one of the most important aspects of an individual's personal happiness is affected by career choice. Theories such as Super's Life-Span Life-Space Approach (Super, 1980, 1990) examined careers across an entire life span beginning from childhood throughout the retirement stage, which suggests that career development does not stop at high school.

Career development theories serve as a guide for career counseling. They also (a) provide a conceptual framework within which to view the types of career-related problems that emerge, (b) are the foundation of the process of counseling that offers a means of conceptualizing career concerns, and (c) assist counselors in providing help to clients regarding the eventual outcome of career counseling (Ireh, 2000). The ultimate

aim of each theory or framework is to provide an explanation of the concepts and principles behind an individual's occupational choice processes and career development (Ireh, 2000). Career development theories and models have added to our understanding of the career development of individuals. Additionally, there are several theories that can meet the needs of adults with disabilities (Hershenson & Szymanski, 1992) as well as theories that consider diversity issues and are inclusive of diverse populations (Lent, Brown, & Hackett, 1996). However, there is no particular theory specific to individuals with disabilities (Aune & Kroeger, 1997). Two theories in particular are applicable to diverse populations and form a basis for this research and will be discussed in the following section: Bandura's (1977) self-efficacy theory (see Figure J2) and social cognitive career theory (Lent & Hackett, 1994; Turner & Lapan, 2005).

Self-Efficacy Theory

Bandura's (1977) article outlined the concept of a self-efficacy theoretical framework. The theory "presented the view that changes achieved by different methods derive from a common mechanism" (Bandura, 1977, p. 191). Bandura's self-efficacy theory is "based on the principal assumption that psychological procedures, whatever their form, serve as a means of creating and strengthening expectations of personal efficacy" (Bandura, 1977, p. 193). Personal efficacy is the part of an individual that interacts in a complex manner with the environment as well as with other motivational and self-regulatory mechanisms and with personal capabilities and performance accomplishments (Bandura, 1986). Bandura's (1977) theory highlighted outcome expectancy and efficacy expectations as important components of the self-efficacy theory (see Figure J2). Outcome expectancy is defined as a person's estimate that a given behavior will lead to certain outcomes. Efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes. Bandura identified a clear distinction between outcome expectations and efficacy expectations.

Bandura (1977) divided self-efficacy expectations into several dimensions that have important performance implications. Self-efficacy expectations are a person's belief concerning his or her ability to successfully perform a given task or behavior, and those expectations differ in magnitude, generality, and strength. Magnitude refers to the order of task difficulty. According to Bandura (1977), efficacy expectations also differ in generality. Bandura noted that "some experiences create circumscribed mastery expectations while others instill a more generalized sense of efficacy that extends well beyond the specific treatment situation" (Bandura, 1977, p. 194). Expectancies also vary in strength. "Weak expectations are easily extinguishable by disconfirming experience, whereas individuals who possess strong expectations of mastery will persevere in their coping efforts despite disconfirming experiences" (Bandura, 1977, p. 194).

Bandura's (1977) theory also provided four major sources of efficacy expectations: performance accomplishments, vicarious experiences, verbal persuasion, and physiological states. These sources continually and reciprocally interact to affect performance judgments and influence human action. Performance accomplishments are the most influential because they are based on personal experiences. It is critical to note that successes raise expectations while failures lower them. An example of this would be students who need accommodations asking for help. When they receive that help, they are more likely to increase their expectations of their ability to obtain what is needed, and they will be more likely to engage in that behavior again. Vicarious experiences are learned from observing others. Seeing others perform without unfavorable consequences can generate expectations in the observers that will improve if they strengthen or carry on with their efforts. An example of this would be a student who needs accommodations observing another student asking for and receiving accommodations, after which he or she is likely to modify his or her efficacy expectations. Verbal persuasion is commonly used because of "its ease and ready availability" (Bandura, 1977, p. 198). Bandura proposed that people are led from suggesting to believing they can cope successfully with

what has overwhelmed them in the past. An example of this would be a teacher who knows a student is struggling in class and needs accommodations and who advises the student to seek disability support services. Bandura's (1977) emotional arousal postulates that "stressful and taxing situations generally elicit emotional arousal and depending on the circumstances the situation might have informative value concerning personal competency" (p. 198). An example of this would be a teacher who knows a student is struggling and takes the time to discuss with the student the availability of disability support services and how they can help the student. This might ease the student's fears and anxiety and may help that student be more willing to seek services.

Social Cognitive Career Theory

Social Cognitive Career Theory (SCCT) is a more recent approach in the career counseling literature (Lent et al., 1996). This theory provides a unifying framework for bringing together common pieces or elements created by previous career theorists and arranging them in order to understand how people develop vocational interests, make (and remake) occupational choices, and achieve varying levels of career success and stability (Lent, 2005; Lent & Brown, 2002). This theory was developed from Bandura's (1986) general social cognitive theory. SCCT emphasizes the client's ability to guide vocational behavior. The theory also includes the personal and environmental influences that can strengthen, weaken, or help the individual's choices in career development to succeed. SCCT considers the significance of interests, abilities, and values in the career development process. This theory looks at the individual and the environment, which is important for individuals with disabilities. SCCT shares many ideals of other theories in regard to human behavior. The similarities with developmental theories is the "focus on how people negotiate particular developmental milestones (e.g., career choices) and hurdles (e.g., prematurely eliminated options) that have an important bearing on their career futures" (Lent, 2005, p. 103). The SCCT agenda looks at how people are able to change, develop, and regulate their own behavior over time and in different situations.

SCCT's focus is on the interaction among three "person variables which enable the exercise of agency in career development: self-efficacy beliefs, outcome expectations, and personal goals" (Lent, 2005, p. 104), which lends itself well to this study. Bandura defined self-efficacy beliefs as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (1986, p. 391). SCCT defines self-efficacy as a "dynamic set of self-beliefs that are linked to particular performance domains and activities" (Lent, 2005, p. 104). The beliefs about personal capabilities can be changed and are receptive to environmental conditions. In regard to individuals with disabilities, the environmental conditions could be support from the employer as well as support from teachers and disability support services staff. According to SCCT theory, self-beliefs can be obtained and transformed by four primary informational sources: (a) personal performance accomplishments, (b) vicarious learning, (c) social persuasion, and (d) physiological and affective states (Bandura, 1997). Outcome expectations can be defined as beliefs about the consequences or outcomes of performing particular behaviors (Lent, 2005). Outcome expectations are what individuals anticipate will happen as a result of their actions. Both self-efficacy and outcome expectations are determinants of human behavior because people ultimately make choices about what careers they choose to enter and the careers they choose to avoid. Bandura (1986) defined personal goals as an individual's intention to engage in a particular activity or to produce a particular outcome. SCCT theory has two types of personal goals: (a) choice content goals, which are the types of activities and career the individual wishes to pursue; and (b) performance goals, which are the level or quality of performance the individual plans to achieve within a chosen endeavor (Lent, 2005). SCCT posits that choice and performance goals are impacted by self-efficacy and outcome expectations.

In SCCT, "the development of academic and career interests, the formation of educational and vocational choices, and the nature and results of performance in academic and career spheres are conceived as occurring within three conceptually distinct

yet interlocking process models" (Lent, 2005, p. 105). Those process models are (a) interest models, (b) choice models, and (c) performance models (see Figure J4). If individuals are interested in an activity, they are more likely to flourish and continue when they see themselves as competent and feel as if they will have positive outcomes. Adult interests are not fixed and can be changed based on certain factors. Exposure to certain activities can increase an individual's interest, whereas limited exposure can decrease the individual's interest. Variables such as gender can impact interest development and other socially constructed processes by influencing the learning experience that fosters self-efficacy and outcome expectations.

The choice model is the process of choosing a career path. Career choice making has many parts, such as the development of self-efficacy, outcome expectations, interests, and skills in different performance domains (Lent, 2005). The choice process has three parts: (a) having a primary choice or goal to enter a particular field, (b) the individual taking action to reach the goal, and (c) performance experiences. It is important to note that selecting a career path does not always proceed in this manner. Sometimes, the environment chooses the individual (Lent, 2005). Lent noted that environments are not always supportive of individuals' choices, and people are not always free to achieve the careers they are interested in. This is particularly true for individuals with disabilities (e.g., physical, mental, or learning). Individuals may want to join the military, but their physical disability may limit this option; therefore, they have to choose a different career path, perhaps one that is a better fit with their abilities. For that reason, it is important for individuals with disabilities to take into account the influence of their disability on the career choices they make.

Career counselors at the postsecondary level must consider the impact of environmental barriers on an individual's choice making. According to SCCT, if an individual is interested in a career, that will eventually become a goal; however, this will only happen if the individual experiences strong environmental support and weak barriers

in relation to preferred career paths. An environment where there is a nonsupportive or hostile condition negatively impacts the career process (Lent, 2005). This confirms the researcher's notion that having an environment where students with disabilities can realistically explore career choices will produce successful graduates. According to SCCT, "the relations of interest to goals and of goals to actions are expected to be stronger in the presence of favorable versus restrictive environmental conditions" (Lent, 2005, p. 110). The choices individuals make are determined by their options, the nature of their self-efficacy beliefs and outcome expectations, and the types of messages the individuals receive from their support systems (Lent, 2005). Basically, SCCT emphasizes the need for a strong support system at the collegiate level for students with a disability. Having this type of supportive intervention can increase the employment rate of individuals with disabilities after they graduate from postsecondary institutions.

Another component of SCCT theory is the performance model. The performance model entails the factors that affect academic and career-related performance. Performance includes "the level of attainment individuals achieve in education and work tasks and the degree to which they persist at particular tasks or choice paths, especially when they encounter obstacles" (Lent, 2005, p. 111). Persistence is also a key term in the performance model; from the perspective of educational and work environments, persistence is considered a sign of performance adequacy. It is assumed that competent performers will persist longer, enabling attainment of educational milestones (e.g., high school graduation, college major retention) and job tenure. The ideal goal of any career intervention program would be for the individual to reach the performance level.

SCCT theory is of particular importance because it speculates that learning influences self-efficacy beliefs and a person's career expectations, which in turn influence career goals and choices (Wang, Lo, Xu, Wang, & Porfeli, 2007). One limitation that Wang et al. (2007) noted about SCCT is that it does not elaborate on the process of learning and mainly attributes individual differences in an individual's

learning to factors such as ability. People with disabilities may have limitations in their ability to do certain activities. Therefore, for individuals with disabilities, learning about their limitations and how they can be advocates and ask for what they need is especially important. SCCT posits that the person's unique environment (e.g., college) and behavior (e.g., self-efficacy, self-advocacy, career knowledge, and career competency) interact to yield career decision making and a person's overall belief about the world of work. Therefore, there is a dynamic relationship between a person's environment and his or her behavior to bring about a career mature individual. If the environmental conditions are more conducive and positive for the individual with a disability and increase the process of learning about careers and the world of work, then the individual may change his or her thoughts or behaviors in regard to career decision making. SCCT theory was designed to aid in the understanding of the career development of a wide range of individuals, including persons who have disabilities. Hershenson and Szymanski (1992) discussed how SCCT could be applied to persons with disabilities, and Fabian (2000) used SCCT with adults with mental illness. SCCT speculates that there are obstacles that come between interests and occupational choices. In the case of individuals with disabilities, those obstacles can be the disability itself. Social cognitive variables also aid in the understanding of educational and career behavior during preparatory, transitional, and post entry phases of career development.

Research has been conducted on the application of SCCT to youths (Ali & McWhirter, 2006; Ali & Saunders, 2006) and individuals with disabilities (Fabian, 2000), and has shown support for the application of the theory to these populations. However, additional research on the application of the SCCT model to individuals with disabilities needs to be conducted to consider additional variables that should be considered when working with individuals with disabilities. SCCT does consider contextual variables that impact an individual's career decision-making process, but the variable of self-advocacy has been left out of the equation. Research has shown that self-efficacy and support are

more powerful in the development of career goals than are status variables (Ali & Saunders, 2006; Lent, Brown, & Hackett, 2000). Self-efficacy beliefs, knowledge about careers, and understanding one's disability are necessities for individuals with disabilities. Incorporating these concepts and studying them together in a career theory will add to the career development of individuals with disabilities. The purpose of this research is to investigate how career maturity, self-efficacy, and self-advocacy relate to one another in the career development of college students with a disability.

Despite the roadblocks to success, individuals with a disability continue to attend college in record numbers (Aune, 1991). So the question remains what can be done while students with a disability are in college so that they can achieve their goals of living meaningful and successful lives. Hoffman et al. (1987) wrote that a lack of self-understanding was a major problem with individuals with a disability who were unable to obtain employment. In direct contrast, successfully employed individuals were knowledgeable about career choices that matched their strengths (Silver & Hagin, 1985). To address this problem, the researcher identified three areas that may allow these students to gain self-understanding: (a) career maturity, (b) career decision self-efficacy, and (b) self-advocacy. Researchers have studied each of these three phenomena individually but not together for students with a disability. The purpose of this research was to examine the relationships among these three components as they related to the career development of college students with disabilities.

Career Maturity, Career Decision Self-Efficacy, and Self-Advocacy as Constructs

Wagner, Blackorby, Cameo, Hebbeler, and Newman (1993) considered successful adult adjustment as an individual's ability to function in employment settings, living environments, and social activities. Having a disability exposes the individual to distinctive situations that can impact his or her employment outcomes. Pledger (2003) looked at disability as a social construct that can be a risk factor to the achievement of

career and social participation. He found that employment specifically represented a significant challenge to individuals with disabilities. Hountenville (2000) reported that two-thirds of working age people with disabilities were not employed, even though most wanted to work. There are several barriers to work for people with disabilities: (a) federal policies concerning disability benefits and health insurance, (b) employer attitudes and discrimination, (c) lack of adequate preparation for the workplace, (d) lack of postsecondary education and vocational training, (e) lack of available community employment services, and (f) employer attitudes toward employment (Brown & Lent, 2005).

The fact that individuals are enrolling college at higher rates for various reasons has been established. However, students with disabilities in the postsecondary setting are not performing as well as their peers (Wagner & Blackorby, 1996), they have a significantly lower probability of graduating (Hurst & Smerdon, 2000), and they are likely to face discrimination and social isolation (Loewen, 1993). The students are unprepared for employment when they leave school; thus the majority of college students with disabilities who graduate are not as gainfully employed as their peers without disabilities. Roessler et al.'s (2007) focus group participants noted that there was a lack of career development services to help postsecondary students with disabilities transition from college to employment (Getzel et al., 2001). All students with disabilities should have equal access to services provided on college campuses including career services (Hennessey, Roessler, Cook, Unger, & Rumrill, 2006). However, student disability services providers in the college setting often lack career development knowledge (Getzel et al., 2001; Rumrill, 2001); career services offices have little knowledge and expertise about disabilities services, and disability services offices have little knowledge and expertise about career services (Burgstahler, 2001; Rumrill, 2001). This helps to explain why college students with disabilities are limited in several areas including career maturity (early career exploratory experience and opportunities to develop decision-

making skills), self-efficacy (negative self-concept resulting from societal attitudes toward persons with disabilities), and self-advocacy (ability to ask for what they need and knowledge of how their disability affects them).

The college years are viewed as a time in which young people engage in a new level of self-awareness and career exploration (Beauchamp & Kiewra, 2004). For this reason, the college years are an ideal time to prepare individuals for the world of work. Postsecondary institutions are required to provide accommodation services to student with disabilities. However, the students must request the services and provide documentation regarding the disability (Lynch & Gussel, 1996); thus they need to be self-advocates. Poor self-advocacy skills can lead to poor post graduation employment outcomes for postsecondary education students with disabilities whereas having a higher level of self-determination leads to a greater likelihood of completing college (Harris & Robertson, 2001; Izzo & Lamb, 2002; Wehmeyer & Schalock, 2001). Two other plausible explanations for the success of college students with disabilities in terms of careers is their career maturity attitude and career decision self-efficacy. Kornspan and Etzel (2001) investigated the relationship of athletic identity, career decision self-efficacy, career locus of control, and various demographic variables to the career maturity of junior college student athletes. The participants completed the Career Maturity Inventory (Crites 1978b), Career Decision-Making Self-Efficacy Scale-Short Form (Betz & Taylor, 1995), the Athletic Identity Measurement Scale (Brewer, Van Raalte, & Linder, 1993), the Career Development Locus of Control Scale (Trice, Haire, & Elliot, 1989), and a demographic questionnaire that asked for information about their gender, age, race, and rank in school. The results revealed that career decision self-efficacy, which accounted for 4% of the variance, was a significant predictor of career maturity for junior college student athletes. This research finding is similar to Luzzo's (1995) research study that looked at whether self-efficacy and locus of control predicted career maturity and found that career decision self-efficacy and career were significantly related. Crites'

(1978b) career maturity theory suggested that individuals who have a higher career maturity attitude are more likely to make career choices by themselves. Self-efficacy is positively related to career decision making and career decidedness (Robbins, 1985; Taylor & Popma, 1990). The next section will discuss career maturity, career decision self-efficacy, and self-advocacy and the importance of these constructs to college students with disabilities.

Career Maturity

Career maturity is one of the most commonly researched outcome measures in career counseling and career development (Cook 1991; Luzzo, 1995; Spokane, 1991). Researchers have found that career maturity is significantly correlated with a variety of other career development variables, such as self-concept and locus of control (Onivehn, 1991; Salami, 1999), career decision making (Wanberg & Muchinsky, 1992), career preference (Salami, 1997), career commitment (Lam, Poong, & Moo, 1995), career planning (Livingston, 2003), and career exploration and occupational information-seeking behavior (Naidoo, 1998). Super (1955) was the first researcher to initiate the concept of career maturity in the Career Pattern Study. Career maturity was originally called "vocational maturity." Career maturity is defined as "the place reached (by the individual) on the continuum of vocational development from exploration to decline" (Super, 1955, p. 153). The concept of career maturity has been researched for more than 50 years and numerous measures have been created to evaluate this variable (Brown & Lent, 2005). Crites (1976) divided career maturity into two dimensions, attitudinal and cognitive. The attitudinal dimension refers to individuals' attitudes and feelings about making a vocational choice and whether they continue to pursue their career choice as they enter the workforce. The cognitive dimension refers to clients' awareness of a need to make a career decision and their understanding of their vocational preferences. For college students with disabilities, the cognitive dimension is central to their career development. These students are dealing with the cognitive challenges of choosing a

career, completing college, and finding employment. To complete these tasks, the individual must have adequate knowledge about the world of work and their personal strengths as well as their educational abilities. Career maturity implies that the individual is able to accomplish tasks that are appropriate for his or her age and stage of development (Brown & Lent, 2005). Therefore, career maturity can be a useful outcome measure with individuals who have a disability because they can operate at their own functioning level.

Career maturity is one aspect of career development, is one portion of the career development measure, and is considered an important determinant and outcome of development (Super, 1990). Career maturity is a "constellation of physical, psychological, and social characteristics" (Super, 1990, p. 207). Super (1990) defined career maturity as "the individual's readiness to cope with the developmental tasks with which he or she is confronted because of his or her biological and social developments and because of society's expectation of people who have reached that stage of development" (p. 213). An individual's career maturity depends on his or her ability to cope with the demands of the environment at any given life stage, and the individual has to be ready to cope with these demands. Career maturity is the first dimension of Super's Life-Career Rainbow (see Figure J3; Super, 1990). The second dimension in the Life-Career Rainbow is life space. The outer band of the Life-Career Rainbow represents the major life stages: Growth, Exploration, Establishment, Maintenance, and Decline. Students with a disability who are in the postsecondary setting have to deal with the postsecondary environment and with preparing to deal with the demands of work life after college. Having career maturity will prepare that individual for those demands as well as any changes that may come about later in life. The Life-Career Rainbow takes into account the various transitions an individual may experience. Career maturity represents the life span and the course of life in the rainbow. One important aspect of the lifespan that is particularly useful to individuals with disabilities is the "minicycle." This

phase allows for changes an individual may experience (i.e., transition from college to employment). The Life-Career Rainbow is very important to the concept of career maturity because it outlines the process of development and serves as a guide to the process.

The career maturity variable assumes a life stage approach or developmental cycle and is highly applicable to individuals with disabilities. With regard to individuals with a disability, Beveridge, Craddock, Liesener, Stapleton, and Hershenson's (2002) research found that the timing of the disability during a person's career development processes is important. Beveridge et al. identified three subgroups of persons with disabilities: those with pre-career onset disabilities, those with mid-career onset disabilities, and those with progressive or episodic disabilities. Individuals who have pre-career onset disabilities enter and progress through the entire career process with a disability and may have a lack of adequate preparation for the workplace (Brown & Lent, 2005). Individuals with mid-career disabilities are diagnosed or acquire the disability after their career has been established. Some of these individuals are able to maintain their current employment, but others will have to be retrained and enter another field of work because the impairment affects their ability to fulfill the current job demands. The individual's age has an impact on what happens in regard to his or her career as a result of the acquired disability. Someone who acquires the disability earlier in life may have characteristics similar to those with pre-career disabilities. Individuals with progressive or episodic disabilities may have changes in the status of their disability that may affect their self-efficacy and ability to perform the job functions required.

Another developmental approach to career maturity of individuals with a disability is Lindstrom and Benz's (2002) phases of career maturity. Lindstrom and Benz conducted a case study of 6 young women with learning disabilities to examine their career decision-making process. The authors identified three distinct phases: unsettled, exploratory, and focused. The unsettled phase is characterized by unstable employment

and unclear goals. Individuals in this stage have a hard time maintaining employment and are unclear regarding their long-term employment goals. The exploratory phase is characterized by stable employment and unclear goals. These individuals are able to sustain employment for a period of time; however, they are not in their ideal jobs and they are not sure about future career decisions. The focused phase includes individuals who are working at jobs that fulfill their career goals. These individuals are maintaining employment and are sure of their long-term goals. This is the ideal phase for students with a disability to either be part of or working towards. These two distinct but similar career maturity models propose similar stages in the career decision-making process that individuals will experience.

Burkhead and Cope's (1984) study examined the career maturity of physically disabled and nondisabled college students; changes in career maturity over time; and relationships among career maturity, gender, type of disability, age of onset of disability, and grade-point average. The participants in this study were 86 undergraduate students at the University of Missouri-Columbia, 40 of whom had a physical disability and 46 who did not. The authors found that students with a physical disability were more vocationally mature than students without a disability. Their study noted that further research is needed to determine whether the relationships among different variables exist in specific populations to identify other variables important in the career development process. The current study attempts to fill this gap in the research by examining the relationships among career maturity, career decision self-efficacy, and self-advocacy.

Career maturity has been researched extensively over the past 50 years and has proven to be an effective method for determining the career development of all individuals (Biller, 1988; Bingham, 1980; Burkehead & Cope, 1984; Ohler, Levinson, & Barker, 1996). Because the employment rate of college graduates with disabilities is low (Hitchings et al., 1998), more attention needs to be given to the career preparedness of this group. Research has shown that individuals with disabilities have lower levels of

career maturity than their peers without a disability (Beauchamp & Kiewra, 2004; Bingham, 1978; Kendall, 1980; Hitchings et al., 1998). Ohler et al. (1996) conducted a study that compared the levels of career maturity between 76 college students with learning disabilities and 106 students without learning disabilities. The study also identified factors associated with the career development of college students with learning disabilities. Results revealed no difference in the career maturity of these two groups, but there were within-group differences for the students with learning disabilities. The level of career maturity for students with learning disabilities who had a high number of accommodations was lower than for students with fewer accommodations. These students also differed in terms of career choice. This may mean that students with more accommodations were more dependent on services and were not relying on themselves. In a similar study, Burkhead and Cope (1984) looked at the career maturity of physically disabled college students. The purpose of this study was to investigate the career maturity of 40 physically disabled and 46 nondisabled college students. This study found that physically disabled college students were more vocationally mature than nondisabled college students. In another study, Biller (1988) set out to determine if college students with learning disabilities were less mature in career decision making than college students without learning disabilities. Their study indicated no difference between these two groups. These very similar studies found different outcomes for students with and without disabilities in their career maturity levels. The differences could be because of the type of disability being studied; therefore, the current research will look at all disability types. Ohler et al.'s (1996) study established that within-group differences among students with disabilities do exist; therefore, the current research examines whether there are within-group differences across disabilities.

Career Maturity and Demographic Variables

Researchers have investigated a variety of correlates of career maturity, specifically demographic variables. Demographic variables can influence and explain

differences in an individual's career maturity level (Kornspan & Etzel, 2001; Naidoo, 1998). Literature has focused on demographic variables such as age, gender, race, and year in school (Kornspan & Etzel, 2001; Murphy, Petipas, & Brewer, 1996); however, research in this area has shown varying results regarding the effect of demographic variables on career maturity. For example, Ortlepp, Mahlangu, Mtshemla, and Greyling (2002) studied the career maturity, career self-efficacy, and career aspirations of Black learners in South Africa. They found no differences between male and female learners or between students who were in Grade 11 and Grade 12. In contrast, Kornspan and Etzel (2001) conducted a study on the relationship of athletic identity, career self-efficacy, career locus of control, and various demographic variables to the career maturity of junior college student-athletes. Their study found that age and gender were significantly related to career maturity and illustrated that career maturity is influenced by age, educational level, gender, self-efficacy, and other variables; however, there was no consistency in the findings of past research (Ogunyemi, 2006).

Regarding the relationship between career maturity and age, gender, ethnicity, and higher education status, the research has been inconsistent. Research examining the relationship between age and career maturity has revealed both positive (Healy, O'Shea, & Crook, 1985) and negative correlations (Ortlepp et al., 2002). Luzzo (1999) indicated that age was important because as more nontraditional students over the age of 25 enter college, their career-decision making needs will have to be met. Gender differences have also been studied in relation to college student career maturity. Luzzo (1995) wrote that understanding gender differences provides practitioners with important information for implementing career counseling intervention. Research has revealed gender differences in the career maturity attitude of college students (Healy, Mitchell, & Mourton, 1987; Kornspan & Etzel, 2001) as well as the absence of gender differences (Luzzo, 1993b; McCaffrey, Miller, & Winston, 1984). Career development has been shown to be connected to cultural factors such as ethnicity (Osipow, 1983) and has been researched in

relation to career maturity. However, research results involving racial and ethnic groups should be interpreted carefully because of the complex relationships among race, class, and ethnicity (Ponterotto & Casas, 1991). Research in this area has both supported (McNair & Brown, 1983) and not supported (Kennedy & Demick, 1987) the notion that an individual's ethnicity predicts his or her career maturity. Differences can be noted in educational levels because both Super (1957) and Crites (1974) found that career behavior changes systematically in relation to an index of time. Furthermore, Langley et al. (1992) reported that age and educational level had an influence on career maturity. Research conducted on college freshmen and seniors found that career maturity scores increased with class level (McCaffrey et al., 1984), but Kornspan and Etzel (2001) found that higher education status contributed very little to the prediction of career maturity.

Career Decision Self-Efficacy

An important focus in the current study is career decision self-efficacy. Self-efficacy is an important variable in career-related behavior (Luzzo, 1993b). Career decision-making self-efficacy (CDMSE) is an individual's expectations regarding her or his ability to perform the specific tasks and behaviors that are important to effective career decision making (Taylor & Betz, 1983). CDMSE is another widely researched construct, and researchers have found a significant relationship between career decision-making self-efficacy and career decision-making attitudes and skills (Luzzo, 1993b), career decidedness (Robbins, 1985; Taylor & Popma, 1990), vocational identity (Robbins, 1985), self-esteem (Robbins, 1985), career exploration behavior (Bluestein, 1989), career indecision (Robbins, 1985; Taylor & Betz, 1983), career locus of control (Luzzo, 1995), occupational self-efficacy (Taylor & Popma, 1990), and internal locus of control (Taylor & Popma, 1990). Self-efficacy theory was developed by Bandura in 1977 and has since gained a great deal of attention in the literature. Hackett and Betz (1981) were the first to apply Bandura's (1977) self-efficacy theory to career behavior because they believed that it could explain the process by which traditional gender role

socialization influenced women's (and men's) self-referent evaluations in relationship to career choices and behaviors. Following Hackett and Betz was the construct of CDMSE developed by Taylor and Betz (1983). One area in which self-efficacy has been influential is the inception of Social Cognitive Career Theory, which was discussed earlier. Luzzo, Hitchings, Retish, and Shoemaker (1999) outlined several reasons that college students with disabilities have negative attitudes toward career decision making: (a) during high school they are not exposed to career exploration and planning, and (b) their parents are their main advocates during their high school years. These factors, in essence, lessen their confidence or belief in their ability to make career decisions. Many studies have been conducted on self-efficacy and career development as it relates to women and men (Betz & Hackett, 1981; Hackett & Betz, 1981) and on career indecision (Taylor & Betz, 1983); however, little is known about the career decision-making process of persons with disabilities.

Hackett and Betz (1981) were the first to describe the relationship between self-efficacy and career-related behaviors. They noted that the lack of expectations of personal efficacy in one or more career-related behavioral domains is critical and achievements are less likely to be initiated. Some examples of career-related behavioral domains were identified by Crites (1971) as (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) making plans for the future, and (e) problem solving. Two additional domains identified by Hackett and Betz (1981) were assertion and the ability to take the initiative, which can be directly related to the self-advocacy skills of individuals. The purpose of their study was to provide an explanation of the relationship of self-efficacy and women's career development. Hackett and Betz noted areas for future research regarding self-efficacy and career development by stating that the "applicability of self-efficacy expectations to the individual's perceived range of career options, to effective decision making, and to effective and persistent pursuit of career plans could be investigated in a variety of ways" (Hackett & Betz, 1981, p. 335).

Betz and Hackett (1981) conducted the first empirical study of career self-efficacy. They looked at the relationship of career-related self-efficacy expectations to perceived career options in college men and women. The purpose of the study was to investigate the usefulness of self-efficacy theory to the understanding of vocational behavior, more specifically, the understanding of women's career development. The study was conducted with 235 undergraduate male and female students enrolled in introductory psychology courses. The results showed that there were sex differences in self-efficacy when looking at traditional and nontraditional occupations. Females scored higher in self-efficacy in more traditional jobs, whereas males scored higher in non-traditional jobs that tended to be male dominated. This study also showed a relationship between self-efficacy and career decision making. One of the most important aspects of this study was the notion that "the concept of self-efficacy may be useful not only in expanding the range of career options but in facilitating success and satisfaction in career pursuits" and "the influence of self-efficacy expectations on career development have direct implications for systematic programs of interventions capable of increasing self-efficacy and, consequently, facilitating career development" (Betz & Hackett, 1981, p. 410).

Taylor and Betz (1983) were the first to develop a method for the assessment of self-efficacy expectation with respect to career decision making, resulting in the first study to use the Career Decision-Making Self-Efficacy (CDMSE) scale data. Their study looked at the application of self-efficacy theory to the understanding of career indecision. The purpose of the study was to investigate the utility of the concept of self-efficacy expectation to the understanding and treatment of career indecision. The study was conducted with two different groups of college students totaling 346. The first group attended a private liberal arts college and the second group attended a large state university, both in the Midwest. The results showed that college students on average had confidence in their ability to perform the tasks necessary for effective career decision

making. Males' and females' levels of self-efficacy were similar in regard to decision-making tasks. According to this study, career decision-making self-efficacy can be helpful in determining career indecision. Students who are less confident in their abilities are more vocationally undecided. Stronger self-efficacy confidence is the result of being more vocationally decided. Taylor and Betz's study signifies the importance of including self-efficacy in the career maturity process.

Betz and Hackett (1983) conducted a study on the relationship of mathematics and self-efficacy expectations to the selection of science-based college majors. The purpose of the study was to investigate the applicability of Bandura's (1977) self-efficacy theory and Hackett and Betz's (1981) extension of mathematics behavior. The participants were undergraduate students enrolled in introductory psychology courses. The results of the study showed that students' mathematics self-efficacy expectations were related to choices of science-based majors versus non-science-based college majors. Students who had stronger mathematics self-efficacy were more likely to select science-based majors as opposed to students who had weaker mathematics self-efficacy. The study also found that mathematics self-efficacy expectations were weaker for females than for males, which suggests a difference between male and females in regard to self-efficacy. Betz and Voyten (1997) examined how career decision-making efficacy and outcome expectations were related to career indecision and exploration intention. They conducted the study with 350 students at a college in the Midwest. They found that career decision-making efficacy was related to career indecision, and career outcome expectation was related to the students' intentions to explore careers. The results of this study showed that there was a relationship between career decision-making self-efficacy, career indecision, and career outcome; however, the relationship was the opposite of what the researchers originally hypothesized.

Darrel Luzzo has done a great deal of research in the self-efficacy and career decision-making self-efficacy area as it relates to career decision-making attitudes and

skills (Luzzo, 1993b), career maturity (Luzzo, 1995), and testing the reliability and validity of the CDMSE scale (Luzzo, 1993a). Luzzo's 1993b study was the first to examine the relationship between career decision-making self-efficacy and career decision-making attitudes and skills. Participants were 233 undergraduate students who completed the Career Decision-Making Self-Efficacy Scale (Taylor & Betz, 1983), Screening Form A-2 of the Career Decision-Making Attitude Scale (Crites, 1978b), the Decision Making scale of the CDI (Super, Thompson, Lindeman, Jordaan, & Myers, 1981), and a demographic questionnaire that gathered information about the individuals' age, gender, ethnicity, current college GPA, occupational aspiration, and college major. Results revealed that the strongest predictor of CDM attitude was CDM self-efficacy, with age also being a significant predictor. As expected, the results showed that the CDM self-efficacy of college students was a significant contributor to their CDM attitude. Another study conducted by Luzzo et al. (1999) examined self-efficacy and students with disabilities. They evaluated the difference in career decision-making attitudes and beliefs of college students with and without disabilities. The participants were 121 undergraduate students, 75 of whom had disabilities. Their study found that college students with disabilities had more challenging career beliefs and attitudes than students without disabilities. Also, students with disabilities had lower career decision-making self-efficacy than students without disabilities. Luzzo et al. (1999) suggested one possible reason for these findings could be attributed to parents and teachers making most of the educational and vocational decisions for students with disabilities. The results of this study explained the importance of students with disabilities becoming their own self-advocates; however, no research has been published on the relationship between self-efficacy and self-advocacy.

Self-Advocacy

Another explanation for college students with disabilities' success in terms of career is their self-advocacy knowledge. Self-advocacy knowledge "means that the

student understands his or her disability, is as aware of the strengths as of the weaknesses resulting from the functional limitation imposed by the disability, and is able to articulate reasonable need for academic or physical accommodations" (Hartman, 1993, p. 40). Students with disabilities need self-advocacy skills for several reasons: (a) Students do not know how to ask for what they need (Roessler, Rumrill, & Brown, 1998), (b) they do not always have the confidence to ask for what they need (Corrigan, Jones, McWhirter, 2001), and (c) they do not have an understanding of how their disabilities affect them (Roessler, Hennessey, & Rumrill, 2007). Additionally, students with disabilities need to have a clear understanding of how their disability impacts the career decision-making process. Several studies have implicated that an individual's ability to self-advocate has an effect on career maturity. Lindstrom and Benz (2002) looked at factors that influenced the career development of young women with learning disabilities. Their study found that a high level of individual motivation and self-determination positively affected career development. Similarly, Ohler et al. (1996) conducted a study that looked at the career maturity of college students with learning disabilities. The study found that students who were able to request accommodations and self-advocate had higher levels of career maturity. Both studies indicated that there is a relationship between career maturity and self-advocacy.

As the number of students with disabilities entering college increases, there needs to be more focus on self-advocacy because students with disabilities often begin their postsecondary education with little knowledge about their disability, how it affects their learning, and how to access support networks on campus (Aune, 1991; Brinckerhoff, Shaw, & McGuire, 1993). Self-advocacy has been widely researched and is associated with the successful transition of students with disabilities to college (Aune, 1991; Brinckerhoff, 1993; Hitchings et al., 2001; Merchant & Gajar, 1997; Phillips, 1990; Skinner & Lindstrom, 2003). Many authors regard self-advocacy as a new social movement (Boggs, 1996; Goodley, Armstrong, Sutherland, & Laurie, 2003; Shakespeare,

1993). Therefore, this is an area that will receive increasing attention as individuals with disabilities continue seeking postsecondary education. It is important for those students to learn self-advocacy skills so they will be able to appropriately self-disclose and communicate strengths and weaknesses to professors and employers in order to secure accommodations. Goodley et al. (2003) noted that "self-advocacy is an important development in terms of the opportunities it offers for developing the confidence of individuals and groups to enable them to speak out for human rights and challenge oppression in a disabling society" (p. 149). Many would say that being a part of the postsecondary education setting and not being able to speak for oneself is oppression in some form. Most importantly, self-advocacy skills are critical for helping students obtain services within their rights.

High School

While in high school, individuals with disabilities rely on their family members, teachers, support staff, and other professionals to serve as their advocates (Merchant & Gajar, 1997). Most schools have regular meetings with parents and sometimes with students to discuss what is in the best interest of the students in terms of education and their disability. The Education of all Handicapped Children Act (PL. 94-142 emphasized the roles of parents and teachers rather than the role of the students (Daniels, 1982). Merchant and Gajar conducted a literature review of seven programs whose focus was on the transition from secondary to postsecondary education. The skills addressed by the programs as necessary for a self-advocacy program included (a) understanding one's own disability, (b) knowledge of individual rights under the law, (c) accommodations needed, and (d) effective communication skills. However, not all programs include all of the above skills and also not all students have the opportunity to participate in transition programs that increase self-advocacy. Merchant and Gajar's study also showed that even though students were able to learn self-advocacy skills, they lacked the ability to apply those skills. One explanation for this lies in the area of the comfort level of students

asking for assistance from a teacher. This could detrimental in postsecondary settings and in employment settings because individuals have to able to request assistance for themselves. Several other researchers have suggested that secondary institutions fall short in providing transition services to students with disabilities (Hitchings et al., 2001; Janiga & Costenbader, 2002; Merchant & Gajar, 1997; Smith et al., 2002)

College

When students with disabilities graduate from high school, the disability support that they are used to receiving from others is shifted. This shift from other-advocacy to self-advocacy can be the most difficult part of the transition process because students are accustomed to depending on others (Aune, 1991; Brinckerhoff, 1993; Lynch & Gussel, 1996; Merchant & Gajar, 1997). In the postsecondary setting, the responsibility for disability support is in the hands of the individual with the disability. Students who are accustomed to having someone else speak for them are less likely to employ self-advocacy strategies at the postsecondary level (Aune, 1991). In terms of self-advocacy, Test et al. (2005) noted that after they left the supportive environment of school, these students did not understand their strengths and needs well enough to explain the accommodations they needed beyond school life. It is important for individuals with disabilities to be aware of their learning strengths and weaknesses and to be able to self-advocate for services and accommodations. These abilities are useful not only during the transition period but also at the postsecondary level as well as while considering their career interests and future employment. For college students with disabilities, self-advocacy is very important because they need the ability to recognize and meet the needs specific to their disability without compromising the dignity of self and others (Merchant & Gajar, 1997). Self-advocacy is also important for employment because it affords the individual the opportunity to speak to their needs in the employment setting. What should be duly noted is the fact that an individual is not born with self-advocacy skills; these skills need to be taught.

Several studies have examined self-advocacy at various stages in life (i.e., elementary, middle, and high school) and have noted the importance of developing self-advocacy skills at younger ages (Barrie & McDonald, 2002; Battle et al., 1998; Zickel & Arnold, 2001). Lock and Layton (2001) emphasized the need for self-advocacy skills at the postsecondary level. If students who enroll in college have not received self-advocacy skills training, they often cannot communicate what they need in an effective manner. Self-advocacy skills are taught as early as elementary school and continue throughout high school, with a limited number of studies focusing on the college population. Research has proven that "self-advocacy skills are very important for students with disabilities and are essential for students to be successful in life after high school" (Beauchamp & Kiewra, p. 165, 2004).

Limitations of Research on Self-Advocacy

It is clear that self-advocacy has been well researched; however, research in the area of self-advocacy at the postsecondary level and beyond is limited. If self-advocacy skills are not taught at high school or postsecondary levels, students with disabilities will have more difficulty speaking for themselves when they reach the employment phase of their lives. Self-advocacy skills need to be an integral component of all transition programs, no matter at what level. Self-advocacy is a crucial component of the career maturity of students with disabilities; however, the question remains to what extent self-advocacy training is implemented in postsecondary settings. Friehe, Aune, and Leuenberger (1996) noted that self-advocacy is a primary skill that should be taught to students as they transition. Another area to consider is the focus of the self-advocacy training. Algozzine, Browder, Karvonen, Test, and Wood (2001) found that interventions to teach self-advocacy skills most often focused on students with learning disabilities in high school or postsecondary settings and had yet to be taught consistently to students with other types of disabilities. Another area of research attention is the fact that transition programs often lack evidence of specific experimental designs (Merchant &

Gajar, 1997) to evaluate the success of the programs. Dalke (1993) stressed the importance of being able to study the effectiveness of self-advocacy programs in order to identify the components that contribute to student success.

Disability research in relation to the self-advocacy of individuals with disabilities needs further exploration (Barnes, 1997; Goodley & Moore, 2000; Goodley et al., 2003; Shakespeare, 1997). Knowing what works and what programs promote postsecondary and employment success for people with disabilities is a key step in determining what approaches future research should take. Merchant and Gajar's (1997) review of the self-advocacy literature found that there was limited evidence of self-advocacy instruction for individuals with disabilities. Test et al. (2005) noted that further research on strategies designed to promote self-advocacy is warranted.

Because self-advocacy in general is an important component of the success of college students with a disability, it is vital for self-advocacy to be part of any theory or model as it relates to the career maturity of students with a disability. However, to date there are no theories that include self-advocacy as an essential component. Many researchers have cited that students need deliberate instruction in self-advocacy and self-determination skills (Izzo & Lamb, 2002; Lehman et al., 200; Wehmeyer, 2002). Self-advocacy skills must be a part of the career development process in order for students with disabilities to be adequately served. However, in terms of career maturity, the self-advocacy variable often is not included. Most career theories are developed for individuals without disabilities; therefore, self-advocacy is not as important as the other variables when dealing with the general student population. Nevertheless, when dealing with students with disabilities, it is very important to include this variable.

To date no studies have examined the relationships among the variables of career maturity, career decision self-efficacy, and self-advocacy in relation to college students with a disability. In Merchant and Gajar's (1997) literature review, a relationship between self-advocacy and career maturity was established. A few of the programs compared in

the literature review showed an increase in the participants' knowledge and behavioral outcomes; however, their self-efficacy decreased. It would be interesting to know how these variables impact one another and what can be done to strengthen this relationship. The relationship between self-advocacy and career maturity can also be investigated in transition programs. Self-advocacy and career maturity involve individuals "realizing their strengths and weaknesses and being able to make decisions about appropriate career choices based on those strengths and weaknesses" (Beauchamp & Kiewra, 2004, p. 165). Career maturity is the extent to which an individual has acquired the necessary knowledge and skills to make intelligent, realistic career choices (Levinson, 1993), and being aware of one's disability, including strengths and weaknesses, is necessary in making those career choices.

Summary

The current literature review looked at research regarding the three variables of career maturity, career decision self-efficacy, and self-advocacy, two of which are commonly researched (career maturity and career decision self-efficacy) in various areas; however, no research has looked at all three variables as they relate to the career development of college students with disabilities. This literature review has shown that career maturity, career decision self-efficacy, and self-advocacy are vital in the lives of students with disabilities. Luzzo et al. (1999) stated that self-efficacy and career decision making are critical to career development, but omitted the importance of self-advocacy. Their research clearly stated that having parents and teachers as advocates had a negative impact on the career development of students with disabilities, which highlights the importance of individuals' ability to self-advocate. The purpose of the current research was to examine the relationships between the constructs of career maturity, career decision self-efficacy, and self-advocacy. Knowledge of how these variables relate to one another will add to the career literature as it relates to individuals with disabilities and will serve as a guide for the career counseling process.

CHAPTER III

METHODOLOGY

Introduction

As the review of the literature in Chapter II demonstrated, students with disabilities are attending postsecondary institutions at an increasing rate (Satcher, 1993). Students enter college with the hope that they will become gainfully employed once they have completed their degrees; however, students with disabilities are not being hired at the same rate as their peers without a disability (Adelman & Vogel, 1993; Aune & Friehe, 1996; Aune & Kroger, 1997; Danek, 1992; Gajar, Goodman, & McAfee, 1993). The purpose of the present study was to investigate the relationships among career maturity, career decision self-efficacy, and self-advocacy in college students with a disability. The following research questions guided this study:

1. What are the relationships among career maturity, career decision self-efficacy, and self-advocacy for college students?
2. Is there a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability?
3. Do college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy?
4. Can the career maturity of college students with disabilities be explained by age, gender, ethnicity, higher educations status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy?

Chapter III outlines the methodology that was used for this study. This chapter describes the (a) research design, (b) participants, (c) procedures for conducting the study, (d) research instruments, (e) confidentiality, and (f) statistical analysis.

Overview of the Research Design

This research employed a quantitative descriptive design. Descriptive designs are "research strategies that enable the investigator to describe the occurrence of variables, the underlying dimensions in a set of variables, or the relationship between or among variables" (Heppner, Kivlighan, & Wampold, 1999, p. 200). One "advantage of using the quantitative approach is that this makes it possible to measure the reactions of many people to a limited set of questions, consequently allowing comparison and statistical aggregation of the data; however, the validity of this approach depends on careful instrument construction to ensure that the instrument measures what it is supposed to measure" (Patton, 2002, p. 14).

Survey research is the oldest and most widely used research method in social science (Hackett, 1981). The major purpose of surveys is to describe the characteristics of a group of individuals. As a researcher, I am interested in the opinions of a large group of people (college students with and without a disability) regarding the relationships among career maturity, career decision self-efficacy, and self-advocacy. This study utilized a cross-sectional survey design. Cross-sectional surveys collect information from a sample that has been drawn from a predetermined population and compare information across two or more groups (Fraenkel & Wallen, 2003). This type of research is commonly used with the college population and assists counselors with identifying problems encountered on campuses and how those problems differ among student populations (Heppner et al., 1999). Nulty (2008) noted that the response rates to paper surveys are higher than that of online surveys; therefore, the use of multiple methods especially with online surveys will boost response rates. As a result, the surveys in this study were distributed by two methods: (a) online surveys and (b) face-to-face distribution of paper surveys to a group. Online survey research is a newer approach that is becoming one of the most commonly used methods for conducting survey research. Some advantages of using online survey research are the inexpensiveness of the method and the quickness of administering the

surveys (Dolnicar, Laesser, & Matus, 2009). Direct administration to a group surpasses other survey methods (mail surveys, telephone surveys) because of the following advantages: (a) a high rate of response, often close to 100%, (b) generally low cost, and (c) the opportunity to explain the study and answer any questions that the respondents may have before they complete the questionnaire (Fraenkel & Wallen, 2003).

Participants

Using the software G* Power 3.0.10 to run a power analysis for the correct sample size for this study produced the following. For the purpose of Research Question 1, each correlation will represent its own independent test. Because the hypothesis is a positive correlation, a 1-tailed test is appropriate. Having a power of .7 for moderate effect sizes with a sample size of 80 per group is sufficient across analysis.

Convenience sampling is useful in obtaining general ideas about the phenomenon of interest. This type of sampling is the most widely used and is neither purposeful nor strategic (Patton, 2001). A convenience sample of 347 postsecondary male and female college students from a community college and a large university in the state of Iowa with and without varying types of disabilities participated in this study. The community college had approximately 11,000 students enrolled across two campuses, and the university had an enrollment of over 30,000 students. In regard to students without disabilities, all students who were enrolled in either of the above colleges were eligible to participate in the study. The aim of recruitment was to oversample undergraduate students who had some type of disability. Rea and Parker (1997) suggested that the number of surveys sent out should be twice the number of participants needed, allowing for a 50% response rate.

The participants were recruited utilizing three methods. First, in order to recruit participants from the classroom, the researcher identified a convenience sample of 13 instructors at the community college and 4 instructors at the university. The researcher contacted the instructors via email (see Appendix H) requesting permission to come in

during a class period and ask students to take home a survey, complete it, and return it to the researcher the next class period. To allow students with disabilities who might need accommodations the chance to take part in the study with the necessary assistance and to increase the sample population of students with disabilities, a Web Survey was developed that was identical to the paper survey. Second, at the community college, recruitment flyers for the Web survey were placed in the waiting area of the college learning services office. Third, at the university, a link to the survey was emailed (see Appendix G) to students who received services from the career center and student disability services center. The director at each center sent the survey by mass email to the students who were on the mass email list. The students on the mass email list had agreed to receive emails about surveys. The consent form was the first page they saw when accessing the survey on the web. Subjects indicated their consent by completing the survey either on the web or on paper. Because the study focused mainly on students with a disability, the third method for recruiting participants was used to increase the participation of students with a disability. Participation in this study was voluntary. As an incentive for participating in the study, the students entered a raffle for four $25 gift cards.

Research Procedures

Enrollment of Participants

Prior to the collection date for this study, written permission to collect data was given by the community college's and university's Institutional Review Boards (IRBs). Data collection was completed in the fall of 2009. There were different methods for the enrollment process in the study. At the community college, the first method was distribution to students who received the surveys in class. Those students were enrolled in the following classes: (a) College 101, (b) Introduction to Psychology, (c) Pre Algebra, (d) Elementary Algebra, (e) Elements of Writing, (f) Tools for Life, (g) College Reading, (h) Effective Reading Strategies, (i) Composition 1, or (j) College Prep Writing. The second method of enrolling participants was to place advertisements (see Appendix F) in

the learning service offices at the community college. At the university, the first method of enrolling participants was distributing the surveys to students in the Counseling for Related Professions course. The second method was sending a mass email to students who received services from the career center and student disability services. Individuals in both services agreed to send the survey link to a student list serve.

Data Collection

Survey packets and an online web-survey were developed that included (a) an informed consent letter (see Appendix E) that explained the purpose of the study and contained information regarding the confidential and anonymous nature of data collection; (b) the researcher's contact information should students have any questions regarding their participation in the study; and (c) instructions for completing the survey information. The consent letter also stated that returning the completed survey would indicate willingness to participate in the study. Each participant was asked to read the informed consent letter (see Appendix E), and complete the demographic questionnaire form (DQF; see Appendix A), the Attitude Scale of the Career Maturity Inventory-Revised (CMI-R; see Appendix B), the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSE-SF; see Appendix C), and the Self-Advocacy Knowledge Assessment (SAKA; see Appendix D). A drawing sign-up sheet (see Appendix I) was included in the packet, and it was optional for students to participate in the drawing. Both the paper survey and online web-survey instruments were identical; however, there were a few word changes in the informed consent letter and drawing sign-up sheet for individuals who completed the survey online versus the paper version.

Process

When the instructors at both institutions had given permission for the researcher to conduct the research during the class periods, a date and time was set so the surveys could be distributed and collected. Prior to distributing the surveys, the informed consent document was read to the students. The students were informed that by completing and

returning the surveys, they were consenting to participate in the study. Then the surveys were distributed to each student in a large envelope. The students were informed that the surveys would be picked up during the next class period. Participants who chose not to participate in the study simply declined to accept an envelope. The entire process took no more than 5 minutes. During the following class period, the surveys were collected from the students. Even students who did not complete the surveys were asked to return the incomplete packet. This ensured confidentiality within the classroom setting.

Students also had the option of completing a web-based survey. This method allowed students with disabilities who might need accommodations the opportunity to participate in the study with the necessary assistance. Recruitment flyers for the web survey were placed in the waiting area of the college learning services office. At the university, students receiving services through student disability services and the career center received an email with a link to the study. The students at these centers had the option of participating in the study by clicking on the survey link. When the student accessed the survey online, they were instructed to read the first page, which was the informed consent form. They were then directed to complete the Demographic Questionnaire Form, followed by the surveys: The Attitude Scale of the Career Maturity Inventory-Revised, the Career Decision-Making Self-Efficacy Scale-Short Form, and the Self-Advocacy Knowledge Assessment. There were no follow-up visits or other time commitments associated with this study.

As an incentive to facilitate participation in the study, the participants were informed that the completion of the survey instruments would qualify them for participating in a $25 American Express gift card drawing at the end of data collection. The respondents were informed that participation in the drawing was completely voluntary. A total of four gift cards were raffled during the Fall 2009 semester. To protect confidentiality, when students completed the paper survey, they were asked to provide their email address on a separate form. They were then instructed to place the raffle sheet

into a white envelope and seal the envelope. For those who completed the surveys on the web, students were redirected to a different site to complete the drawing raffle sheet. Those raffle sheets were folded and sealed in an envelope. The sealed envelopes were kept separate from the survey responses and were not unsealed until the day of the drawing. There was no way to match the envelopes that contained the raffle sheet to the surveys once they were separated. On the day of the drawing, only the four winning seals were broken. All the other sealed envelopes were discarded. The winning participants were sent an email instructing them how to collect the gift card.

Research Instruments

The primary focus of this study was to explore the relationships among the career maturity, career decision self-efficacy, and self-advocacy of college students with and without a disability. Three instruments were utilized for this purpose: the Attitude Scale of the Career Maturity Inventory-Revised, the Career Decision-Making Self-Efficacy Scale-Short Form, and the Self-Advocacy Knowledge Assessment. A demographic questionnaire form was developed to obtain relevant demographic information about the participants.

Demographic Questionnaire Form

A questionnaire was developed by the researcher for use in this study that included a series of questions designed to obtain relevant demographic information, information about the participants' knowledge of their disability, and information about the individuals' participation in disability support services were collected. Items were written by the researcher based on the needs deficits discussed in the literature. The demographic questionnaire form (DQF), a self-report, was designed to obtain demographic information and background information from the participants in the study. The following items were included in the DQF: age, current major, gender, higher education status, ethnic background, and the students' career aspirations. Disability-

related questions (if applicable) included type of disability, age of diagnosis, ability to request services, use or non use of support services, and previous transition programs.

Career Maturity Inventory-Revised

The Career Maturity Inventory-Revised (CMI-R; Crites & Savickas, 1995) was used to assess the degree to which participants were prepared to make realistic career decisions. This instrument was chosen because it has been widely researched and is an effective measure for career decisions (Busacca & Taber, 2002). The CMI-R was previously referred to as the Vocational Development Inventory (VDI; Crites, 1961) and was first administered in 1961 (Crites & Savickas, 1995). The original version of the CMI included an Attitude Scale with 50 true/false questions and a Competence Test with 100 multiple-choice questions. The original version was a paper-and-pencil instrument designed to assess the feelings and disposition of a person toward making a career choice (Crites, 1978a, 1978b). Much research on the CMI supported its use in research and practice (Alvi & Khan, 1983; Healy, 1994; Savickas, 1990), and although researchers indicated the CMI was a reliable and valid instrument, they also identified several shortcomings. Those limitations were (a) the administration time was long, (b) the test was not applicable to postsecondary students and employed adults, (c) the subscales were not useful, (d) there was limited use for career counseling, and (e) there were limited scoring options. Crites and Savickas (1996) made revisions to the CMI. The CMI-R was designed to be more relevant and usable in counseling and career development programs (Busacca & Taber, 2002). All items in the CMI-R are applicable to both younger and older individuals, male and female participants, and members of minority groups. One difference between the 1978 CMI and the 1995 CMI-R is the change from *True* (T) and *False* (F) to *Agree* (A) and *Disagree* (D). This allows for a more dichotomous response style (Crites & Savickas, 1996). Also, the 1978 CMI Attitude Scale had several items that were specific to school years, such as: “By the time you are 15, you should have your mind pretty well made up about the occupation you intend to enter” (Crites & Savickas,

1996, p. 136). To generalize the CMI-R for adult populations, items like the one mentioned above were eliminated from the revision. Thus, the CMI-R content is more applicable to the undergraduate population and an appropriate measure of career attitudes for the college population (Crites & Savickas, 1995; Savickas, 1990).

For the purposes of this study, only the Attitude Scale was used. The Attitude Scale of the CMI-R is the most widely used measure of career maturity (Savickas, 1984). The Attitude Scale examines respondents' attitudes toward decision making such as decisiveness, involvement, independence, orientation, and compromise (Busacca & Taber, 2002). The Attitude Scale of the CMI-R consists of 25 diverse statements with an overall score from 1 to 25 for career maturity attitude. Scoring is conducted by transferring individual responses to each item on the scale to the CMI-R answer sheet. The scoring key with the correct answers shown on the top and bottom of its window is then placed on the answer sheet so that the completed answers are displayed in the window. The answers that match the letters shown on the key are then totaled. This procedure is performed for the CMI-R Attitude Scale, and the total numbers for the scores are summed. This number represents the individual's career maturity attitude score. Having a higher score would be an indication of more highly developed attitudes toward career decisions. Individuals who score above 20 are well prepared for career planning activities using interest inventories and advance exploration techniques. Individuals who score from 16-19 are considered to be developing at a normal pace. Individuals who score 15 and lower are not yet ready to make career choices and should be the target of career-related interventions (Busacca & Taber, 2002).

Busacca and Taber (2002) were the first to investigate the internal consistency reliability and construct and criterion validity of the CMI-R. Their study found the internal consistency coefficients, Kuder-Richardson Formula 20 (KR-20), obtained for the normative sample for the CMI-R total was .61, for the CMI-R Attitude Scale was .54, and for the CMI-R Competence Scale was .52. In addition, the attitude scale has been

predictably associated with vocational decidedness (Fuqua & Newman, 1989) and vocational congruence (Luzzo, 1993a). The original 1978 scale was standardized with students in Grades 5 through 12. The KR-20 internal consistency coefficients for the Attitude Scale of the 1978 version averaged.74 and the Competence Test Coefficients ranged from .63 to .86 (Crites, 1978b). Crites (1978b) also presented evidence on the three kinds of validity for the CMI: content, criterion-related, and construct. Even though Busacca and Taber's (2002) findings were somewhat lower for the reliability coefficients for the CMI-R, they did find some validation evidence related to the CMI-R, with higher scores being associated with greater readiness to make vocational decisions. Crites and Savickas (1996) reported that because the items in the 1995 CMI-R were selected from the 1978 CMI, the CMI-R has the same reliability and validity as the items in the previous edition.

Several other researchers agreed that the CMI-R has demonstrated appropriate reliability and validity (Busacca & Taber, 2002; Dipeolu, 2007; Powell & Luzzo, 1998); however, practitioners are advised to interpret the results of CMI-R very carefully until future studies and additional data are generated (Crites & Savickas, 1996; Dipeolu, 2007; McDivitt, 2002). The only limitation to the CMI-R is the applicability of the test to individuals who are mentally retarded or have a visual or hearing impairment; therefore, these individuals were exempt from participating in the study (Crites & Savickas, 1996). According to Crites and Savickas (1996), "The reading level of the Attitude Scale items are between the fifth and sixth grades (Dale-Chall Index of Readability)"(p. 136).

Career Decision-Making Self-Efficacy Scale-Short Form

The Career Decision-Making Self-Efficacy Scale (Taylor & Betz, 1983) measures an individual's degree of belief that he or she can successfully complete tasks necessary to making career decisions. The five Career Choice Competencies postulated in Crite's model of career maturity (Crites, 1978b) formed the original basis for the scale construction. The item content includes behaviors pertinent to (a) accurate self-appraisal,

(b) gathering occupational information, (c) goal selection, (d) making plans for the future, and (e) problem solving. For the original scale, 10 items were written to reflect each competency area totaling 50 different career decision-making tasks or behaviors. Because the original CDMSE contained 50 items, a shorter version that could be used easily in counseling assessment and as a pre-post measure for the evaluation of career interventions was desirable. Thus, the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSE-SF) was developed.

The researcher chose the CDMSE-SF (Betz, Klein, & Taylor, 1996) to measure career decision self-efficacy expectation related to career decision tasks. This provided the overall assessment of students' career decision self-efficacy in relation to their self-appraisal, knowledge of occupational information, goal selection, future plans, and problem solving. The 25-item short form was developed by eliminating 5 of the 10 items from each of the five CDMSE scales. Participants are asked to rate how confident they are that they could complete the given tasks on a 5-point Likert-type scale ranging from 1 (*no confidence at all that I could*) to 5 (*complete confidence that I could*). Scale scores are computed by summing the responses to each scale's items, and the total score is the sum of the five-scale score. Higher scores indicate higher levels of career decision self-efficacy.

Both versions of the CDMSE have been reported to be highly reliable. The scale was originally normed on a sample of 346 students from a large state university and a private liberal arts college. Internal consistency reliability coefficients (alpha) ranged from .86 to .89 for the subscales and yielded an alpha of .97 for the total score (Betz, Klein, & Taylor, 1983). Other researchers have reported comparable levels of internal consistency reliability and generally high item-total score correlation (Robbins, 1985; Taylor & Betz, 1983). A test-retest reliability coefficient of .83 for the scale has been reported (Luzzo, 1993a). Adequate support for the construct, content, and criterion validity of the measure has been presented (Bluestein, 1989; Taylor & Betz, 1983).

The internal consistency reliability of the short form ranged from .73 (Self-Appraisal) to .83 (Goal Selection) for the 5-item subscales and yielded an alpha of .94 for the 25-item total score (Betz et al., 1996). Other researchers have reported comparable levels of internal consistencies; specifically, Nilsson et al.'s (2002) study reported an alpha of .97, and two studies yielded an alpha of .93 for the total score (Betz & Voyten, 1997; Luzzo, 1996). Validity of the CDMSE-SF has been established such that scores for the CDMSE-SF have been linked to career indecision (Betz et al., 1996). Betz et al. showed that relationships of the CDMSE-SF to Career Indecision ranged from -.19 to -.66 for Indecision and from -.03 to -.76 for Certainty.

Self-Advocacy Knowledge Assessment

Currently, there is no known survey that measures self-advocacy; therefore, an assessment tool that was developed by the Office of Disability Services at James Madison University was utilized; the authors were Cassandra Jones, Hilary Kissel Campbell, Melinda Burchard, Donna Sundre, and Valerie Schoolcraft. The instrument was intended to measure students' knowledge of disability rights. A first draft of the SAKA was originally created and used as an assessment as students registered for disability services (M. Burchard, personal communication, August 6, 2009). This assessment tool was used to identify students who lacked skills in self-advocacy. A goal in the current study was to measure students' knowledge of self-advocacy; therefore, the Self-Advocacy Knowledge Assessment (SAKA) was used in this study for this purpose (Kissel, 2006).

The SAKA is a 20-item multiple choice instrument with two demographic questions. The SAKA measures the students' ability to recognize key components of disability rights laws, define self-advocacy, recognize personal responsibility under disability laws including steps in securing appropriate accommodations, recognize limits to personal rights in specific contexts, and identify initial steps in problem resolution procedures (M. Burchard, personal communication, August 6, 2009). Additionally, the

instrument contains two demographic questions to collect details about past access to disability accommodations. This assessment was first administered in the summer of 2005. A total of 62 students took this computer-based test. Out of the 62 students, 23 passed the initial screening leading to a 37% pass rate. The average score on the pretest screening was 16.75.

A cutoff of 90% or 18 out of 20 was established to determine if a student had adequate knowledge of self-advocacy skills (Kissel, 2006). Staff at James Madison University's Office of Disability services believed this should be the cutoff score because by this point students should have enough knowledge of disability rights and procedures (Kissel, 2006). It is the researcher's belief that this cutoff score was too high, and for the purposes of this research, the assessment was examined on a pass or fail basis, meaning students who scored 70 or above were considered to have self-advocacy knowledge, whereas students who scored 65 or below did not have self-advocacy knowledge. Therefore, for the purposes of this research, a cutoff score of 70% or 14 out of 20 was utilized. Students who scored a 14 or above were considered as having a high level of self-advocacy and students who scored a 13 or below were considered as having a low level of self-advocacy.

Reliability is usually measured using coefficient analysis, which looks at internal consistency; however, because this particular assessment uses a cutoff score, a criterion-reference test that measures decision consistency was utilized. When an assessment uses a cutoff score, the goal should be to obtain a high decision consistency or to ensure respondents would be classified the same way over multiple administrations of the assessment. Therefore, scale and item analysis was conducted for the pretest screening of the SAKA using a criterion-referenced test, and the results showed the assessment has good decision consistency (Kissel, 2006). For this assessment, consequential validity is important. Consequential validity examines the intended or unintended consequences of test administration. The researcher must consider the impact of this assessment on the

students. Additionally, the cutoff score could further be explored. This particular self-advocacy assessment can further evolve, and it has the potential to become a widely used self-advocacy instrument.

Confidentiality

For this study, results from the Demographic Questionnaire Form, the Career Maturity Inventory-Revised Attitude Scale, the Career Decision-Making Self-Efficacy Scale-Short Form, and the Self-Advocacy Knowledge Assessment did not contain any identifying information. No individual identities will be used in any reports or publications resulting from the study. All the surveys and email addresses were kept in a locked file cabinet when not in use by the researcher. The surveys only asked questions related to the study and requested minimum private information needed to answer the research questions. The students' email addresses on the Drawing Sign-up Sheet were kept in a sealed envelope separate from the surveys. The email addresses of students who completed the surveys online were placed in an individual sealed envelope. Only the four winning envelopes were drawn and opened. All other envelopes were shredded without being opened. All the information will be retained for 1 year and then destroyed.

Statistical Analysis

To answer the research questions, configuration of the designs varied according to the types of variables involved.

Statistical Analysis of Research Question 1

Research Question 1 examined the relationships among the career maturity, career decision self-efficacy, and self-advocacy of college students. To assess these relationships, correlations were computed among (a) the Career Maturity Inventory-Revised Attitude Scale, (b) the Career Decision-Making Self-Efficacy Scale-Short Form, and (c) the Self-Advocacy Knowledge Assessment. Correlations seek to determine whether a relationship exists between two or more quantitative variables (Fraenkel & Wallen, 2003). Those correlations that met .01 alpha levels were considered significant.

Statistical Analysis of Research Question 2

Research Question 2 examined if there was a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability. A multivariate analysis of variance (MANOVA) was computed with the independent variable (students with a disability and students without a disability) and the dependent variables (career maturity, career decision self-efficacy, and self-advocacy). According to Hays (1994), MANOVAs are used in cases involving several related dependent measures. If a significant difference was found, the researcher followed up with univariate analyses of variance (ANOVAs). Analysis of Variance is used when researchers desire to find out whether there are significant differences between the means of two or more groups; these group samples can be compared at one time (Fraenkel & Wallen, 2003; RownTree, 1981).

S*tatistical Analysis of Research Question 3*

Research Question 3 examined whether college students with disabilities who had high self-advocacy scored differently on the constructs of career maturity and career decision self-efficacy than students who had low self-advocacy. Students either were or were not able to self-advocate; therefore, the researcher sought to determine how this impacted the individuals' career maturity and career decision self-efficacy. To answer this question, a MANOVA was computed with students who scored high and low on the SAKA scale. For variables where a significant difference was found, the researcher followed up with univariate analyses of variance (ANOVAs). The independent variable was the self-advocacy status of the students with a disability. The dependent variables were the students' career maturity and career decision self-efficacy scores.

Statistical Analysis of Research Question 4

Research Question 4 sought to determine if the career maturity of college students with disabilities could be explained by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-

efficacy. Correlations were computed between the predictor variables and the criterion (outcome) variable of career maturity. The predictor variables were (a) age, (b) gender, (c) ethnicity, (d) higher education status, (e) type of disability, (f) use of disability services, (g) self advocacy, and (e) career decision self-efficacy. To further examine the data, hierarchical regression analysis was conducted. The dependent variable for this question was career maturity and the independent variables were age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy. The regression analysis was composed of the following hierarchical steps. First, general demographic information was entered as a categorical variable. The investigator felt it was important to enter controlled variables first to examine potential difference within this group. Second, higher education status was entered. Third, types of disabilities were entered. Fourth, the use of disability services was entered. Fifth, self-advocacy was entered and sixth, career decision self-efficacy was entered.

Summary

Chapter III provided an overview of the research design and procedures the researcher used to examine the relationships among career maturity, career decision self-efficacy, and self-advocacy in understanding the career development of college students with a disability. Chapter IV will present the results of data collection and analyses.

CHAPTER IV

RESULTS

The purpose of this study was to investigate the relationship among career maturity, career decision self-efficacy, and self-advocacy in college students with a disability. The results of this study were used to examine if there was a relationship among career maturity, career decision self-efficacy, and self-advocacy, and if there was a relationship, which variables impacted the others. As discussed in Chapter III, participants were a convenience sample of 347 postsecondary male and female college students with and without varying types of disabilities from a community college and a large university in the state of Iowa. The participants were recruited using three methods. First, the researcher received permission from instructors to distribute and collect surveys from students in their classes. Second, at the community college, recruitment flyers (see Appendix F) for the web survey were placed in the waiting area of the college learning services office. Third, at the university, a link to the survey was emailed to students who received services from the career center and student disability services center. The participants were asked to complete the demographic questionnaire form (DQF; (Appendix A), the Attitude Scale of the Career Maturity Inventory-Revised (CMI-R; Appendix B), the Career Decision Self-Efficacy Scale-Short Form (CDMSE-SF; Appendix C), and the Self-Advocacy Knowledge Assessment (SAKA; Appendix D). The data collected from these various instruments were utilized to address the research questions in the study.

Research Questions

Data from all three survey instruments addressed Research Question 1 of the study: "What are the relationships among career maturity, career decision self-efficacy, and self-advocacy for college students?" It was hypothesized that college students who had high career decision self-efficacy would also demonstrate high career maturity scores. In addition, it was hypothesized that college students with high self-advocacy

scores would also demonstrate high career maturity scores, whereas students who had low career decision self-efficacy and were not able to self-advocate would have lower career maturity scores. Data from the Attitude Scale of the Career Maturity Inventory-Revised, the Career Decision-Making Self-Efficacy Scale-Short Form, and the Self-Advocacy Knowledge Assessment provided a measure of the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability and answered Research Question 2: "Is there a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability?" It was hypothesized that the level of career decision self-efficacy, self-advocacy, and career maturity scores of students with disabilities would differ from students without disabilities. Data from the Attitude Scale of the Career Maturity Inventory-Revised, the Career Decision-Making Self-Efficacy Scale-Short Form, and the Self-Advocacy Knowledge Assessment provided information on how career maturity and career decision self-efficacy influenced college students with disabilities who had high self-advocacy scores versus students who had low self-advocacy scores answered Research Question 3: "Do college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy?" It was hypothesized that students with disabilities who had high levels of self-advocacy would have higher levels of career maturity, and students with disabilities who had high levels of self-advocacy would have higher levels of career decision self-efficacy. Collectively, the assessments and the Demographic Questionnaire Form provided a measure of which variable was a better determinant of the overall career maturity of college students with a disability and also answered Research Question 4: "Can the career maturity of college students with disabilities be explained by age, gender, ethnicity, higher educations status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy?" It was hypothesized that students with disabilities would be differentially affected by age,

gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy.

Research Results

The results of the statistical analysis are presented in five separate sections of this chapter. The first section presents demographic data obtained from the sample. Section 2 describes the relationship among the variables of career maturity, career decision self-efficacy, and self-advocacy for college students with and without a disability. Section 3 discusses the difference in levels of career maturity, career decision self-efficacy, and self-advocacy between college students with and without a disability. Section 4 discusses the influence of the constructs of career maturity and career decision self-efficacy on students who can and cannot self-advocate. Finally, Section 5 addresses what predictor variable is the best contributor to the career maturity of college students with disabilities.

Demographic Information

The total sample of 347 participants was recruited from a community college and a large university in the Midwest. Basic demographic information was requested of each participant via the DQF. The demographic information included gender, age, current major, current career choice, ethnicity, higher education status, type of disability, age when diagnosed, and current use or non-use of disability services. Additional information gathered from students with a disability included use of disability services in high school, use of a transition program in high school, and an explanation as to why the student was not currently using disability services.

The sample was largely female (n = 242; 69.7%) versus male (105). The participants' ages ranged from 17 to 48 years, with students in the age group of 17-24 representing the largest percentage (86.7) of the participants. For race, the sample consisted of 80.7% White non-Hispanic; 6.1% African American; 5.5% Asian or Asian American, 5.2% Hispanic or Latino, .3% American Indian or Alaska Native, and 2.0% who reported "other." The participants' educational status ranged from 0-30 credit hours

(*n* = 111; 32%) to 125 credit hours or more (*n* = 20; 5.8%), with 1 (.3) participant who was not sure and 2 (.6) participants who did not respond to this item. Participants also indicated they had completed 31-60 credit hours (*n* = 58; 16.7%), 61-90 credit hours (*n* = 75; 21.6%), and 91-124 credit hours (*n* = 80; 23%). A summary of the pertinent demographic information used in this study is presented in Table 1.

The additional questions on the DQF were specific to students with disabilities (see Table 2). The sample included 25.6% (*n* = 89) students with a disability. The students with a disability sample included 37.1% (*n* = 33) males and 62.9% (*n* = 56) females. The participants' ages ranged from 17 to 48 years, with the majority of the participants (*n* = 68; 76.4%) in the 17-24 range. In the population of students with a disability, 27% (*n* = 24) did not disclose information about their disability. This was not surprising to the researcher as many students typically have concerns about disclosure of their disability because of the stigma of accommodations (Dowrick et al., 2005). The additional demographic questions from the SAKA (Questions 21 and 22) assisted with identifying students who did not report they had a disability. The next largest group of students with a disability were those students with learning disorders (*n* = 23; 25.8%) followed by students with mental disorders (*n* = 22; 24.7%). It was not surprising that these were the largest groups as they were the students who had learning disorders (LD), Attention Deficit Disorder, and Attention Deficit Hyperactivity Disorder (ADHD). According to Brinckerhoff et al. (2002), students with LD comprised nearly half the number of postsecondary students with disabilities, and the numbers of college students with ADHD have rapidly increased in recent years (Gaddy, 2008; Wedlake, 2002). Additionally, 6.7% of the students reported having an anxiety disorder, 9% reported having general medical conditions, and 6.7% reported having a physical disability. Less than half (*n* = 41; 46%) of the participants reported that they were presently using disability support services, with more than half (*n* = 47; 52.8%) reporting that they were not using disability support services.

Table 1. Demographic Information for All Participants

Variable	*n*	Percent
Gender		
Male	105	30.3
Female	242	69.7
Age of Participants		
17-24 Years	301	86.7
25-44 Years	41	11.8
45-65 Years	3	.9
Did not respond	2	.6
Ethnicity		
American Indian or Alaska Native	1	.3
Asian or Asian American	19	5.5
Black or African American	21	6.1
Hispanic or Latino	18	5.2
White, non Hispanic or Latino	280	80.7
Other	7	2.0
Did not respond	1	.3
Higher Education Status		
0-30 Credit Hours	111	32
31-60 Credit Hours	58	16.7
61-90 Credit Hours	75	21.6
91-124 Credit Hours	80	23
125 Credit Hours and above	20	5.8
Not Sure	1	.3
Did not respond	2	.6

Table 2. Demographic Information for Students with a Disability

Variable	*n*	Percent
Gender		
Male	33	37.1
Female	56	62.9
Age of Students with a Disability		
17-24 Years	68	76.4
25-44 Years	16	18
45-65 Years	3	.9
Did not respond	2	.6
Ethnicity		
White	65	73
Other	24	27
Higher Education Status		
0-30 Credit Hours	51	57.3
31-60 Credit Hours	12	13.5
61-90 Credit Hours	7	7.9
91-124 Credit Hours	14	15.7
125 Credit Hours and above	4	4.5
Did not respond	1	1.1
Disability Groups		
Anxiety Disorder	6	1.7
General Medical Condition	8	2.3
Learning Disorder	23	25.8
Mental Disorder	22	24.7
Physical Disability	6	1.7
Did not Disclose	24	6.9
Currently Using Disability Support Services		
Yes	41	46.0
No	47	52.8
Did not respond	1	1.1

Results for Research Question 1

What are the relationships among career maturity, career decision self-efficacy, and self-advocacy for college students? Hypothesis 1 proposed that college students who had high career decision self-efficacy would also demonstrate high career maturity scores. In addition, college student with high self-advocacy scores would also demonstrate high career maturity scores. However, college students who had low career decision self-efficacy scores and were not able to self-advocate would have lower career maturity scores as measured by the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Attitude Scale of the Career Maturity Inventory-Revised.

To test these hypotheses, correlations were computed among (a) the Attitude Scale of the Career Maturity Inventory-Revised, (b) the Career Decision-Making Self-Efficacy Scale-Short Form, and (c) the Self-Advocacy Knowledge Assessment. For the entire population sample, the overall mean and standard deviations for each variable is as follows; career maturity (Mean = 17.44, SD = 3.25), career decision self-efficacy (Mean = 3.82, SD = .61), and self-advocacy (Mean = 12.33, SD = 3.94).

Correlations among the various assessment measures demonstrated that there was a relationship between career maturity, career decision self-efficacy, and self-advocacy for all the college student participants (see Table 3). The Attitude Scale of the CMI-R demonstrated statistical significance with all the measurements used in the study at α =.01 significance level. The investigator found that the Attitude Scale of the CMI-R was positively correlated with both the CDMSE-SF Total Score (r =.44; n = 347; p = <.001) and the SAKA (r = .32; n = 347; p = <.001). Additionally, the CDMSE-SF was significant but weakly correlated with the SAKA (r = .17; n = 347; p = <.001).

As expected, the researcher found a relationship between career maturity, career decision self-efficacy, and self-advocacy, and thus was able to reject the null hypothesis.

Specifically, college students' career decision self-efficacy, self-advocacy, and career maturity had a positive relationship with one another.

Table 3. Correlations Between Measures of Career Maturity, Career decision self-efficacy, and Self-Advocacy

Measure/Variable	CMIR-A	SAKA	CDMSE-SF
CMIR – Attitude	1.000		
SAKA	.32** (r^2 = .10)	1.000	
CDMSE-SF	.44** (r^2 = .19)	.17** (r^2 = .03)	1.000

Note: ** = Correlation is significant at the .01 level (1 tailed).

Results for Research Question 2

Is there a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability? The participants either had a disability (*n* = 89) or they did not have a disability (*n* = 258). Hypothesis 2 proposed that the career decision self-efficacy, self-advocacy, and career maturity scores of students with disabilities would differ from students without disabilities as measured by the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Attitude Scale of the Career Maturity Inventory-Revised.

To test this hypothesis, a multivariate analysis of variance (MANOVA) was computed with the independent variable (students with a disability and students without a disability) and the dependent variables (career maturity, career decision self-efficacy, and self-advocacy). As hypothesized, the overall MANOVA result was statistically significant at $\alpha = .05$ ($\lambda = .903$; F = 12.234; $p = <.001$). Follow-up one-way ANOVAs revealed a significant difference between groups on career maturity attitude (F = 5.03; *df* = 1, 345; *p* = .03) and self-advocacy (F = 35.18; *df* = 1, 345; *p* = <.001). To further

examine how students with and without a disability differed in career maturity and self-advocacy, an analysis of the mean scores was conducted (see Table 4). The mean scores revealed that the career maturity of students without a disability (n = 258; Mean = 17.67) was higher than the career maturity of students with a disability (n = 89; Mean = 16.78). Further analysis of self-advocacy revealed that the self-advocacy skills of students without a disability (n = 258; Mean = 13.03) were higher than the self-advocacy skills of students with a disability (n = 89; Mean = 10.29). However, the result for the CDMSE-SF Scale was not statistically significant at $\alpha = .05$ ($F = .027$; $df = 1,345$; $p = .869$), indicating that the career decision self-efficacy scores were similar for students with and without a disability. Therefore, there was not enough evidence to conclude that the groups were different in relation to their career decision self-efficacy.

The null hypothesis was rejected for career maturity and self-advocacy and accepted for career decision self-efficacy. The mean scores of college students with disabilities were lower for career maturity and self-advocacy. Unexpectedly, there was no difference in the career decision self-efficacy scores for the two groups of students.

Table 4. Means and Standard Deviation for the Analyses of Variance (ANOVA)

Dependent Variable	Students with a Disability n = 89	Students without a Disability n = 258	F	*p*
CMIR-Attitude			5.03	.03*
M	16.78	17.67		
SD	3.44	3.16		
CDMSE-SF			.03	.87
M	3.81	3.82		
SD	.64	.61		
SAKA			35.179	<.001*
M	10.29	13.03		
SD	4.46	3.49		

Note: * = Significant at .05 alpha level

Results for Research Question 3

Do college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy? Hypothesis 3 proposed that students with disabilities who had a high level of self-advocacy would have higher levels of career maturity and students with disabilities who had a high level of self-advocacy would have higher levels of career decision self-efficacy as measured by the CDMSE-SF, the SAKA, and the Attitude Scale of the CMI-R.

To test this hypothesis, a MANOVA was computed with students who scored high and low on the SAKA scale as the independent variable utilizing a cut score. The cut score is the point that separates the upper from the lower groups. For the purposes of this research, the cut score separates the students who have high self-advocacy knowledge from those who have low self-advocacy knowledge. Previous researchers utilized a cut score of 90% or 18 out of 20 to determine if a student had adequate knowledge of self-advocacy skills (Kissel, 2006). For the purposes of this research, the cut score was lowered from 18 to 14. The cut score was changed to 14 for several reasons; first, having a cut score of 14 would mean that the individual answered 6 items incorrectly, which is an adequate rate for a 20-item multiple choice assessment. Second, the original cut score of 18 was so high that it could cause many of the correct items to be eliminated (Shultz & Whitney, 2005). Finally, another consideration was the concern of false negatives and false positives (Dent & Harden, 2009). In an effort to minimize false negatives, the cut score was set at 14. Students who got 14 or more correct items were considered to have high self-advocacy. Students who got 7 or more incorrect items were considered as having a low self-advocacy.

The dependent measures were the CMI total score and the CDMSE-SF scale total score. The overall MANOVA result revealed that the dependent variables were significantly different at $\alpha = .05$ ($\lambda = .90$; $F = 4.97$; $p = .01$) for career maturity and

career decision self-efficacy. This outcome was followed up with univariate ANOVAs on each dependent variable, and only the career maturity attitude (F = 9.82; *df* = 1, 87; *p* = .00) was significant for the two groups, indicating that there was a difference in the career maturity attitude of the students who had a high versus a low SAKA score. To further examine how students with high versus low self-advocacy scores differed in career maturity and career decision self-efficacy, an analysis of the mean scores was conducted. The mean scores revealed that the career maturity of students who had high self-advocacy knowledge based on the SAKA (*n* = 25; Mean = 18.52) was higher than the students who had low self-advocacy knowledge (*n* = 64; Mean = 16.09).

ANOVA results for the CDMSE-SF score (F = 1.14; *df* = 1, 87; *p* = .29) were not significant for the two groups. Therefore, there was not enough evidence to conclude that students with high versus low self-advocacy knowledge were different in relation to career decision self-efficacy (see Table 5).

The null hypothesis was retained that college students with disabilities who had high levels of self-advocacy knowledge would have higher levels of career maturity; however, there was no difference in the levels of self-advocacy and career decision self-efficacy of college students with disabilities.

Table 5. Means and Standard Deviation for the Analyses of Variance (ANOVA)

Dependent Variable	Students with High SAKA n=25	Students without Low SAKA n=64	F	*p*
CMI-R Attitude			9.82	.00*
M	18.52	16.09		
SD	2.62	3.50		
CDMSE-SF			1.14	.29
M	3.92	3.76		
SD	.59	.66		

Note: * = Significant at .05 alpha level

Results for Research Question 4

Can the career maturity of college students with disabilities be explained by age, gender, ethnicity, higher educations status, type of disabilities, use of disability services, self-advocacy, and career decision self-efficacy? Hypothesis 4 proposed that students with disabilities would be differentially affected by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy as measured by their response on the Demographic Questionnaire Form, the Career Decision-Making Self-Efficacy Scale-Short Form, the Self-Advocacy Knowledge Assessment, and the Attitude Scale of the Career Maturity Inventory-Revised. To answer Research Question 4, listwise deletion was used. The sample of students was reduced from 89 participants to 64 participants. A listwise deletion removes participants who have missing data on any of the variables entered into the regression analysis. The same data set was used to compute correlations for Research Question 4.

To test the hypothesis, correlations were computed between the predictor variables and the criterion (outcome) variables. The predictor variables were (a) age, (b) gender, (c) ethnicity, (d) higher education status, (e) type of disability, (f) use of disability services (g) ability to self-advocate, and (h) career decision self-efficacy. For the purposes of this research question, age was grouped into four categories: (a) 17-24, (b) 25-44, (c) 45- 65, and (d) 65 and above. Gender was entered as male or female, and ethnicity was defined as White or other. Higher education status was defined as the number of semester hours the participants completed and was grouped into the following categories: (a) 0-30 credit hours, (b) 31-60 credit hours, (c) 61-90 credit hours, (d) 91-124 credit hours, and (e) 125 credit hours and above. The types of disabilities were identified by the participants and they were grouped into the following categories: (a) general medical conditions, (b) mental/anxiety disorders, (c) learning disorders, and (d) physical disabilities. The different types of disabilities were entered as four separate dichotomous variables. Use of disability services was used to assess whether the individuals were

receiving disability support services at their present institutions and was placed in either the yes or the no category. To further understand the relationships and evaluate the ability of each variable to statistically predict career maturity, hierarchical regression analysis was conducted. The independent variables were entered in the following order for the hierarchical regression. First, general demographic information was entered. The investigator felt it was important to enter controlled variables first to examine potential difference within this group. Second, higher education status was entered. Third, types of disabilities were entered. Fourth, the use of disability services was entered. In the fifth and sixth steps, the measures were entered in chronological order. The dependent variable for this question was career maturity and the independent variables were age, gender, and ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy.

Correlations were computed among the independent variables (age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy) and career maturity. The Attitude Scale of the CMI-R was positively correlated only with ethnicity, higher education status, self-advocacy, and career decision self-efficacy at $\alpha = .05$ (see Table 6). The investigator found that the Attitude Scale of the CMI-R correlated with ethnicity ($r = .263$, $n = 64$, $p = .018$), higher education status ($r = .264$, $n = 64$, $p = .018$), the SAKA ($r = .460$; $n = 64$; $p = <.001$), and the CDMSE-SF Total Score ($r = .408$; $n = 64$; $p = <.001$).

In a subsequent step, to further examine how the independent variables explained career maturity, a hierarchical regression analysis was conducted. The regression analysis was composed of the following hierarchical steps.

Table 6. Correlations Between Measure of Career Maturity, Demographic Variables, and Additional Variables

Measure/Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. CMIR – Attitude	1.000											
2. Age	-.075	1.000										
3. Gender	-.054	-.026	1.000									
4. Ethnicity	.263*	-.426**	-.105	1.000								
5. Higher Education Status	.264*	.170	-.198	.124	1.000							
6. General Medical Condition	.054	.140	.000	-.125	.219*	1.000						
7. Mental/Anxiety Disorder	.-.034	-.104	.033	.191	-.120	-.333**	1.000					
8. Learning Disorder	.031	-.200	-.085	-.066	-.057	-.274**	-.630**	1.000				
9. Use of Support Services	.-.041	-.285**	.289**	.011	-.185	-.182	-.133	.310**	1.000			
10. SAKA	.460**	.093	-.136	.175	.594**	.018	.170	-.262*	-.152	1.000		
11. CDMSE-SF	.408**	-.136	.043	.083	.225*	.041	-.202	.168	.254*	.264*	1.000	

Note: ** Correlation is significant at the 0.01 level (1 tailed), * Correlation is significant at the 0.05 level (1 tailed).

Step 1. The first sequential step entered the general demographic variables of (a) age, (b) gender, and (c) ethnicity. The variables were entered as a cluster of control variables. Gender was entered as a dichotomous variable, male or female. Ethnicity was also entered as a dichotomous variable, White or other. A scale from 1 to 4 was used to represent the age of the respondents, with 1 representing 17-24, 2 representing 25-44, 3 representing 45- 65, and 4 representing 65 and above. The result for this first step was a statistically non-significant R^2 equal to .07 ($F(3, 60) = 1.541$, $p = .21$).

Step 2. The second step of the regression analysis entered the higher education status of the participants. This refers to the number of semester hours completed by the participants. A scale from 1 to 5 was used to represent the number of semester hours the participants completed in which 1 represented 0-30 credit hours, 2 represented 31-60 credit hours, 3 represented 61-90 credit hours, 4 represented 91-124 credit hours, and 5 represented 125 credit hours and above. The result was a statistically non-significant R^2 change equal to .05 ($F(1, 59) = 3.58$, $p = .09$). The overall R^2 was .12, which was non-significant. Adding higher education status in Step 2 resulted in a 5.3% change in R^2 but it was not a significant change.

Step 3. The third step of the regression analysis entered the types of disability, which included (a) general medical conditions, (b) mental/anxiety disorders, (c) learning disorders, and (d) physical disabilities. These were categorical variables; therefore, they were coded as dummy variables and entered into the analysis as four separate dichotomous variables. Unexpectedly, the result was a statistically non-significant R^2 change equal to .01 ($F(3, 56) = .15$, $p = .31$). The overall R^2 was .13, which was non-significant. Adding types of disability in Step 3 resulted in only a 1% change in R^2 that was non-significant.

Table 7. Career Maturity Attitude Hierarchical Regression Analysis

	R^2	R^2 Change	F Change	*p* Change	β	*P*
Step 1	.072	.072	1.541	.213		
Age					.044	.753
Gender					-.023	.854
Ethnicity					.279	.048*
Step 2	.124	.053	3.548	.065		
Age					-.019	.893
Gender					.018	.888
Ethnicity					.227	.107
Higher Education Status					.242	.065
Step 3	.131	.007	.151	.928		
Age					.011	.942
Gender					.027	.834
Ethnicity					.251	.092
Higher Education Status					.231	.094
General Medical Condition					.083	.653
Mental/Anxiety Disorder					.051	.832
Learning Disorder					.120	.617
Step 4	.132	.001	.039	.844		
Age					.005	.977
Gender					.035	.796
Ethnicity					.250	.096
Higher Education Status					.229	.100
General Medical Condition					.080	.669
Mental/Anxiety Disorder					.049	.840
Learning Disorder					.126	.605
Use of Support Services					.-029	.844
Step 5	.298*	.166	12.808	.001**		
Age					.018	.900
Gender					.059	.634
Ethnicity					.226	.098
Higher Education Status					-.105	.502
General Medical Condition					.190	.275
Mental/Anxiety Disorder					.065	.765
Learning Disorder					.299	.191
Use of Support Services					-.041	.755
Self- Advocacy					.547	.001**

Table 7. (continued)

	R^2	R^2 Change	F Change	*p* Change	β	*P*
Step 6	.369**	.071	5.974	.018*		
Age					.055	.696
Gender					.047	.696
Ethnicity					.223	.089
Higher Education Status					-.131	.382
General Medical Condition					.182	.275
Mental/Anxiety Disorder					.123	.559
Learning Disorder					.285	.193
Use of Support Services					-.113	.388
Self- Advocacy					.454	.004**
Self-Efficacy					.303	.018*

Note: ** Significant at the 0.01 level, * Significant at the 0.05 level.

Step 4. The fourth step of the regression analysis entered the participants' use of disability services. This was entered as dichotomous yes/no self-reports of the current use of disability services while in college. The result was a statistically non-significant R^2 change equal to .00 ($F(1, 55) = .04$, $p = .42$). The overall R^2 was .13, which was non-significant.

Step 5. The fifth step of the regression analysis entered the participant's ability to self-advocate as measured by the Self-Advocacy Knowledge Assessment. The addition of the Self-Advocacy Knowledge Assessment (SAKA) resulted in a statistically significant R^2 change equal to .17 ($F(1, 54) = 12.81$, $p = .02$). The overall R^2 was .30 which was significant at the .05 level. Adding self-advocacy scores in Step 5 resulted in a 16.6% change in R^2 which was significant.

Step 6. The sixth step of the regression analysis entered the participants' career decision self-efficacy scores as measured by the Career Decision-Making Self-Efficacy Scale. The addition of the Career Decision-Making Self-Efficacy Scale (CDMSE) resulted in a statistically significant R^2 change equal to .07 ($F(1, 53) = 5.97$, $p = <.001$).

The complete model (see Table 7) accounted for an overall R^2 of .37 or approximately 37% of the variance in career maturity attitude. After controlling for age, gender, and ethnicity, higher education status, type of disability, and use of disability services, self-advocacy and career decision self-efficacy were significant predictors.

Conclusion

The overall aim of this study was to expand on what we know about career maturity and career decision self-efficacy of college students with and without a disability by looking at the relationships among the constructs of career maturity, career decision self-efficacy, and self-advocacy. Furthermore, this study was conducted to add to the construct of career maturity and career decision self-efficacy by incorporating self-advocacy for college students with disabilities. Overall, there was evidence of a relationship between career maturity, career decision self-efficacy, and self-advocacy of college students with and without a disability. Hypothesis 1 proposed a relationship between career maturity, career decision self-efficacy, and self-advocacy. The results supported the hypothesis, providing evidence that there was a relationship between all three variables for both groups of college student participants. Hypothesis 2 proposed that the career decision self-efficacy, self-advocacy, and career maturity scores of students with disabilities would differ from students without disabilities. The results provided only partial support for this hypothesis. Students with and without disabilities differed only in career maturity and self-advocacy, with students without a disability having a higher mean score. Career decision self-efficacy was found not to be significant; therefore, the researcher could not conclude that the groups were different in relation to their career decision self-efficacy. Hypothesis 3 proposed that students with disabilities who had a high level of self-advocacy would have higher levels of career maturity and students with disabilities who had a high level of self-advocacy would have higher levels of career decision self-efficacy. The results provided only partial support for the hypothesis. The level of self-advocacy of students with disabilities differed only in career maturity, with

students who had a higher level of self-advocacy having higher levels of career maturity. However, there was not enough evidence to conclude that students' levels of self-advocacy affected their career decision self-efficacy. Hypothesis 4 proposed that students with disabilities would be differentially affected by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy. The results provided only partial support for the hypothesis. The initial analysis provided support for a relationship between career maturity and ethnicity, higher education status, career decision self-efficacy, and self-advocacy; however, in a subsequent analysis, only career decision self-efficacy and self-advocacy predicted career maturity. Overall, the results of this study provided preliminary evidence for the incorporation of the self-advocacy construct with the constructs of career maturity and career decision self-efficacy when working with college students with disabilities in career counseling. When assisting individuals with disabilities in the career process, it would be beneficial to incorporate career maturity, career decision self-efficacy, and self-advocacy into the session. Chapter 5 discusses these results along with implications of these findings, limitations of the study, and suggestions for further research.

CHAPTER V

DISCUSSION

The purpose of the present study was to investigate the relationship among career maturity, career decision self-efficacy, and self-advocacy of college students with disabilities. For the most part, the results presented in Chapter 4 suggested that there was a relationship between career maturity, career decision self-efficacy, and self-advocacy of the college student participants with and without a disability. Chapter 5 provides (a) a review of the study, (b) a discussion of the findings, (c) the limitations of the study, (d) implications, and (e) suggestions for further research.

Review of the Study

Over the past decade, the number of postsecondary students with disabilities has increased (Beauchamp & Kiewra, 2004; Burgstahler, 2001) and the number is expected to continue to climb; however, the grades (Wehman, 2001), graduation rates (Brinckerhoff et al., 2002), and completion rates (Rumrill, 2001) of students with disabilities are below those of students without disabilities. Furthermore, in terms of post-college success, postsecondary graduates with disabilities are more likely to be unemployed than those without disabilities (Roessler et al., 2001). There is a need for postsecondary institutions to adequately prepare students with disabilities for success while in college and post college. Several studies have looked at college students with disabilities in the areas of career maturity (Burkhead & Cope, 1984; Hitchings et al., 1998), self-advocacy (Beauchamp & Kiewra, 2004), and career decision self-efficacy; however, the literature review provided no evidence of studies that combined career maturity, career decision self-efficacy, and self-advocacy, and examined how they relate to one another. The purpose of the present study was to investigate the relationship between career maturity, career decision self-efficacy, and self-advocacy.

This study sought to expand knowledge about the constructs of career maturity, career decision self-efficacy, and self-advocacy, and the importance of merging these

variables when working with postsecondary students with disabilities. The research questions were constructed to understand how career maturity, career decision self-efficacy, and self-advocacy related to one another among college students with and without disabilities. Additionally, questions were constructed to increase the understanding of how students with disabilities differ among themselves as well as from students without disabilities in relation to career maturity, career decision self-efficacy, and self-advocacy. Overall, the results showed that there was a relationship between career maturity, career decision self-efficacy, and self-advocacy among these college students; however, the results only partially supported the expectations of the relationship among the variables with the students with disabilities.

Hypothesis 1 proposed a relationship between career maturity, career decision self-efficacy, and self-advocacy of college students. The results provided evidence that there was a correlative relationship between these constructs for the entire sample. The students who demonstrated high levels of career maturity also demonstrated higher levels of career decision self-efficacy and self-advocacy.

Hypothesis 2 proposed that college students with and without a disability differed in their levels of career maturity, career decision self-efficacy, and self-advocacy. Results provided only partial support for this hypothesis. Students with and without a disability differed only in their levels of career maturity and self-advocacy, whereas students without a disability demonstrated higher career maturity and self-advocacy. There was no difference in the career decision self-efficacy scores of the students.

Hypothesis 3 proposed that college students with disabilities who had a high level of self-advocacy would have a higher level of career maturity and career decision self-efficacy. Results provided only partial support for this hypothesis. Students who had a high level of self-advocacy skills also had a higher level of career maturity; however, there was no difference in the levels of self-advocacy and career decision self-efficacy of college students with disabilities.

Hypothesis 4 proposed that the career maturity of college students with disabilities would be differentially affected by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy. The results indicated that career maturity could be predicted by self-advocacy and career decision self-efficacy.

Discussion of the Findings

Participants responded to a Demographic Questionnaire Form, the Attitude Scale of the Career Maturity Inventory Scale-Revised, the Career Decision-Making Self-Efficacy Scale, and the Self-Advocacy Knowledge Assessment. The research questions guiding this study were:

1. What are the relationships among career maturity, career decision self-efficacy, and self-advocacy for college students?
2. Is there a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability?
3. Do college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy?
4. Can the career maturity of college students with disabilities be explained by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy?

The next section will discuss the population sample, the findings associated with each research question, and how these findings compare with existing literature.

Population Sample

A total of 347 postsecondary students, 89 of whom reported having a disability, participated in this study in the fall of 2009. The participants were students from a community college and a university in the Midwest. In the overall sample, the majority of participants self-identified as Caucasian female between the ages of 17-24. In the

students with disabilities sample, the majority of the participants self-identified as Caucasian, female, first-year students between the ages of 17 – 24 years who did not use disability services. As expected, the majority of the population of students with disabilities self-identified as having a learning disorder.

Major Findings for Research Question 1

The first research question sought to measure the relationship between career maturity, career decision self-efficacy, and self-advocacy of the total sample of college students. Career maturity is an individual's readiness to make career choices appropriate to age or developmental stage. Career decision self-efficacy is an individual's expectations regarding her or his ability to perform the specific tasks and behaviors related to careers. Self-advocacy is an individual's ability to understand his or her disability and how it impacts his or her functioning in society. These three factors can impact the success of college students. To answer this research question, correlation analysis was used to explore the relationship between the three variables. As presented in Chapter IV, the results indicated that there was a correlative relationship between these constructs for the total sample. This suggests that students with higher levels of career maturity also demonstrate higher levels of career decision self-efficacy and self-advocacy.

Based on the results of this study, there is a positive relationship between career maturity, career decision self-efficacy, and self-advocacy among college students. As the scores in one of the constructs increased, so did the scores in the others. Additionally, this study's results showed that career maturity and career decision self-efficacy were the most correlated (r=.44), career maturity and self-advocacy were the second most correlated (.32), and career decision self-efficacy and career maturity were the least correlated (.17). Based on the results of this research, it appears that as the students' attitude toward the career readiness process increased, so did their belief in their ability to make career decisions. Furthermore, the results show that as the students' self-advocacy

skills increased, so did their attitude toward the career readiness process. Although significant, the least correlated were career decision self-efficacy and self-advocacy. Those results show that as the students' self-advocacy increased, so did their belief in their ability to make career decisions. Those results inform individuals who work with students in career decision making that not only is career development important but part of the development involves career decision self-efficacy and self-advocacy. When considering the results of this study and working with individuals in the career process, one must first consider that individuals' attitude toward their readiness to make career choices and their belief in their ability to engage in career decision-making tasks has the strongest relationship. The next step in the process would be the individual's knowledge of self-advocacy skills and their attitude toward their readiness to make career choices. Finally, another important part of the process is individuals' ability to self-advocate and their belief in their ability to engage in career decision-making tasks.

Many researchers noted that students need a high level of career maturity and career decision self-efficacy to be successful in college, and these results show that the relationship between the two variables are positively related. Luzzo (1993b) was the first to examine the relationship between career decision-making self-efficacy and career decision-making attitude and skills, and he found a strong correlation between the two, which is similar to the results of this study.

Because this was the first study to investigate the relationship between career decision self-efficacy and self-advocacy, there was no comparison group with which to compare the results of all three variables. The literature review provided no studies that included self-advocacy and examined how it relates to career maturity and career decision self-efficacy. Researchers have studied constructs such as self-determination (Izzo & Lamb, 2002), self-concept, or locus of control (Kornspan & Etzel, 2001; Luzzo, 1995), but the literature review provided no studies that specifically researched the self-advocacy, career decision self-efficacy, and career maturity of college students. It is the

researcher's opinion that self-determination, self-concept, and locus of control do not measure the same constructs as self-advocacy. Self-determination, self-concept, and locus of control are internal motivators whereas self-advocacy is more action oriented. Career locus of control focuses on the extent to which students believe they are in control of their decisions about their career paths (Kornspan & Etzel, 2001). Super (1963) defined vocational self-concept as "the constellation of self-attributes considered by the individual to be vocationally relevant" (p. 20). Finally, self-determination can be defined as "a combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination" (Field et al., 1998, p. 2). In contrast, self-advocacy includes knowledge of self, knowledge of rights, communication, and leadership (Test et al., 2005). More importantly, self-advocacy includes having the ability to communicate what you know about your disability, to inquire about what you deserve based on your rights, and to be your own leader as opposed to having parents or student disability services staff speak for you. Those qualities are what make self-advocacy different from self-concept, self-determination, and locus of control. Given the difference in those variables, this research specifically explored the students' knowledge of how to advocate for themselves.

Major Findings for Research Question 2

The second research question sought to measure whether there was a significant difference in the career maturity, career decision self-efficacy, and self-advocacy of students with and without a disability. For this research question, a MANOVA test was conducted followed by an ANOVA. The hypothesis for this research question was only partially supported. The hypothesis that the level of self-advocacy and career maturity scores of college students with disabilities would differ from students without disabilities was supported. The results revealed that the career maturity of students without a

disability was higher than the career maturity of students with a disability. Additionally, the self-advocacy skills of students without a disability were higher than the self-advocacy skills of students with a disability. The hypothesis that the level of career decision self-efficacy of college student with disabilities would differ from students without disabilities was not supported. The results revealed that the career decision self-efficacy scores were similar for students with and without a disability.

It is not surprising to the researcher that career maturity was higher for students with a disability. However, although students without a disability had higher career maturity scores, the scores did not vary by a large amount. Specifically, there was less than a 1-point difference in the mean score of students with (16.78) and without (17.67) a disability in their career maturity. Those results suggest that although the scores of student with disabilities were higher, the different was minimal; therefore, all students could benefit from more focus on career maturity skills. The findings between students with and without disabilities was not surprising as researchers have noted that individuals with disabilities (IWDs) are not as successful in higher education as individuals without a disability (Izzo & Lamb, 2002; Murray et al., 2000; Stodden, 2001). This could be true for several reasons: (a) Many programs in college do not fully include students with disabilities in terms of career preparation (Burgstahler, 2001), (b) disability service providers are not competent in all areas of career development counseling, and (c) transition programs are not adequately preparing students for postsecondary education. Much research has been conducted that has compared and contrasted students with and without a disability, and the findings have been similar to this study, with the results revealing that students with disabilities have less career maturity than students without disabilities (Biller, 1988; Bingham, 1980; Fafard & Haubrich, 1981; Hitchings et al., 1998). Similarly, previous research has indicated that IWDs have lower levels of career maturity than their peers without a disability (Beauchamp & Kiewra, 2004; Bingham, 1978; Kendall, 1980; Hitchings et al., 1998).

The results showed that students with disabilities had lower self-advocacy knowledge than students without disabilities. It could be assumed that students with disabilities would have more self-advocacy knowledge, but this research did not support this assumption. The results showed that students without disabilities had more knowledge of disability rights than students with disabilities. Furthermore, there was a large difference in the mean between students with (Mean = 10.29; SD = 4.46) and without (Mean = 13.03; SD = 3.49) disabilities. These results show that the mean scores of students with disabilities were much lower than for students without disabilities. Moreover, there was a large standard deviation among the scores, indicating that the scores were widely dispersed among both groups. Nevertheless, the results demonstrated that the self-advocacy knowledge of student with disabilities was much lower than students without disabilities. This shows that although a student does not have a disability, he or she can still have knowledge about the self-advocacy process. Those results tell us that we cannot assume that individuals with disabilities are not getting the necessary self-advocacy training they need in high school and that when working with individuals with disabilities in college, we should include a self-advocacy component. Basically, it is imperative that individuals who provide services to students with disabilities emphasize the self-advocacy component. The question as to why the students with disabilities had less self-advocacy knowledge is one that remains to be answered. One probable solution to this would be to teach self-advocacy skills to IWDs at the secondary level, and when they attend postsecondary institutions, the students would be able to implement the skills they have learned. The lower self-advocacy scores of students with a disability possibly could explain why the career maturity of students without a disability was higher. Future research could examine why the level of self-advocacy of students with disabilities might be lower than for students without a disability.

There was no difference found between college students with and without disabilities in relation to career decision self-efficacy. More specifically, the findings of this research study showed that the scores of college students with and without disabilities were similar in regard to career decision self-efficacy; this is similar to Taylor and Betz's (1983) study, which showed that college students on average have confidence in their ability to perform the tasks necessary for effective career decision making. The results show that all participants in this study believed in their abilities to engage in career tasks and behaviors, and for counselors or individuals who work with postsecondary students, it is important to strengthen their beliefs with the proper knowledge to progress in the career process. Although there was no difference noted in the career decision self-efficacy component, there was a difference noted between the career maturity and self-advocacy of students with and without disabilities. Therefore, it is imperative to build on the strengths while working on the weaknesses, which is career maturity and self-advocacy of students with disabilities. The next sections will further discuss the relationship between self-advocacy, career maturity, and career decision self-efficacy of college students with disabilities.

Major Findings for Research Question 3

The third research question sought to measure whether college students with disabilities who have high self-advocacy score differently on the constructs of career maturity and career decision self-efficacy than students who have low self-advocacy. For this research question, a MANOVA followed by an ANOVA test were conducted to assess whether a difference existed. The hypothesis for this research question was only partially supported. The hypothesis regarding the career maturity variable was supported, reflecting a difference (high vs. low career decision self-efficacy scores) between the means associated with career maturity for students with disabilities. The results suggested that the career maturity of students who had high self-advocacy knowledge was higher than for the students who had low self-advocacy knowledge. The hypothesis about the

career decision self-efficacy variable was not supported, reflecting no difference (high vs. low career decision self-efficacy scores) between the means associated with career decision self-efficacy for students with disabilities. The results suggested that there is no difference in the level of self-advocacy and career decision self-efficacy in college students with disabilities.

For the first part of the analysis, students with higher self-advocacy also had higher career maturity. According to Izzo and Lamb (2002), students need deliberate instruction on self-advocacy skills. With the appropriate implementation of self-advocacy skills when students with disabilities leave the supportive environment of school, they will be more likely to understand their strengths and needs well enough to explain the accommodations they need beyond high school (Test et al., 2005). In a study with similar findings, Ohler et al. (1996) looked at the career maturity of college students with learning disabilities and found that students who were able to request accommodations and self-advocate had higher levels of career maturity. The results of this research supported the view that students with disabilities need the knowledge, communication, and leadership skills necessary to ask for what they need in the career decision-making process.

Specifically, the results of this research revealed there was more than a two-point difference in the mean scores of students who had high versus low levels of self-advocacy. Therefore, the self-advocacy component is necessary to effectively address the needs of students with disabilities. For educators, counselors, or disabilities support services (DSS) staff, the results indicate that when working with students with disabilities, not only should the self-advocacy component be included but it should be one of the most important components to incorporate when working with individuals with disabilities.

For the second part of the analysis, there was no difference in students' self-advocacy scores and career decision self-efficacy. There may have been no significant

difference because despite their lack of knowledge to self-advocate, the students may have still believed they could make career decisions. However, having a belief that an individual can do a task is different from following through with the task. It is imperative that DSS staff assist students in making a connection between the students' beliefs in their ability to self-advocate and actual knowledge about their disability. Because this was the first study to explore the relationship between career decision self-efficacy and self-advocacy, there was no comparison group with which to compare the results.

Major Findings for Research Question 4

Hypothesis 4 proposed that the career maturity of college students with disabilities would be differentially affected by age, gender, ethnicity, higher education status, type of disability, use of disability services, self-advocacy, and career decision self-efficacy. To answer this research question, a correlation analysis was conducted to explore whether career maturity was affected by these variables. Additionally, a hierarchical regression analysis was conducted to evaluate how the independent variables explained career maturity. The results were partially supported in finding that the students' career maturity was somewhat related to their ethnicity, higher education status, self-advocacy, and career decision self-efficacy. The hierarchical analysis demonstrated that students' career maturity could be more precisely influenced by self-advocacy and career decision self-efficacy. In this study, the largest contributor (16%) to career maturity was the students' ability to self-advocate. Students with disabilities who had higher levels of career maturity also had higher levels of self-advocacy. The variables (self-advocacy and career decision self-efficacy) were found to contribute 24% to the students' career maturity. The remaining variables (age, gender, ethnicity, higher education status, type of disability, use of disability services) contributed 13% to the career maturity variable.

Postsecondary programs can address a number of nonacademic areas that will assist students with disabilities in the transition to adult life: (a) understanding and

acceptance of their disability (Adelman & Vogel; 1990; Dalke & Schmitt, 1987; Hoffman et al., 1987; Houck et al., 1989), (b) development of self-advocacy skills (McWhirter & McWhirter, 1990; Scheiber & Talpers, 1987), and (c) self-efficacy (Luzzo, 1995). Each of these areas was analyzed in addition to demographic (age, gender, and ethnicity) and other variables (higher education status, type of disability, and use of disability services) in relation to how they affected career maturity for this research question. The demographic variables of age, gender, and ethnicity have been evaluated in various studies and have had varying results. The current findings were similar to Luzzo (1993b), who found an absence of gender difference; Kennedy and Demick (1987), who found that ethnicity does not predict career maturity; and Ortlepp et al. (2002), who found a negative relationship between age and career maturity. The researcher was not surprised with the results of these findings as there have been many inconsistencies in reports about age, gender, and ethnicity. However, the researcher did assume that career maturity level would increase as credit hours increased, but this was not the case. One possible explanation is the fact that despite the increased number of credit hours, a student's self-advocacy did not increase. The present study did not support previous research that higher education status influences career maturity (McCaffrey et al., 1984). Type of disability and use of disability services did not affect career maturity. Contrary to what might be assumed, Ohler and Levinson's (1996) study found that the level of career maturity for students with learning disabilities who had a high number of accommodations was lower than for students with fewer accommodations. This may mean that students with more accommodations were more dependent on services and were not relying on themselves, which supports the view that providing accommodations is not enough; the student must have the knowledge and skills necessary to move forward in the career development process. The results of the Ohler and Levinson study suggested that DSS staff can handicap students by doing the bare minimum (just providing accommodations). This study supported findings that career decision self-efficacy and

self-advocacy are contributors to career maturity (Kornspan & Etzel, 2001; Lindstrom & Benz, 2002). In light of this research being the first study to combine the variables of career maturity, career decision self-efficacy, and self-advocacy, the results needs to be replicated.

Summary of the Findings

The results of this research showed that there was a relationship between career maturity, career decision self-efficacy, and self-advocacy for these college students. Further exploration comparing students with and without a disability found that the college students without a disability had higher levels of career maturity and self-advocacy. Examining within-group differences for students with disabilities regarding their ability to self-advocate showed that the higher their levels of self-advocacy, the higher their levels of career maturity. Further analysis provided evidence that self-advocacy and career decision self-efficacy explained the level of career maturity of the students with disabilities. These results provide evidence that when working with students with disabilities in the capacity of career development counseling, professionals should incorporate career maturity, career decision self-efficacy, and self-advocacy skills. Dowrick et al. (2005) wrote that there is a need to take a different approach to the career development of students with a disability. Based on the results of this study, the researcher presents a modification of Social Cognitive Career Theory Choice Model (see Figure J5), which can be utilized specifically with students with disabilities. Both the model and the modification of SCCT theory will be discussed in the implications for DSS staff section.

Limitations of the Study

There were limitations to this study, as there are with all studies. The most notable limitations were due to (a) homogeneous sample, (b) small number of ethnic minority participants, (c) small number of students with disabilities, (d) missing data, (e) convenience sampling, (f) two survey modalities, (g) two survey populations, (h) self-

reports/volunteers, (i), need for self-advocacy instrument, and (j) being the first study to combine career maturity, career decision self-efficacy, and self-advocacy. These limitations are discussed in the following paragraphs.

The first limitation was the homogeneous population sample. Approximately 69.7% of the participants in the study self-identified as female, which may not be representative of the entire undergraduate student population. It would be important to research if career maturity, career decision self-efficacy, and self-advocacy differ among males and females. Additionally, the majority, or 80.7 % of the participants in this study, self-identified as White, not Hispanic or Latino. This leads to the second limitation, which is the underrepresentation of ethnic minority participants. Luzzo (1995) noted that career development counseling research needs to address the needs of ethnic minority college students. This sample had a small population (17.1%) of ethnic minority students, with the largest ethnic minority group self-identifying as Black or African American (6.1%). Having the opportunity to investigate within-group differences could add valuable information to research on specific ethnicities.

The third limitation was related to the limited number of students with disabilities who participated in the study ($n = 89$). This number is not uncommon given other studies that looked at college students with disabilities; however, the smaller sample size of student with disabilities makes it difficult to generalize the results to the entire population of college students with disabilities. It is also not known how the current sample represented the entire population of students with disabilities. A fourth limitation was the fact that there were several instances of missing data among students with disabilities. Specifically, 25 surveys could not be utilized to answer Research Question 4 because of missing data. This means that the research might have gained more information about the relationship between career maturity, career decision self-efficacy, and self-advocacy if the sample of students with disabilities had been larger. In addition, many students did not disclose their type of disability. This is not uncommon among students with

disabilities, as many individuals choose not to disclose. There are several reasons why students with a disability do not disclose: (a) stigma associated with accommodations, (b) students and faculty often question the accommodations, and (c) faculty's unwillingness or inability to provide the accommodations (Dowrick et al., 2005).

Fifth, the convenience sampling bias was due to the fact that not all postsecondary students had the opportunity to participate in the study. The various classes in which the researcher distributed the surveys were preselected, thus automatically omitting some students. There was not enough evidence to conclude that the results of this study were not due to sampling error.

A sixth limitation is that two survey modalities were utilized: (a) paper based and (b) web based. Students had the option of completing the survey via web or paper. Groves et al. (2004) noted that different modes of data collection sometimes produce different results. Students had the same amount of time and privacy in which to complete the surveys, because the participants who completed the paper-based surveys had the option of completing the surveys in the privacy of their own homes. Seventh, there were two different survey populations (community college and large university) utilized for this study. The investigator did not separate out the survey results for the two groups; therefore, future research should explore the difference between these two groups.

Eighth, all of the information gathered was based on self-reports from the individual participants. Self-report measures have a social desirability response factor that was not controlled for in this study; thus, it may have affected the outcomes. Participants may have answered the questions based on what they perceived was socially desirable or how they thought other students would respond as opposed to being honest about their responses. Additionally, the students who completed the survey instruments were volunteers. Thus, they may have had different profiles than the general population of students.

The ninth limitation to the study was the instrument chosen to measure self-advocacy. Currently there is no instrument to measure self-advocacy that has been tested for both reliability and validity. As more researchers investigate self-advocacy, a measure needs to be created.

A final limitation of this study was that this is one of the first studies to investigate the relationship between career maturity, career decision self-efficacy, and self-advocacy. This made it difficult to have a comparison group with which to compare the findings regarding self-advocacy.

Overview of Implications

The results of this study showed evidence of the relationship of career maturity, career decision self-efficacy, and self-advocacy to an understanding of the career development of college students; furthermore, the results showed that students with disabilities who had a high level of self-advocacy also had a high level of career maturity and that career decision self-efficacy can explain the career maturity of students with disabilities. More importantly, this study demonstrated a significant association between career maturity, career decision self-efficacy, and self-advocacy of college students with disabilities. The results have important implications for postsecondary institutions and rehabilitation counseling professionals. First, it is important for postsecondary institutions to employ personnel who are competent across all three of the aforementioned areas. Second, postsecondary institutions should address the needs of students with disabilities by incorporating the three constructs when working with this population of students in any capacity. One way this can be accomplished is through the implementation of interventions or programs that address career maturity, career decision self-efficacy, and self-advocacy. Based on the findings of the present study, the researcher believes that, with a few adjustments, the SCCT Choice Model would serve as a useful tool for working with IWDs. Third, one group of professionals who are competent to incorporate career maturity, career decision self-efficacy, and self-advocacy are rehabilitation

counselors. Leahy, Chan, and Saunders (2003) outlined the major job functions and knowledge domain of certified rehabilitation counselors, and career maturity, career decision self-efficacy, and self-advocacy can be incorporated within each of those knowledge domains, thus making rehabilitation counselor competent across all three areas. Further explanation of these implications will be discussed in the following section.

Implications for Postsecondary Institutions

Research has shown that students with disabilities are entering postsecondary institutions at higher rates and that this rate will continue to increase; therefore, it is imperative that postsecondary institutions be prepared to address the needs of students with disabilities. Previous research has shown that career maturity (Frieh et al., 1996), self-efficacy (Luzzo, 1996), and self-advocacy (Lock & Layton, 2001) skills contribute to the success of students with disabilities in the college setting; furthermore, the results of this research show that there is a relationship between the three variables. Based on previous findings and the results of this research, it is important that individuals serving students with disabilities consider all three variables when working with students with disabilities.

Employ Competent Personnel

This research study shows that the career maturity, career decision self-efficacy, and self-advocacy of students with disabilities are related; therefore, to meet the needs of students with disabilities, DSS staff must have the ability to address the concerns of IWDs in all three areas. DSS staff must be competent across areas; for example, students may come to their college's DSS staff for assistance with vocational planning and personal counseling. DSS staff cannot always refer the student to the appropriate person because not all colleges have those services available. As a result, students may not receive all of the assistance they need because the DSS staff may lack competence or

resources in all relevant areas. Therefore, DSS staff should be competent to assist the student in all of those areas; however, it is unknown whether this is the case.

Furthermore, the results the current study showed that 53% of the participants who self-identified as having a disability did not currently utilize disability services. An explanation as to why students chose not to use disability support services or why those services were not used as often as needed could possibly be explained by the type of services provided by DSS offices. Dowrick et al.'s (2005) study participants discussed the importance of disability services and the need for coordination across support services. Additionally, the participants noted that the disability services office is often understaffed, they were not always aware of available services, and the focus should be on individual needs. It is necessary that postsecondary institutions be aware of who they are employing to work with students with disabilities and that they are sensitive to the needs of students with disabilities. The results of this study highlighted the relationship between career maturity, career decision self-efficacy, and self-advocacy; therefore, it is imperative that individuals who assist IWDs are competent across those areas.

Merge Career Maturity, Career Decision
Self-Efficacy, and Self-Advocacy

Based on the results of this research, it is imperative that postsecondary institutions develop programs for students with disabilities that are inclusive of career maturity, career decision self-efficacy, and self-advocacy constructs. Additionally, Beauchamp and Kiewra (2004) noted that students with disabilities are in a vulnerable position when it comes to developing a suitable level of career maturity, and these students need "specifically tailored assessments and interventions" (p. 156). However, student disability services providers in the college setting often lack knowledge in career development areas (Getzel et al., 2001; Rumrill, 2001). Career services offices often have little knowledge and expertise about disability services whereas disability services offices may have little knowledge and expertise about career services (Burgstahler, 2001;

Rumrill, 2001). When providing services to IWDs, there is a need to merge disability and career services. The results of this research showed that there was a relationship between career maturity and self-advocacy; therefore, professionals need to merge these constructs in order to improve career services to student with disabilities. The focus group results from Roessler et al. (2007) provided ideas regarding how this can be addressed with the recommendation that there should be a link between career services and disability support services. Getzel et al. (2001) proposed a model in which college students with disabilities would receive case managers to integrate academics and career planning into one intervention. Another approach to merge these services would be to have a liaison from career services and disability services in each other's offices so that the career counselor could assist students in the disability services office with career questions, and the disability services liaison could assist students with disabilities in the career services office with disability-related concerns (Roessler et al., 2007). Although these are useful suggestions, one manageable proposal would be to employ individuals who are competent across all three areas in addition to implementing theories and models that are inclusive of the three constructs.

Research to Practice – Proposed Model

DSS staff could possibly follow models or theories that merge the three variables of career maturity, career decision self-efficacy, and self-advocacy. Provided in this section is the Social Cognitive Career Theory Model of Person, Contextual, and Experiential Factors Affecting Career-Related Choice Behavior (SCCT Choice Model) and how it can be implemented to better serve IWDs through the merger of career maturity, career decision self-efficacy, and self-advocacy. Based on the results of the present study, the SCCT Choice Model with additions proposed by the researcher (Figure J4) could be utilized when merging the three constructs. Also, the SCCT Choice Model is a more recent model that can be useful with diverse populations. This research provides evidence that the self-advocacy component should be incorporated with career counseling

of college students with disabilities; therefore, a model that includes the construct of self-advocacy in combination with career maturity and career decision self-efficacy could be very effective for students with disabilities.

One barrier to IWDs gaining successful employment are employers' attitudes, stigma, and discrimination (Fabian & Liesner, 2005), which limit the career choices of the IWDs. The SCCT Choice Model is a useful model to consider when working with students with disabilities as it takes into account the fact that individuals make many choices as they go through life, and having a disability can influence the choice process. However, one limitation the researcher noted in the SCCT Choice Model is the lack of emphasis on the self-advocacy construct and specifically how the model can be applied to IWDs. Based on the results of this study, this model is a good beginning to merging the constructs of career maturity, career decision self-efficacy, and self-advocacy because it includes two of the three variables. Furthermore, results indicated that career decision self-efficacy and self-advocacy directly affect career maturity. Lent (2005) noted the importance of considering how other variables can influence an individual's choices. Based on the findings of this research, one such variable to consider is self-advocacy. The results of this study showed that among students with disabilities, those who had high self-advocacy scores also had high career maturity scores, meaning the higher the individual's self-advocacy, the higher his or her career maturity. The SCCT Choice Model takes into account the presence of a disability; therefore, with a few modifications, this model could be applied to IWDs.

Based on the results of this research, modifying the SCCT Choice Model through the incorporation of career maturity, career decision self-efficacy, and self-advocacy specifically for IWDs would provide additional patterns of performance. The following section explains how the SCCT Choice Model can be utilized with IWDs and presents a proposed model (see Figure J6).

Person inputs. Having a disability can directly affect an individual's ability to make choices; however, this does not have to be the case. Individuals' knowledge about their disability and how the disability impacts career decision making can eliminate many barriers. Also, with IWDs, it is important to consider when individuals acquired their disability as an approach to career counseling. Beveridge et al. (2002) identified three subgroups of persons with disabilities: those with pre-career onset disabilities, those with mid-career onset disabilities, and those with progressive or episodic disabilities.

Interests. Some individuals, specifically IWDs, may have to make occupational choices outside of their interests due to the limitations associated with their disability. Currently, the effect of limitations can be mitigated by the use of workplace accommodations; however, the individual and the employer must have knowledge of the accommodations that are available and reasonable. If individuals are not aware of the accommodations they are entitled to, they are more likely to choose a career they are not interested in based on their *self-efficacy* (what career they believe they can excel in based on their disability) or *outcome expectations* (what job they feel they will benefit the most from in regard to pay, time, etc.). Lindstrom and Benz's (2002) phases of career maturity are important to consider as IWDs go through the career decision-making process. The career decision phase of the individual (unsettled, exploratory, focused) must be considered in order to adequately address the individual's needs.

Background contextual affordances and contextual influences proximal to choice behavior. IWDs often are affected by the environment, which affects the choices they are able to make. Affordances from the environment are hardships that limit IWDs in their career development and include SCCT contextual affordance (skill development opportunities, disability) or contextual influence (environmental barriers, employer discrimination). According to SCCT theory, when individuals experience strong environmental supports and weak barriers in relation to their career paths, their career interests are more likely to turn into career goals (Lent, 2005). However, Lent wrote that

when individuals experience a non-supportive environment, hostile conditions, or strong barriers in relation to their career paths, their career interests, goals, and actions are impeded. These contextual influences are shown as *moderates* in Lent's SCCT Choice Model.

Learning experiences. Individuals also make choices based on what they know to be true. Ensuring that college students with disabilities have knowledge about their disability and are able to self-advocate would give them more options, realistic career decision self-efficacy beliefs and outcome expectations, and the ability to speak on their own behalf. Bandura (1977) outlined four sources of information through which self-efficacy expectations are learned: (a) performance accomplishments, (b) vicarious learning or modeling, (c) verbal persuasion, and (d) emotional arousal. In order to increase an individual's self-advocacy, performance accomplishments can be highlighted in the learning experiences component. As students gain knowledge about their disability, how to go about requesting accommodations can be a first step in increasing their self-advocacy behaviors. Bandura (1977) posited that as an individual performed the behavior and experienced successful outcomes, the likelihood increased that they would repeat that behavior.

Performance domains and attainments. Just as the research findings in this study suggest, increasing an individual's self-advocacy and career decision self-efficacy should lead to higher career maturity. Lent's (2005, p. 109) Choice Model suggested the following: Self-efficacy and outcome beliefs are seen as jointly influencing career-related *interests*, which tend to foster career choice *goals* (i.e., intentions to pursue a particular career path) that are congruent with an individual's interest. Goals, then, motivate choice *actions*, or efforts to implement goals (e.g., seeking relevant training, applying for certain jobs). These actions are followed by a particular pattern of performance successes and failures.

Future research should aim to implement the proposed addition to the SCCT Choice Model (see Figure J5) with students with disabilities and conduct follow-up studies to determine if implementation of the model creates success among IWDs both in college and post college.

Implications for Rehabilitation Counselors

College students with disabilities are not performing at the same level as their peers without disabilities (Brinckerhoff, McGuire, & Shaw, 2002; Rumrill, 2001), and many college and university programs do not fully include students with disabilities in terms of career preparation (Burgstahler, 2001). The present research study shows that career services alone do not address the needs of students with disabilities; therefore, it is imperative that individuals who assist IWDs are able to adequately address career maturity, career decision self-efficacy, and self-advocacy. Leahy, Chan, and Saunders (2003) identified the major knowledge domains of certified rehabilitation counselors as (a) career counseling; (b) assessment and consultation; (c) counseling theories, techniques, and applications; (d) rehabilitation services and resources; (e) health care and disability systems; (f) medical, functional, and environmental implications of disability; and (g) case and caseload management. These knowledge domains are very similar to those recommended for individuals who work with IWDs. For rehabilitation counselors, those knowledge domains are taught in their coursework, which can then be applied to practice (see Figure J6). Moreover, a rehabilitation counselor's scope of practice is defined as "a systematic process which assists persons with physical, mental, developmental, cognitive, and emotional disabilities to achieve their personal, career and independent living goals in the most integrated setting possible through the application of the counseling process. The counseling processes involve communication, goal setting, and beneficial growth or change through self advocacy, psychological, vocational, social and behavioral interventions" (Commission on Rehabilitation Counselor Certification, 2010). Given the results of the present research, the knowledge domains of a

rehabilitation counselor, and the rehabilitation counselor's scope of practice and counseling process, the researcher believes that rehabilitation counselors should be present in postsecondary settings to assist students with disabilities in career maturity, career decision self-efficacy, and self-advocacy.

Suggestions for Future Research

This study has initiated research into the relationship between self-advocacy, career maturity, and career decision self-efficacy in the career development process of college students with disabilities. An abundance of literature supports the importance of career maturity, career decision self-efficacy, and self-advocacy as individual constructs, but the literature review provided no studies that attempted to merge the three variables. Research needs to continue to explore these constructs and build upon and replicate this research. Specifically, when this study is replicated, the researcher should evaluate the subscales of the Career Decision-Making Self-Efficacy Scale. This study should be replicated with a larger sample size of students with disabilities. The present research found no difference in students with and without a disability in their level of career decision self-efficacy, nor did the researcher find a difference in the students' level of self-advocacy skills and career decision self-efficacy. An investigation is recommended on the constructs of career decision self-efficacy and self-advocacy to explore how these two variables compare.

Second, additional research on the application of the SCCT model to IWDs needs to be conducted, as well as comparing additional variables that should be considered when working with IWDs. Additionally, the researcher proposed a model (see Figure J6) based on the SCCT Choice Model. Future research should focus on implementing the proposed model with students with disabilities and conducting follow-up studies to determine if the implementation of the model creates career decision-making success among college students with disabilities.

Third, an investigation is warranted to assess whether disability service providers are competent in their knowledge of disabilities, career development, and counseling. Research shows that DSS staffs are not as knowledgeable in relevant areas when working with students with disabilities. More importantly, research should be conducted on individuals who are employed as DSS staff.

Fourth, the information gathered on students' self-advocacy skills was collected by the Self-Advocacy Knowledge Assessment developed by staff members at James Madison University (Kissell, 2006). Currently, there is no scale that measures the construct of self-advocacy. The most widely used measure of self-advocacy is the ARC's Self-Determination scale (Wehmeyer & Kelchner, 1995); however, this scale is normed with adolescents with mental illness and the scale measures self-determination, not self-advocacy specifically. It is imperative that researchers develop a scale to measure self-advocacy that is both reliable and valid.

Finally, the participants in this investigation were enrolled in a community college and a large university; however, their results were not separated by institution. A similar investigation that specifically looks at whether there is a difference between community college students and university students on the three constructs would contribute to the literature.

Conclusion

Chapter V presented a discussion of the results associated with the examination of the relationship between career maturity, self-advocacy, and career decision self-efficacy to understanding the career development of college students with a disability. The results suggested that there is a relationship between these variables with all college students. The results also indicated that students without a disability had higher career maturity and self-advocacy scores than students with a disability. When looking at within-group differences of students with a disability, the findings showed that students who had high self-advocacy also had high career maturity. The findings also suggested that career

decision self-efficacy and self-advocacy affect the career maturity of college students with disabilities and that there is a relationship between the career maturity, career decision self-efficacy, and self-advocacy of college students with a disability. These findings are important because of the gaps in success in college and post college for students with disabilities. By examining these significant relationships, this researcher attempted to develop a framework from the SCCT Choice Model for working with college students with disabilities. Additionally, this researcher attempted to combine factors that are important to the career development of postsecondary students with disabilities.

APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE FORM

Demographic Questionnaire Form

Part 1: Demographic Questionnaire

Below are questions that will assist in compiling data for this study. Please tell me about yourself. Read each question carefully and either fill in the blank or circle the appropriate response.

1. Gender: Male Female 2. Age: _____

3. If you have a current major, what is it: _____

4. If you have a current career choice, what is it: _____

5. Ethnicity: How do you describe yourself? (Please check the one option that best describes you)
   - _____ American Indian or Alaska Native
   - _____ Hawaiian or Other Pacific Islander
   - _____ Asian or Asian American
   - _____ Black or African American
   - _____ Hispanic or Latino
   - _____ White, non Hispanic or Latino
   - _____ Other

6. Higher Education Status (Please check the one option that best describes you)
   - _____ 0 – 30 credit hours
   - _____ 31 – 60 credit hours
   - _____ 61 – 90 credit hours
   - _____ 91 – 124 credit hours
   - _____ 125 credit hours and above

Part 2: Disability Questionnaire

(If you have **EVER** been diagnosed with a disability, please complete the following Section) n._____

Type of Disability: _____

Age when you were diagnosed with the disability: _____

Did you receive services in high school? Yes No

Did you attend a transition program in high school? (Program to assist you with information about disability support services in college Yes No

Are you currently using disability support services from the college? Yes No
If no, please explain:

_____

APPENDIX B

CAREER MATURITY INVENTORY-REVISED

ATTITUDE SCALE

Career Maturity Inventory - Attitude Scale

Read each statement and blacken the circles for whether you Agree "A" or Disagree "D" with the statement provided.

	A	D
1. Everyone seems to tell me something different; as a result I don't know what kind of work to choose.	O	O
2. It's probably just as easy to be successful in one occupation as it is in another.	O	O
3. I have little or no idea what working will be like.	O	O
4. Once you choose a job, you can't choose another one.	O	O
5. I keep wondering how I can reconcile the kind of person I am with the kind of person I want to be in my future occupation.	O	O
6. Sometimes you have to take a job that is not your first choice.	O	O
7. Work is dull and unpleasant.	O	O
8. I can't understand how some people can be so certain about what they want to do.	O	O
9. As far as choosing an occupation is concerned, something will come along sooner or later.	O	O
10. Choosing an occupation is something you have to do on your own.	O	O
11. As long as I remember, I've known what kind of work I want to do.	O	O
12. There may not be any openings for the job I want most.	O	O
13. I don't know how to go about getting into the kind of work I want to do.	O	O
14. There is no point in deciding upon a job when the future is so uncertain.	O	O
15. I spend a lot of time wishing I could do work I know I can never do.	O	O
16. If someone would tell me which occupation to enter, I would feel much better.	O	O
17. I know very little about the requirements of the job.	O	O
18. When choosing an occupation, you should consider several different ones.	O	O
19. There is only one occupation for each person.	O	O

	A	D
20. The best thing to do is to try out several jobs, and then choose the one you like best.	O	O
21. You get into an occupation mostly by chance.	O	O
22. I seldom think about the job I want to enter.	O	O
23. You almost always have to settle for a job that's less than you had hoped for.	O	O
24. I really can't find any work that has much appeal to me.	O	O
25. I'd rather work than play.	O	O

APPENDIX C

CAREER DECISION MAKING SELF-EFFICACY SCALE-SHORT FORM

Career Decision Making Self-Efficacy Scale-Short Form

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

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

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

If your response was "Moderate Confidence," you would fill In the circle for "Moderate Confidence" on the answer sheet.

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

	COMPLETE CONFIDENCE	MUCH CONFIDENCE	MODERATE CONFIDENCE	VERY LITTLE CONFIDENCE	NO CONFIDENCE AT ALL
1. Find information in the library about occupations you are interested in.	O	O	O	O	O
2. Select one major from a list of potential majors you are considering.	O	O	O	O	O
3. Make a plan of your goals for the next five years.	O	O	O	O	O
4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.	O	O	O	O	O
5. Accurately assess your abilities.	O	O	O	O	O
6. Select one occupation from a list of potential occupations you are considering.	O	O	O	O	O
7. Determine the steps you need to take to successfully complete your chosen major.	O	O	O	O	O
8. Persistently work at your major or career goal even when you get frustrated.	O	O	O	O	O
9. Determine what your ideal job would be.	O	O	O	O	O

	COMPLETE CONFIDENCE	MUCH CONFIDENCE	MODERATE CONFIDENCE	VERY LITTLE CONFIDENCE	NO CONFIDENCE AT ALL
10. Find out the employment trends for an occupation over the next 10 years.	O	O	O	O	O
11. Choose a career that will fit your preferred lifestyle.	O	O	O	O	O
12. Prepare a good resume.	O	O	O	O	O
13. Change majors if you do not like your first choice.	O	O	O	O	O
14. Decide what you value most in an occupation.	O	O	O	O	O
15. Find out about the average yearly earnings of people in an occupation.	O	O	O	O	O
16. Make a career decision and then not worry whether it was right or wrong.	O	O	O	O	O
17. Change occupations if you are not satisfied with the one you enter.	O	O	O	O	O
18. Figure out what you are and are not ready to sacrifice to achieve your career goals.	O	O	O	O	O
19. Talk with a person already employed in a field you are interested in.	O	O	O	O	O
20. Choose a major or career that will fit your interests.	O	O	O	O	O
21. Identify employers, firms, and institutions relevant to your career possibilities.	O	O	O	O	O
22. Define the type of lifestyle you would like to live.	O	O	O	O	O

	COMPLETE CONFIDENCE	**MUCH CONFIDENCE**	**MODERATE CONFIDENCE**	**VERY LITTLE CONFIDENCE**	**NO CONFIDENCE AT ALL**
23. Find information about graduate or professional schools.	**O**	**O**	**O**	**O**	**O**
24. Successfully manage the job interview process.	**O**	**O**	**O**	**O**	**O**
25. Identify some reasonable major or career alternatives if you are unable to get your first choice.	**O**	**O**	**O**	**O**	**O**

APPENDIX D

SELF-ADVOCACY KNOWLEDGE ASSESSMENT

Self-Advocacy Knowledge Assessment

Please choose the correct answer to each question.

1. In order to receive accommodations in college, one must FIRST

   A. Register with the Office of Disability Services
   B. Discuss the Issue with an advisor
   C. Tell the professors about what kind of accommodations are needed
   D. Inform the University Registrar of the disability

2. To apply for services with the Office of Disability Services, one must provide:

   A. A letter from the previous school outlining what accommodations were received
   B. Documentation of the disability from a qualified professional
   C. Documentation from a professor indicating that they will need accommodations in his or her class
   D. All of the above

3. Why are the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973 important?

   A. They require university professors to adhere to requests from students with disabilities
   B. They require professors to give extra assistance to students who are not performing well in a particular class
   C. They allow universities to relax program requirements for students with disabilities
   D. They afford equal access to education for students with disabilities

4. Accommodations in a College or a University Setting are based upon

   A. The types of accommodations received in high school
   B. What the individual and their parents feel is best
   C. What professors recommend for each class
   D. The substantial impact of the disability

5. Pat has requested an accommodation of taking tests in a reduced-distraction environment. His request for that accommodation was denied by the Office of Disability Services. Pat still thinks he needs that accommodation. What can he do?

   A. Pat could point out that the Office of Disability Services is required to accept any accommodations since he has a disability
   B. Pat could appeal the decision with the Office of Disability Services
   C. Pat could demand that professors grant him the accommodation without documentation from the Office of Disability Services

6. If, after beginning a class, a student realizes the need for accommodations other than what was originally discussed with the Office of Disability Services, the student would THEN need to

    A. Tell the professor and ask if he or she is willing to implement the new accommodations
    B. Discuss the new accommodation needs with the Office of Disability Services
    C. Wait until the following semester and make sure the accommodations are incorporated into the access plan for that semester

7. To be found eligible for services under the Americans with Disabilities Act, the disability must

    A. Cause a negative impact on grades
    B. Limit the student's ability to drive to school every day
    C. Require hospitalization
    D. Impact one or more major life activities

8. Professors become aware of the specific accommodations they are to provide students when

    A. The Office of Disability Services contacts them to discuss the access plan for a specific student
    B. The professor checks in with the Office of Disability Services at the beginning of the semester
    C. The professor asks students, at the beginning of the semester, if anyone will be requiring accommodations
    D. A student uses his or her access plan to discuss the accommodations with the professor

9. Students with disabilities are

    A. Under the conduct standards as described by the Office of Disability Services for your particular disability
    B. Under special conduct standards with lesser consequences for some offenses
    C. Under the same conduct standards as other students

10. Simon presented a professor with his Access Plan Letter. The professor told him that it would be an inconvenience to provide certain accommodations and suggested the list of accommodations be reduced. What should Simon do FIRST?

    A. Accept the professor's suggestion; he knows the course best
    B. Discuss the need for accommodations with the professor and attempt a resolution
    C. Request help from the Office of Disability Services in discussing the access plan with the professor

11. Information concerning a student's disability will be

    A. Distributed to the professors so that they will better understand your situation
    B. Destroyed every semester for confidentiality purposes
    C. Released only with the student's consent
    D. Noted on the students transcript to document the disability during your stay in college

12. Accommodations are meant to remove barriers caused by your disability. Which of the following is NOT a reasonable accommodation?

    A. Due to the disability, receiving additional time on exams
    B. Due to the disability, receiving modified versions of exams
    C. Due to the disability, being exempted from exams
    D. Due to the disability, taking a reduced course load during a semester

13. What does it mean to self-advocate?

    A. You ask for, and make sure you are given, the proper accommodations from professors
    B. You possess the proper documentation to show that you have a disability
    C. You make sure that your parents call the Office of Disability Services to register your disability

14. Under the Family Education Rights and Privacy Act (FERPA), parents and guardians of college students

    A. Can be informed of academic progress and use of services or accommodations
    B. Cannot access information about a student without the student's permission
    C. Can make disability-related decisions on behalf of the student
    D. Cannot be refused their rights as advocates

15. Upon receiving a poor grade on her research project, Tonya discloses her writing disability to the professor and asks him to consider changing the grade. Is Tonya self-advocating according to her rights and responsibilities?

    A. Yes
    B. No

16. When presented with Marissa's Access Plan Letter eight weeks into the semester, a professor is

    A. Required to accommodate for the disability only from that point forward
    B. Required to reconsider all past grading for the course
    C. Not required to accommodate since she did not disclose the disability within the first two weeks of class

17. Which of the following is NOT allowed for disability registration or accommodation requests?

    A. A speech or language interpreter
    B. An advocate to speak in your place
    C. A support person to come with you

18. A student loses their rights to an accommodation in a specific course when

    A. It is inconvenient for the professor
    B. The class size is small
    C. The student agrees to an alternate plan proposed by the professor
    D. A tutoring study group is provided for the course

19. Bret's volunteer note-taker has not been providing copies of notes. Bret asked the professor to help, but she said she could not find another note-taker. What should Bret do FIRST?

    A. Ask someone in the Office of Disability Services for help
    B. Complain to another professor
    C. Take his own notes without copies of others
    D. File an official complaint with the College

20. Which of the following is NOT an example of self-advocacy?

    A. Complaining to another professor about the instructor's grading system
    B. Requesting accommodations for your disability from the Office of Disability Services
    C. Disclosing your disability to an instructor and discussing needed accommodations
    D. Reminding an instructor of accommodations when they are not being provided

21. Which of the following is true of your past experience receiving disability accommodations and/or services?

    A. Received services only in elementary school
    B. Received services only in middle school
    C. Received services only in high school
    D. Received services at various times during elementary, middle and high school
    E. Received services consistently throughout elementary, middle and high school
    F. Never received services during elementary, middle, or high school
    G. I do not have a disability

22. Which best describes your experience with disability accommodations and/or services in college?

    A. Received services at another college or university
    B. Requested but did not receive services at another college or university
    C. Requested services now for the first time in college
    D. I do not have a disability

APPENDIX E

INFORMED CONSENT LETTER

Title:
A Study of the Relationship between Career Maturity, Self-Advocacy, and Self-Efficacy of College Students

Principal Investigator: Quiteya Walker, MA, ABD
B.S. Criminal Justice M.A. Rehabilitation Counseling Doctoral Candidate in Rehabilitation Counseling Education

My name is Quiteya Walker and I am a doctoral candidate in the Department of Counseling, Rehabilitation, and Student Development at The University of Iowa. The purpose of this study is to determine whether there is a link between, career knowledge, advocacy skills, and belief in oneself, as it relates to careers of students with and without a disability.

You are being invited to participate in this study because you are a current college student. Approximately 348 students will take part in this particular study.

If you agree to take part in this study, you will be asked to complete a demographic questionnaire which asks your gender, current major, current career choice, ethnicity, number of credit hours earned, and, if applicable, about any disability and the services you receive from the school related to your disability. You will also be asked to complete three surveys which ask questions about your knowledge of careers, your ability to advocate for yourself and your belief in your abilities as it relates to careers. The completion of the surveys should take no more than 30 minutes. Once you complete the survey, simply place the surveys in the envelope supplied with the packet and return to the researcher at the next class period. I will return to class at the following class period to collect the surveys.

If you would like to receive results of this study upon its completion, please contact the researcher by email.

We will keep the information you provide completely confidential; however, federal regulatory agencies and the University of Iowa Institutional Review Board (a committee that reviews and approves research studies) may inspect and copy records pertaining to this research. Do not place your name or any identifying information on the survey forms. There will be nothing linking your name to the completed surveys. We will keep the information you provide for the drawing separate from the completed surveys. If we write a report or article about this study or share the study data set with others, we will do so in such a way that you cannot be directly identified.

You may be uncomfortable answering the personal questions on the surveys. You may skip any questions you do not wish to answer. You will not benefit personally from being in this study. However, we hope that others may benefit in the future from what we learn as a result of this study. You will not have any costs for being in this research study.

You will have the option of participating in a drawing for an American Express gift card in the amount of $25.00. A total of 4 gift cards will be awarded during the Fall 2009 semester, at the end of data collection. If you would like to participate in the drawing, complete the drawing sign-up form included in your packet. Place the drawing sign-up form in the second envelope provided and seal the envelope. The seals will not be broken until the day of the drawing. At that time only the 4 envelopes drawn will be opened. All the other sealed envelopes will be discarded. The winning participants will be sent an email with the details on how to claim the gift cards. I will keep the email addresses separate from the data at all times.

Taking part in this research study is completely voluntary. If you decide not to be in this study, or if you stop participating at any time, you won't be penalized or lose any benefits for which you would otherwise qualify. If you decide not to participate, simply place the blank materials in the envelope and return to the researcher the following class period.

If you have any questions about the research study itself or you experience and research-related injury, please contact Quiteya Walker at quiteya-walker@uiowa.edu. If you have questions about the rights of research subjects, please contact the Human Subjects Office, 300 College of Medicine Administration Building, The University of Iowa, Iowa City, IA 52242, (319) 335-6564, or e-mail irb@uiowa.edu. To offer input about your experiences as a research subject or to speak to someone other than the research staff, call the Human Subjects Office at the number above.

Thank you very much for your consideration. Returning the completed survey will indicate your willingness to participate in the study.

Sincerely,

Quiteya Walker, MA, ABD

Principal Investigator

Doctoral Candidate in Rehabilitation Counseling Education

APPENDIX F

RESEARCH FLYER

Research Study

University of Iowa

Department of Counseling, Rehabilitation, and Student Development

The purpose of the present study is to investigate the relationship between career maturity, self-efficacy, and self-advocacy of college students.

Who is Eligible?

All Students at Kirkwood Community College

What will you be asked to do?

Take surveys on-line that should last at least 30 minutes.

Compensation

You will be offered the opportunity to enter a drawing.

How Can I Participate?

Go to:
http://survey.uiowa.edu/wsb.dll/1006/careermaturityselfadvocacyselfefficacy.htm to get more information and to participate in the study.

If you have any questions about participation, please contact

Quiteya Walker at quiteya-walker@uiowa.edu

APPENDIX G

EMAIL TO UNIVERSITY STUDENTS

Dear University of Students,

My name is Quiteya Walker and I am a doctoral candidate conducting a research study regarding the career maturity, self-advocacy, and self-efficacy of college students.

The purpose of this study is to investigate the relationship between career maturity, self-advocacy, and self-efficacy as it relates to the understanding of career development of students with and students without a disability. If you agree to be in this study you will be asked to complete an on-line survey.

If you are interested in being in this study, please visit the web address below. You will be asked to read additional information about the study before beginning the survey.

http://survey.uiowa.edu/wsb.dll/1006/careermaturityselfadvocacyselfefficacy.htm

Thanks for considering your participation.

Sincerely,

Quiteya Walker, MA
quiteya-walker@uiowa.edu
Department of Counseling, Rehabilitation and Student Development

APPENDIX H

PERMISSION LETTER TO INSTRUCTORS

Dear Instructor,

This email is to seek your permission to conduct research during one of your class periods. My name is Quiteya Walker, and I am a doctoral candidate in the Rehabilitation Counseling Education program as well as the experimenter and researcher for a study designed to investigate the relationship between career maturity, self advocacy, and self-efficacy to the understanding of career development of students with and without a disability. It is hoped that this research will have an impact on the career intervention and post-employment success of students with disabilities in higher education.

With your permission, indicated by your response to this email, I would like to pass out take-home surveys at the end of one class period and follow-up at the next class meeting to collect the surveys. This process should take no more than 10 minutes during either class period.

Your decision to allow me to come into your class is completely voluntary and your refusal will involve no penalty to you or your students. I realize that your time is valuable, and I appreciate your willingness to grant me class time to distribute and collect the research surveys. Students who complete the survey will be entered in a raffle if they wish to provide their e-mail address. Participation in the drawing is optional.

The dates and times I would like to come to your class are listed below. If the dates listed below work for you, please respond to this email indicating so. If these times do not work for you, but other times do, please let me know by sending an email indicating what times work for you. If you do not want to take part in this study, please send an email letting me know.

Distribution: _____

Collection: _____

Providing the requested information indicates that you give permission to Quiteya Walker to come into your class to distribute the surveys to the students and to return the following class period to collect the surveys. Students will be given additional information about participation in the study including a description of what they will be asked to do, any risks or benefits related to their participation, and the plan for entering the drawing with the study surveys. The student's participation is completely voluntary.

I thank you for your tremendous help and cooperation in this endeavor. Please do not hesitate to contact me at quiteya-walker@uiowa.edu or 843-514-2431 with any questions or for additional information.

Sincerely,

Quiteya Walker, M.A., ABD
Doctoral Candidate in Rehabilitation Counseling Education

APPENDIX I

DRAWING SIGN-UP SHEET

Project Title: A Study of the Relationship between Career Maturity, Self-Advocacy, and Self-Efficacy of College Students

Principal Investigator: Quiteya Walker

Please complete this page if you are interested in participating in the drawing. Four $25 American Express Gift Cards will be awarded at the end of the study. Place this sheet in the envelope that is provided with this packet and seal the envelope. Do not include your survey form with this sheet. The seal will only be broken if your envelope is drawn to win the drawing.

Participation in the drawing is optional. You do not need to provide your e-mail address in order to be in the study.

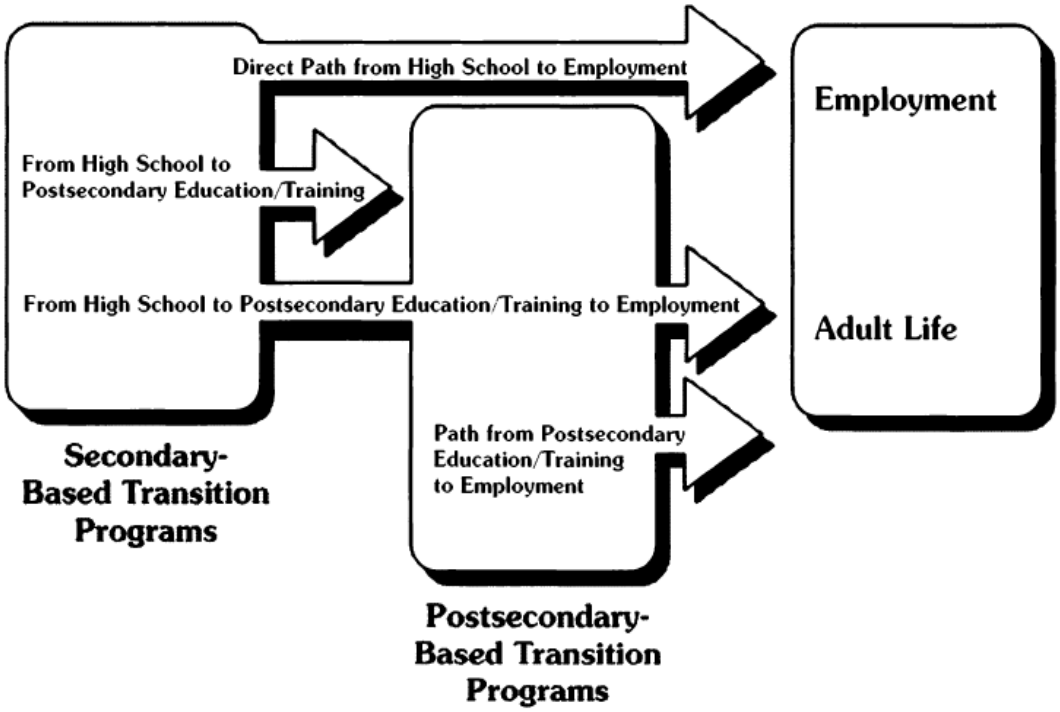
This is how you will be contacted if you win the drawing

Email Address: _____

APPENDIX J

ANCILLARY TABLES AND FIGURES

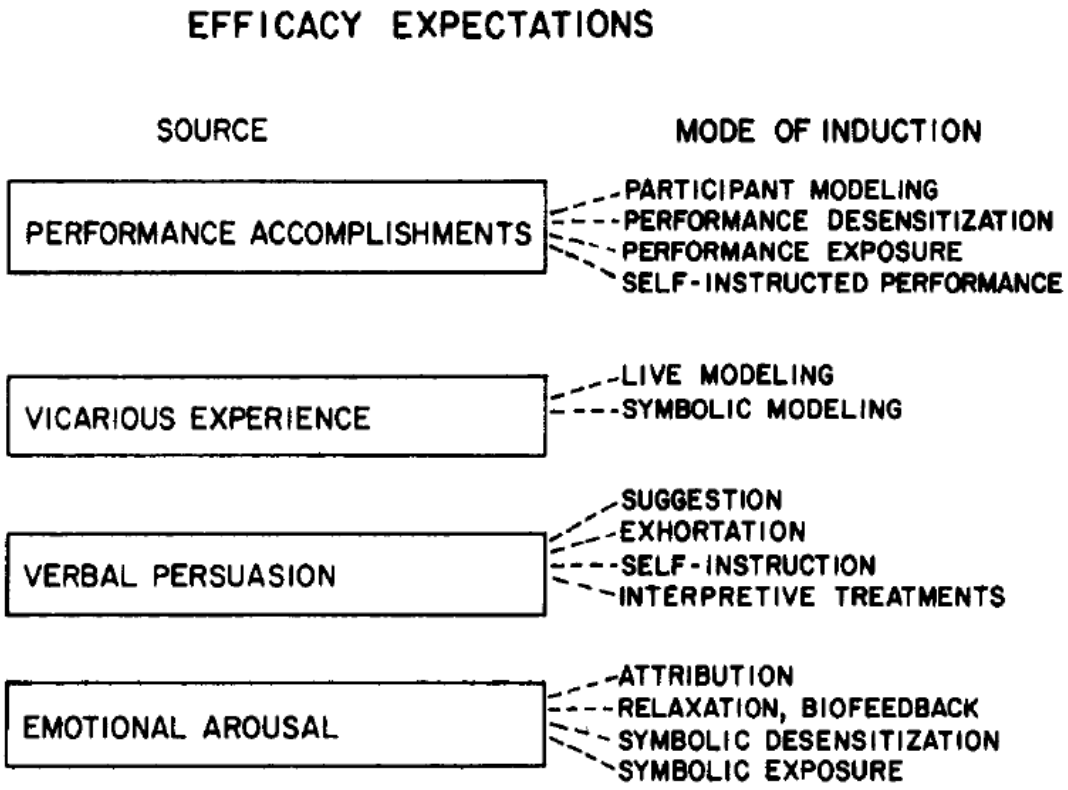
Figure J1. Rojewski's (1992) Transition Model



Transition options available for students with learning disabilities.

Source: Rojewski, J. W. (1992). Key components of model transition services for students with learning disabilities. *Learning Disability Quarterly, 15*, 135-150.

Figure J2. Bandura's Efficacy Expectations



Major sources of efficacy information and the principal sources through which different modes of treatment operate

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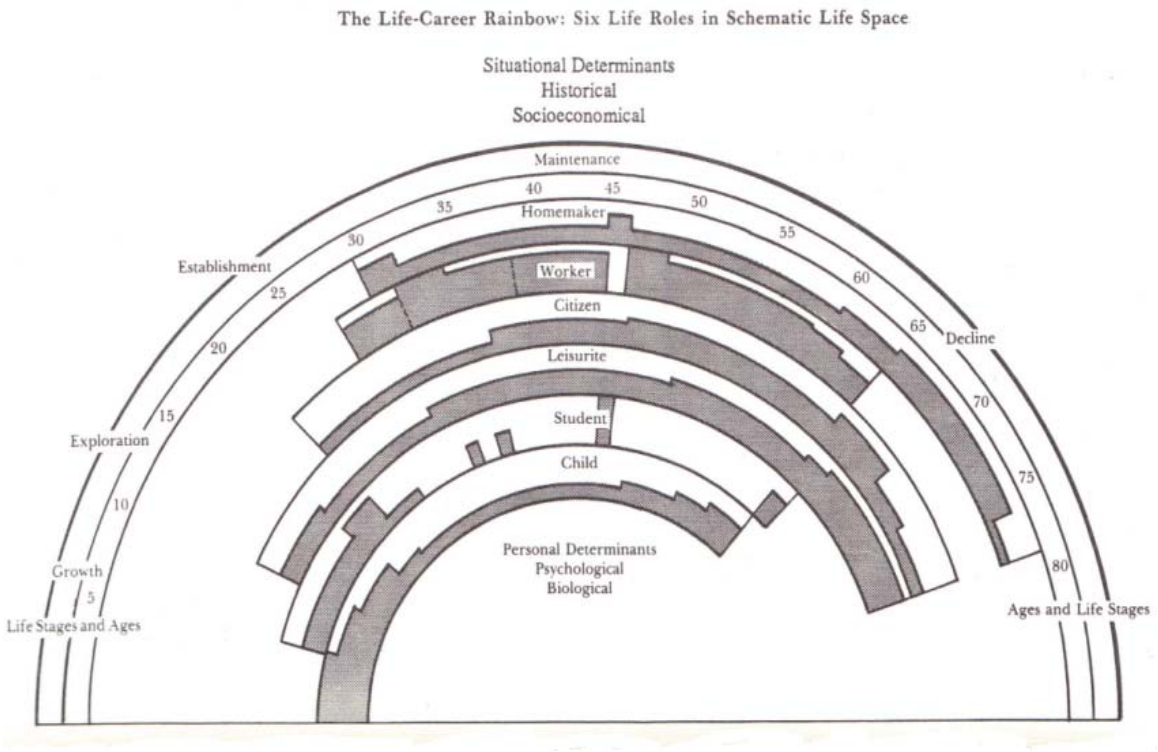
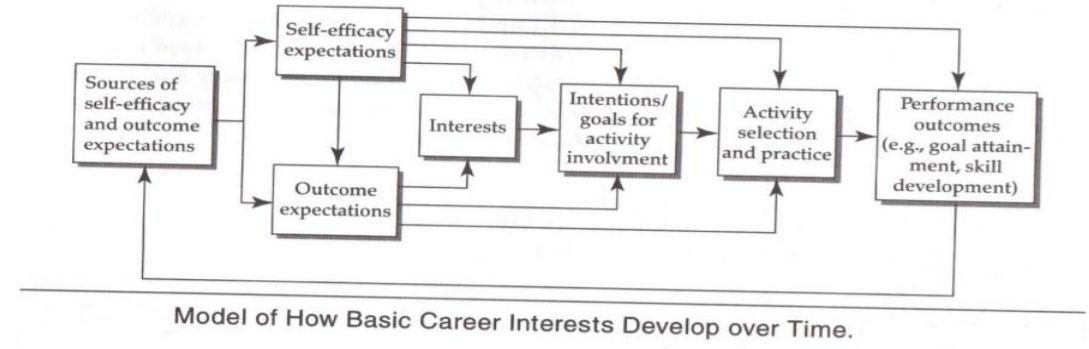
Source: Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Figure J3. Super's (1990) Life Career Rainbow

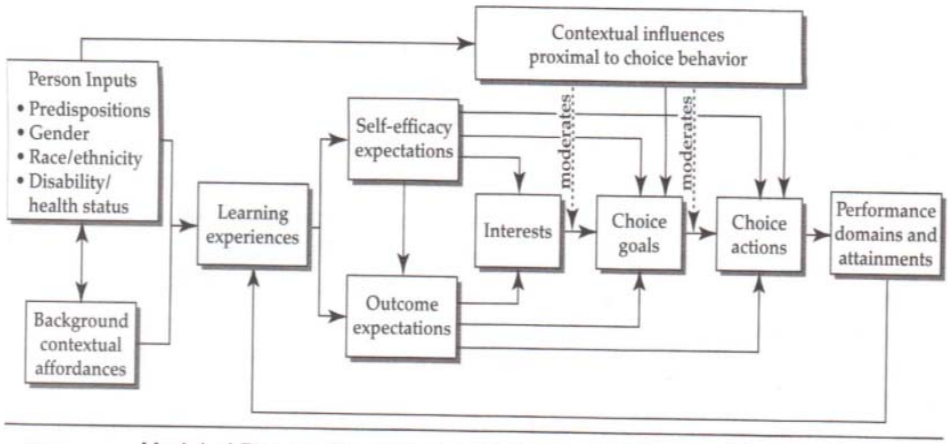


Source: Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown, L. Brooks, & Associates (Eds.). *Career choice and development: Applying contemporary theories to practice* (2nd ed.). San Francisco, CA: Jossey-Bass.

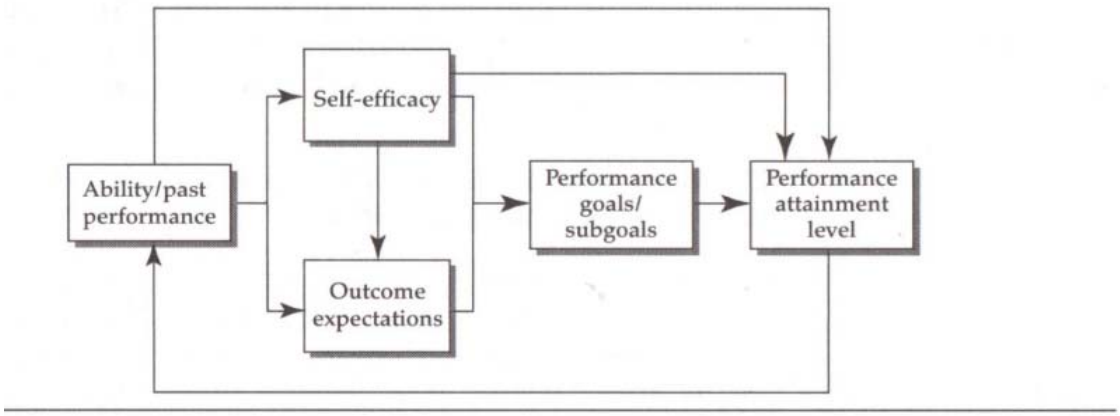
Figure J4. *Social Cognitive Career Theory Process Models*



Model of How Basic Career Interests Develop over Time.



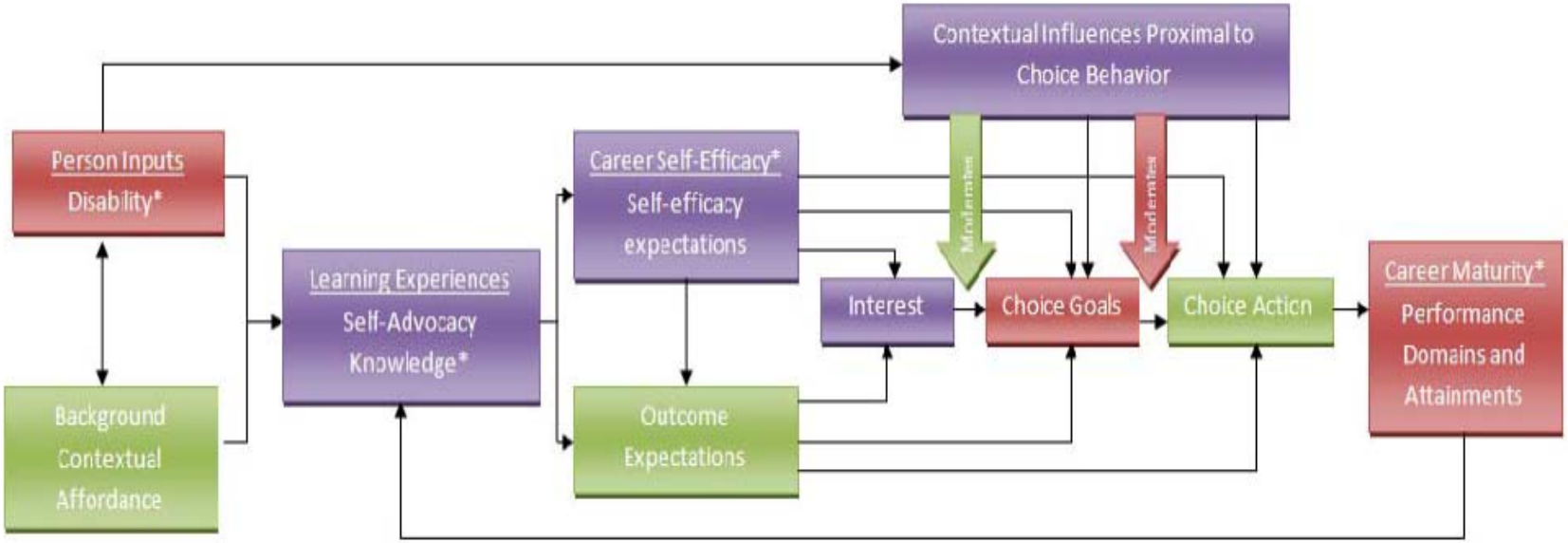
Model of Person, Contextual, and Experiential Factors Affecting Career-Related Choice Behavior



Model of Task Performance

Source: Lent, R. W. (2005). A social cognitive view of career development and counseling. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 101-127). Hoboken, NJ: John Wiley & Sons.

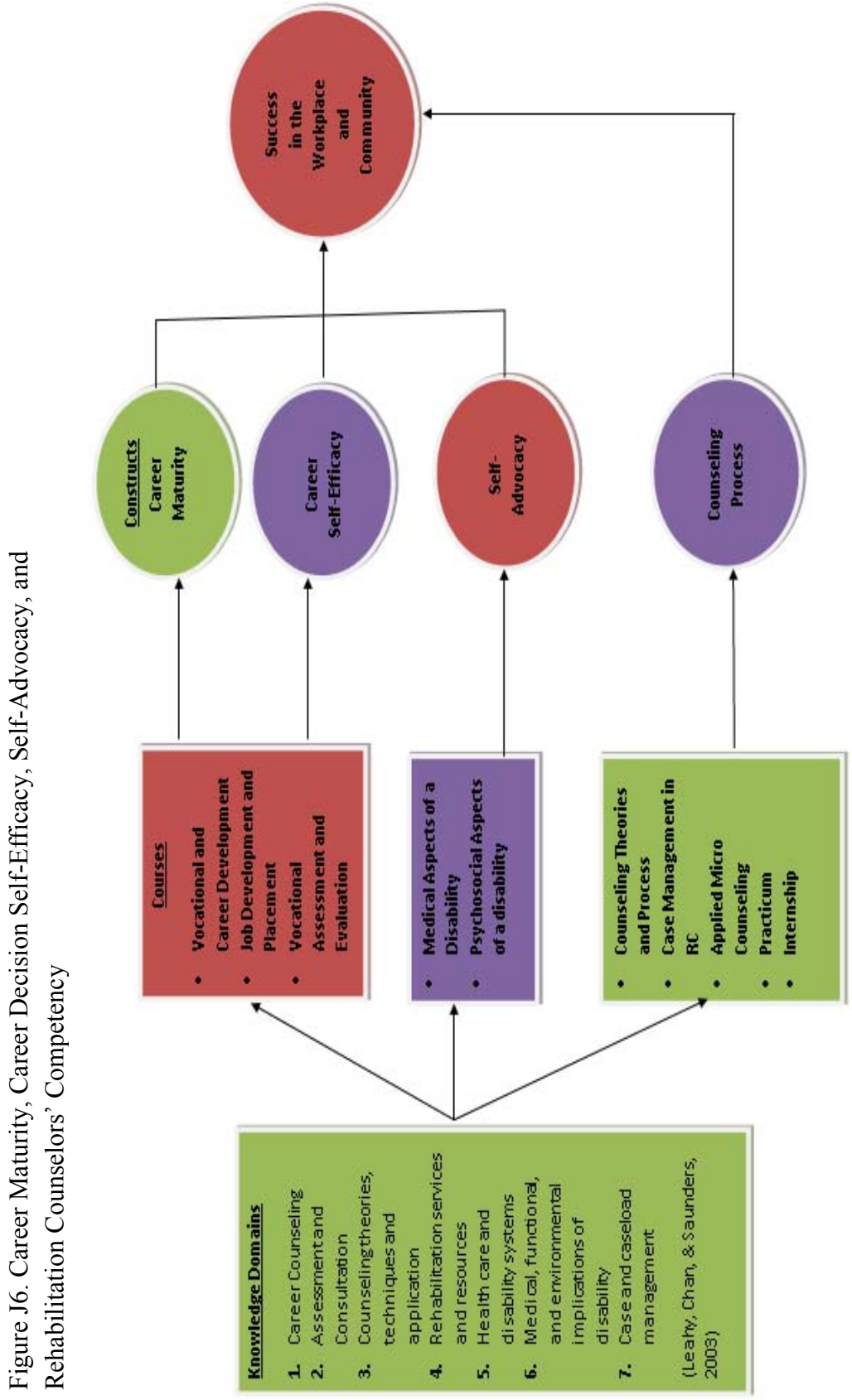
Figure J5. Modified Version Social Cognitive Career Theory Choice Model for Individuals with Disabilities



Note: From Lent, R. W., Brown, D. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79-122. Additions by current researcher making the model applicable specifically to individuals with disabilities during the career decision-making process.

*denotes addition and/or changes added by the current researcher

Figure J6. Career Maturity, Career Decision Self-Efficacy, Self-Advocacy, and Rehabilitation Counselors' Competency



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