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A DESCRIPTIVE STUDY OF CAREER PERCEPTIONS OF DIVERSE FRESHMEN
STUDENTS IN A FIRST-YEAR EXPERIENCE COURSE

by

Clay Andrew Woemmel

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

Major: Counseling

The University of Memphis

May 2016

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Dedication

This manuscript is dedicated to my grandmother,
the late Evelyn Kiehne Sewing,
who encouraged me to study psychology and counseling,
to my parents, Jerry and Brenda Sewing Woemmel,
who instilled in me a love of learning,
to my faithful canine companions, Lucy and Ethel,
who sat at my feet through every draft,
and most of all to my husband, Brooks Terry,
who always encourages me to believe in myself
and supports me in all my endeavors.

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In addition, I would like to thank Dr. Cynthia Martin for her statistical consultation, Dr. Bonnie Osborn Briggs for her helpfulness in obtaining background data from the Office of Institutional Research, Dr. Dan Bureau for his assistance in accessing the archival data used for this study, and Ms. Alisha Rose Henderson for her continued support of the ACAD Career Exploration Unit and this research.

Abstract

Woemmel, Clay Andrew. Ed.D. The University of Memphis. May 2016. A Descriptive Study of the Career Perceptions of Diverse Freshmen Students in a First-year Experience Course. Major Professor: Richard K. James, Ph.D.

This study examined archival data gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) in an effort to determine how levels of career confidence differed among students based upon race, gender, and place of college residence. Four specific research questions were examined: (1) How does confidence in the ability to identify the skills necessary for a desired career differ among freshmen students based on race, gender, and collegiate residential status; (2) How does confidence in chosen academic major vary among freshmen students based on race, gender, and collegiate residential status; (3) How does confidence that academic major will lead to a specific job/career path differ among freshmen students based on race, gender, and collegiate residential status; and (4) How does confidence in the ability to choose a second major when the first choice did not work out vary among freshmen students based on race, gender, and residential status.

Participants were 1,953 freshmen students who enrolled in a first-year experience course, ACAD 1100, and completed the ACAD Career Exploration Unit and its associated learning assessment during the years 2011-2014. Fifty (50) of the participants identified as Asian/Asian American, 1,009 identified as Black/African American, 68 identified as Hispanic/Latino, and 826 identified as White/Caucasian. Six hundred forty-two (642) were male while 1,311 were female. Eleven hundred (1,100) were residential students while 853 were commuter students.

The results of the statistical analysis suggested that Black/African American students had significantly higher confidence in their ability to identify the skills needed for a desired career than Asian/Asian American students, although the effect size was small. Males had greater confidence in their ability to identify the skills needed for a desired career than females, although the effect size was small. Males also reported greater confidence than females in their ability to choose a second major when the first choice of major did not work out, although this effect size was also small. Recommendations for future research and programmatic improvements are presented.

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Chapter 1

Introduction

The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and place of college residence.

Chapter 1 introduces the study by providing an overview of the relevant literature and the research problem. It is divided into multiple sections including (a) problem statement, (b) conceptual framework, (c) need for the study, (d) purpose of the study, (e) research questions, (f) significance of the study, (g) delimitations, (h) assumptions, (i) definition of terms, and (j) organization of the study.

Background

Academic and career planning is seen as an essential component of student success (Cuseo, 2005). Astin (1975) concluded that students who delayed decisions on academic majors and career goals were less likely to complete a degree. Tinto (1987) found that academic advising is a key to retaining students. Cuseo (2002) suggested that this relationship is based on the positive association between academic advising and student persistence, student satisfaction with the college experience, effective educational and career planning, and student utilization of campus support services.

Lounsbury, Saudargas, and Gibson (2004) examined 13 different personality traits and how they affected a student's intention to withdraw from college. One of the 13 characteristics was career decidedness. The researchers identified career decidedness as

the degree to which an adolescent knows what occupational field she or he wants to go into after leaving school. In other words, how confident is the student in her or his career choice? The data gathered by Lounsbury and associates suggests that activities to improve retention should include programs that focus on helping students to increase their personal sense of identity, career decidedness, and emotional stability. Therefore, it is important to learn how diverse freshmen students rate themselves regarding confidence in academic major chosen, confidence in ability to identify the skills needed for a desired career, confidence that academic major chosen leads to a specific career path, and confidence in the ability to choose an alternate academic major if the initial choice is not a good fit.

Research conducted by Harackiewicz, Barron, Tauer, and Elliot (2002), as well as, Kuh (2008) suggests that early commitment to an academic major increases the likelihood of persisting to degree completion. Furthermore, early selection of a major is often seen as a best practice (SREB, 2010). A 2002 report compiled by the National Center for Education Statistics (NCES) found that less than 40% of students will earn a college degree in four years and less than 60% will earn a degree in six years (Gray, 2006). Ten years later, little changed. In 2012, NCES reported that only 59% of first-time, full-time undergraduate students had completed a four-year degree within six years (U. S. Department of Education, 2014). Given the important linkage between early commitment to academic major and persistence to degree completion, as well as, the relatively low rate of degree completion in the United States, the self-reported career confidence of diverse first-year students is a relevant and timely area of study.

Denley (2013) developed the Degree Compass system, which processes student data using complex computerized algorithms to predict courses in which students will succeed and then recommend those courses to students. Statistically significant results were seen among all subgroups of the student population including Black students (2.1% increase or 2.89 standard deviations) and Pell Grant recipients (3.9% increase or 7.7 standard deviations). Denley believes that computerized systems have the potential to increase student retention and success and notes that similar preliminary results were obtained at other Tennessee institutions including another public university and two public community colleges. Denley (2014a) has developed a new electronic interface named MyFuture that recommends majors based on data from thousands of students. This addition extends his electronic system beyond just course recommendations to encompass choice of academic major and related careers.

Denley's big data approach brings a twenty-first century perspective to assisting diverse students in finding academic courses and majors in which they feel confident and in which they are ultimately able to succeed. Success in academic courses may, in tandem, build academic and career self-efficacy (see Social Cognitive Career Theory; Lent, Brown, & Hackett, 2002), leading to enhanced performance outcome expectations and the development of personal career and academic goals.

Statement of the Problem

Racial/ethnic differences in career self-appraisal. Gasser (2013), in a study of 72 freshman students found that minority students (Black and Asian) differed significantly from White students in terms of career appraisal. White students had higher career self-appraisals than Black and Asian students. No significant differences were

found between groups in terms of academic or social self-appraisals. This finding was contrary to the findings of Chung and Sedlacek (1999) who also studied first-year students and found that White students had higher academic and social self-appraisals than Black students. Gasser's (2013) study was a partial replication and extension of the work of Chung and Sedlacek (1999). Gasser points out, however, that minority students at the institution where the 2013 study was conducted appear to receive a good deal of positive support and encouragement from the local community which takes pride in the students' accomplishments. The institution has a long history of graduating minority students. She asserts that these two factors (community support and institutional history) may increase the academic and social self-appraisals of the Black student participants in her study and cautions that similar results may not be replicable at other institutions. The study examined differences in the level of career confidence among freshman students who are Asian, Black, Hispanic, and White.

Sex/gender differences in career self-appraisal. Research on career self-appraisal and gender has been inconclusive. Gasser (2013) asserts that past studies of career-related variables have not shown a great deal of gender difference. Specifically, she mentions that Donnay and Borgen's (1996) review of the validity, structure, and content of the 1994 Strong Interest Inventory did not reveal significant gender differences in career related variables. However, Larson, Wu, Baily, Borgen, and Gasser (2010) reported that in their study of 171 male and 176 female college students, significant differences were found between males and females in both confidence, as measured by the Expanded Skills Confidence Inventory, and interest, as measured by the 2005 Strong Interest Inventory. These differences applied not only to interests and confidence in

general but also to groups of similar academic majors that were related to specific career interests.

Larson and associates (2010) note that their results regarding academic confidence among engineering majors were different from a similar study conducted by Lent, Brown, and Hackett (1994). While Lent and associates found no gender differences in academic confidence among male and female engineering students, Larson and associates found that female engineering students had less mechanical confidence and interest, as well as, technical confidence than their male counterparts. Therefore, it appears that role of gender in perceptions of career preparation and levels of career confidence is unclear, making it an important area for continued study. This study examined differences in career confidence between freshmen students who are male or female.

Impact of place of collegiate residence for diverse student populations. Turley and Wotke (2010) studied the effect of place of collegiate residence on 2011 first-year students who participated in the National Student Aid Study (NPSAS) in 2000, finding that for most students, place of collegiate residence is not significant in terms of academic performance during the freshman year. However, some variance did occur based on race and institution type. Black students in the study who lived on campus during their freshman year had significantly higher grade point averages than similar Black students at the same institution who lived off campus with family. Additionally, students who lived on campus at liberal arts colleges had significantly higher grade point averages than similar students who lived off campus with family. There were no

significant differences between students who lived on campus and those who lived off campus in private apartments.

The significant difference for both Black students and those students attending liberal arts colleges only occurred when students lived off campus with family. While previous research has addressed various benefits of living on campus, an initial review of the literature has not revealed any studies that address perceptions of career preparation and levels of career confidence as they relate to collegiate residential status. Therefore, the present study examined an area that has not been addressed in the literature to the knowledge of this author.

Theoretical Framework

Part I: Social Cognitive Career Theory (SCCT). Social Cognitive Career Theory (SCCT) was developed by Lent, Brown, and Hackett (2002) from the earlier work of Bandura (Social Cognitive Theory), Krumboltz (Social Learning Theory of Career Development) and Hackett and Betz (application of the self-efficacy construct to the career development of women). The developers of Social Cognitive Career Theory posit that career development is influenced by a number of complex factors including culture, race/ethnicity, sex/gender, genetic endowment, socio-structural factors, disability or health status and so forth in combination with the cognitions of the individual person. Complex factors in concert with cognitions determine career options of the individual according to this theory. Social Cognitive Career Theory is intended to be overarching, serving as a bridge to bring together many theories of career and academic development in a movement toward theory convergence. (Lent et al., 2002).

SCCT contains three interlocking models: Interest development, choice, and performance and is based on the interaction between the person and his or her environment. Three key theoretical constructs, self-efficacy, outcome expectations, and personal goals underlie the theory. Self-efficacy refers to a person's belief that he or she can perform a specific task in a specific domain. For example, a person might have a great deal of confidence or little confidence that he or she can perform a specific academic or career-related task. Outcome expectations refer to a person's beliefs about what will happen if he or she performs a particular task. For example, a person might believe that he or she will face positive or negative consequences for engaging in certain career or academic behaviors. Finally, the construct of personal goals refers to particular tasks that a person is determined to accomplish. For example, one might develop a specific personal goal to pursue a particular academic major or job title. Although many factors may affect behavior, SCCT does not see behavior as entirely dependent upon such factors. Self-directed goals and cognitive processes also play a key role (Lent et al., 2002).

Lent et al. (2002) refer to the models and constructs of SCCT as interlocking because each drives the other. Interest development leads to career choice, and choice leads to performance opportunities in the chosen area. Performance success or failure helps form beliefs about self-efficacy, leading to particular outcome expectations and influencing personal goals. Goals, in turn, may influence one to try new tasks, building or reducing self-efficacy and leading to positive or negative outcome expectations resulting in confirmation of existing personal goals or a revision of such goals. Although its developers refer to career development processes throughout the theory, they state

explicitly that the theory also extends to academic interests, choices, and performance. One of many goals of the theory is to build a stronger bridge between academic and career theory. Additionally, SCCT has been applied to the career and academic development process of diverse persons since its inception, including differences in race, gender, ability, and sexual orientation among others (Lent et al., 2002).

Given that SCCT builds connections among various career theories, seeks to connect career and academic development, and has been used successfully with diverse populations including those that differ in race and gender, it provides a helpful framework for viewing the career development process in the context of the present study. In the next section, the linkage between career and academic development, emphasized by Lent et al. (2002) in SCCT, will be discussed in more detail.

Part II: Academic major, career decidedness and retention. Levitz and Noel (as cited by Cuseo, 2002, p. 7) asserted that undecidedness about academic major and career choice is a key factor related to attrition among highly capable students. Cuseo (2005) expressed concern that findings from Astin (1975) and Noel, Levitz, and Saluri (1985) have been overgeneralized. Undeclared students are not necessarily lacking in aspiration or commitment to educational and career goals according to Cuseo (2005). However, long-term indecision may be problematic. Raimst (1981) and Janasiewicz (1987) found that long-term indecision regarding academic and career plans was related to attrition.

A national study conducted by Lewallen (1993) concluded that declared or undeclared status was not a predictor of retention. Cuseo (2005) noted that a student can be undeclared for many reasons. Undeclared students who engaged in a thoughtful

decision-making process should properly be called “exploratory or investigative” according to Cuseo (2005, p. 2). He notes that the National Academic Advising Association has a Commission for Undecided/Exploratory Students. In a nationwide study of 20,000 college students, Lewallen (1995) reported that undeclared students were more likely to persist toward graduation and had higher college grade point averages (GPA) than declared students. Cuseo (2005) postulates that some declared students may be at greater risk for attrition if their decisions were premature or uninformed. Upcraft, Finney, and Garland (1984) likewise argue that early declarers may be pushed into an unsuitable choice by parents, may choose a popular major/career with little understanding of it, or may choose a random major simply to relieve anxiety.

Anderson, Creamer, and Cross (1989) found that students who change majors attempt and complete more credit hours than those who do not change majors. Tinto (1993) sees major changing as part of the developmental and longitudinal process that students experience during their college years.

Cuseo (2005) notes, however, that changing majors may negatively impact “time to graduation” (p.4); he also notes that some students may be “shadow majors” (p.4). Such students may be awaiting admission to a highly selective major after completing prerequisites. If students are unable to complete their chosen major due to admission requirements, they may be reluctant to change their chosen major and ultimately lack an academic home (Strommer, 1993).

As noted previously, the data gathered by Lounsbury and associates (2004) suggests that activities to improve retention should include programs that focus on helping students to increase their personal sense of identity, career decidedness, and

emotional stability. One practical application of Social Cognitive Career Theory (Lent et al., 2002) is that building self-efficacy may help students to develop their sense of personal identity, career decidedness, and emotional stability through interventions known to build self-efficacy, namely performance accomplishment, vicarious learning, social persuasion, and physiological and affective states.

Part III: Career interventions in first-year experience courses. With regard to enhancing the major/career decision-making ability and career confidence of first-year students, Cuseo (2005) suggests infusing academic and career planning into the first-year experience. Specifically, he notes the perceived benefits of integrating academic and career planning into first-year experience courses and suggests an assignment whereby first-year students develop an undergraduate plan.

First-year experience courses appear to be a repository for the subjects and skills that colleges and universities believe important to student success during the first-year and retention to the second year (Hildenbrand, 2004; Skipper, 2002). Skipper (2002) noted that instructors of first-year experience course rated career development as one of the five most important topics covered. Pickett and associates (2009) also advocate for the inclusion of career development and exploration in first-year experience courses, noting that most students go to college to enter the workforce. They described career exploration and development as key tasks for college students.

Cuseo (2005) emphasizes the need for intentionally designed intrusive interventions related to academic and career planning. He states that his review of the relevant literature demonstrates that academic and career planning are needed by first-year students, and he hypothesizes that providing such interventions may increase student

involvement with related supportive services throughout their college experience while concurrently improving retention rates and increasing student satisfaction.

Purpose

The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and residential status. Information from this study may be used to design enhanced career interventions for diverse first-year college students that help them begin to build career self-efficacy, develop performance expectations, and set personal career goals.

Research Questions

The general research question asked how levels of career confidence differ among students based upon race, gender, and place of college residence. From the preceding general research question, the following specific research questions were examined.

(1) How does confidence in the ability to identify the skills necessary for a desired career differ among freshmen students based on race, gender, and collegiate residential status?

(2) How does confidence in academic major selected vary among freshmen students based on race, gender, and collegiate residential status?

(3) How does confidence that academic major will lead to a specific job/career path differ among freshmen students based on race, gender, and collegiate residential status?

(4) How does confidence in the ability to choose a second major when the first choice

does not work out vary among freshmen students based on race, gender, and residential status?

Significance of the Study

This study contributes to the literature in the areas of career development, first-year experience, and retention/persistence of college students by describing differences in career confidence among study participants. Learning about differences that exist among such students based on race, gender, and place of collegiate residence enables career services staff, first-year experience course administrators, and academic advisors to target career interventions based on the needs of particular groups of diverse learners. This may, in turn, have a positive effect on retention and persistence given that career decidedness is one variable that contributes to retention/persistence. Beyond the university where the study was conducted, this study also has implications for practitioners throughout higher education by more clearly describing the career development of diverse freshmen students.

Delimitations

The following delimitations were noted with regard to the study:

(1) Time of the study: Data were collected between August 2011 and December 2014.

(2) Location of the study: Data were collected online from freshman students enrolled in a first-year experience course (ACAD 1100) at a large, metropolitan research university in the southeastern United States.

(3) Sample of the study: Freshman students who were enrolled in a first-year experience course (ACAD1100) at a major southern research university during the fall 2011, 2012, 2013, and 2014 semesters.

(4) Selected criteria of the study: Archival data from freshmen students who were enrolled in a first-year experience course (ACAD 1100) during the fall 2011, 2012, 2013, and 2014 semesters and who fully completed the career exploration unit learning assessment were analyzed for the study.

Assumptions

The following assumptions, first introduced in Chapter 1, were made in this study:

(1) The sample of first-year (freshmen) students who completed the career exploration unit learning assessment during the fall 2011, 2012, 2013, and 2014 semesters as part of their first-year experience course (ACAD 1100) were representative of ACAD 1100 students at the university in general.

(2) The sample of first-year (freshmen) students who completed the career exploration unit learning assessment during the fall 2011, 2012, 2013, and 2014 semesters as part of their first-year experience course (ACAD 1100) answered each question of the career exploration unit learning assessment honestly.

Definition of Terms

(1) ACAD 1100: An elective first-year experience course. Freshmen are encouraged to take the course. Prior to 2012, the course was titled Introduction to the University. It focused on introducing students to university programs and resources (C. Cockrum, personal communication, July 13, 2015). From 2012-present, the course has been titled Academic Strategies. The ACAD 1100 website describes the current course as focusing

on the “academic strategies needed to be successful as a college student” (The University of Memphis, ACAD 1100 Program, 2014b).

(2) Career exploration unit: For the purpose of this study, a two class-period part of the ACAD 1100 curriculum focused on completing career assessments, making an initial selection of a career path and academic major, and completing a related capstone project. This unit is sequenced to occur following the academic advising unit so that the concepts of academic major and career are linked in the curriculum.

(3) Identification of academic major: For the purpose of this study, the selection of a proposed academic major that is linked to one’s desired career path and articulated during the career exploration unit of the ACAD 1100 course.

(4) First-year students: An alternate term for freshmen students that is used interchangeably with the term freshmen students in the literature.

(5) First-year experience course: In most cases, a course that assists first-year students in adjusting to college and becoming academically successful (Pickett, Gore, Swanson, & Rinella, 2009). Some authors (i.e., Hunter & Linder, 2005) also include social development in the definition.

Organization of the Study

This study is organized into five chapters, a list of references, and appendices. The first chapter provides an introduction to study including a statement of the problem, conceptual framework, need, purpose, research questions, significance, delimitations, assumptions, and definition of terms. The second chapter presents the literature review including overarching background and discussion of relevant constructs. The third chapter presents the methodology for the study, including research design, population and

sample, instrumentation, data collection procedures, data analysis procedures, assumptions, limitations, and definition of terms. The fourth chapter presents the results of the study, and the fifth chapter presents the discussion of the study, including implications and recommendations. The reference list and appendices follow the fifth chapter.

Chapter 2

Literature Review

Chapter 2 provides an overview of the literature relevant to the research problem. The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and place of college residence. The general research question asked how levels of career confidence differ among students based upon race, gender, and place of college residence.

Background

As noted in Chapter 1, Academic and career planning is seen as an essential component of student success (Cuseo, 2005). Cuseo (2002) suggested that this relationship is based on the positive association between academic advising and student persistence, student satisfaction with the college experience, effective educational and career planning, and student utilization of campus support services.

Lounsbury et al. (2004) examined 13 different personality traits and how they affected a student's intention to withdraw from college. One of the 13 traits was career decidedness. The researchers identified career decidedness as the degree to which an adolescent knows what occupational field she or he wants to go into after leaving school. In other words, how confident is the student in her or his career choice? The data gathered by Lounsbury and associates in their empirical study suggests that activities to improve retention should include programs that focus on helping students to increase their personal sense of identity, career decidedness, and emotional stability. Therefore, it

is important to learn how diverse freshmen students rate themselves regarding confidence in academic major chosen, confidence in ability to identify the skills needed for a desired career, confidence that academic major chosen leads to a specific career path, and confidence in the ability to choose an alternate academic major if the initial choice is not a good fit.

As noted previously, research conducted by Harackiewicz et al. (2002), as well as, Kuh (2008) suggests that early commitment to an academic major increases the likelihood of persisting to degree completion. Furthermore, early selection of a major is often seen as a college/university best practice (SREB, 2010). Given the important linkage between early commitment to academic major and persistence to degree completion, as well as, the relatively low rate of degree completion in the United States noted in Chapter 1, the self-reported career confidence of diverse first-year students is a relevant and timely area of study.

Denley's Predictive Model of Academic Success

As described in Chapter 1, research conducted by Denley (2014a), at Austin Peay State University and later at multiple Tennessee campuses for the Tennessee Board of Regents, suggests that early declaration of a major in which a student can be successful academically can increase retention and persistence for all college students while reducing the historic gap in retention and graduation rates for low-income, minority, and first generation students. Denley (2013) developed the Degree Compass system, which processes student data using complex computerized algorithms to predict courses in which students will succeed and then recommend those courses to students. Predictions are based not only on the data of an individual student but on the transcripts and grades of

thousands of other students as well. The inspiration for Degree Compass was the computerized “recommendation systems” commonly used by companies from Google to Netflix (Denley, 2013; Whitten, Sanders, & Stewart, 2013).

Courses are recommended based on how well they help students complete their degree program and how likely the student is to succeed in various courses. Courses are highly recommended by the Degree Compass system when they are necessary for graduation, are core to the curriculum and student major, and when there is a high likelihood for student academic success (Denley, 2013). Denley first implemented Degree Compass in 2011 at Austin Peay State University in Tennessee where he served as provost. He asserts that between fall 2010, one semester before the system went live and fall 2012, when it had been in use for several semesters, the number of students earning grades of A, B, or C in their courses increased across the student body (freshmen through seniors) by 1.4% or 5.3 standard deviations, a statistically significant result (Denley, 2013).

According to Denley (2013), statistically significant results were also seen among subgroups of the student population including Black students (2.1% increase or 2.89 standard deviations) and Pell Grant recipients (3.9% increase or 7.7 standard deviations). Denley believes that computerized systems have the potential to increase student retention and success and notes that similar preliminary results were obtained at other Tennessee institutions including another public university and two public community colleges.

The *Chronicle of Higher Education* first reported on Denley’s development of Degree Compass in 2012. In a series of articles, Parry (2012) reported that numerous

colleges and universities, including Arizona State and Rio Salado Community College, are using technology to mine and process student data in new ways that may enhance student success. For example, the retention rate at Arizona State rose from 77% to 84% since the “eAdvisor” system was implemented. The institution’s provost attributes most of the increase to the increased use of data through the eAdvisor system.

Denley (2014a) also discovered that participants in his research who did poorly in two key courses within a major did not graduate. He concluded that when a student is not successful with his or her first choice of major, institutions should encourage them to change majors to something that is more consistent with their predicted successes. While the choice is ultimately up to the student, Denley suggests empowering students to make better choices by providing them with better data about their likelihood of success in particular academic areas and the careers related to those areas.

In a conference keynote at the University of Memphis, Denley reported that the six-year graduation rate at Austin Peay State University increased for all groups (Minority, White, Pell Recipients, Non-Pell Recipients, etc.) with the use of his predictive model. In line with his research findings, Denley (2014b) has developed a new Degree Compass interface, MyFuture, which recommends majors based on data from thousands of students extending the system beyond just course recommendations, bringing a big data approach to career and academic decision-making. Although technology has impacted the way that information is analyzed and delivered, more traditional methods have also been employed to examine the collegiate experience of diverse students.

Racial/Ethnic, Sex/Gender, and Residential Differences in Career Self-Appraisal

Racial/ethnic differences. As a brief review from Chapter 1, Gasser (2013) found that a group of Black and Asian students differed significantly from a group of White students in terms of career appraisal. White students had higher career appraisals than Black and Asian students. No significant differences were found between groups in terms of academic or social self-appraisals. Conversely, Chung and Sedlacek (1999) found significant differences: White students had higher academic and social self-appraisals than Black and Asian students in their study. This study examined differences in self-assessed career confidence among diverse students. Therefore, it is appropriate to examine possible racial ethnic differences in more detail.

Bowen, Chingos, and McPherson (2009) reported that even after other variables are controlled, poor and minority students graduate at lower rates. Those who do graduate take longer to complete degrees than their non-minority and wealthier peers. Howard and associates (2011) conducted an empirical study using a sample of 22,000 eighth and tenth grade students to examine the impact of race/ethnicity, socioeconomic status (SES), and gender on career aspirations. In the analysis, both race and SES were found to have significant main effects on career aspirations. Controlling for SES produced little change in differences among racial/ethnic groups. Economic status had a significant impact on career aspirations for both Asian/Pacific Islander students and Native American students. Native American students were found to have lower career aspirations than other low SES groups. Asian/Pacific Islander students from higher SES backgrounds had higher career aspirations than higher SES students from other racial/ethnic backgrounds. Howard (2011) concludes that the impact of SES on career aspirations may vary

significantly among racial/ethnic groups and may not be meaningful for many high school students.

Interaction effects between race/ethnicity and gender/sex, as well as, between race/ethnicity and SES were significant in study by Howard and associates (2011). As noted earlier, low SES Native American students reported lower career aspirations than other low SES racial/ethnic groups; this finding was traced back to differences with Native American boys. Similarly, other racial/ethnic differences in career aspirations were true for boys but not girls. Asian/Pacific Islander male students reported career aspirations with higher Socioeconomic Index scores than White or Hispanic male students. Black male students reported career aspirations that required more education than the career aspirations of White male students. Howard (2011) concluded that this finding is consistent with earlier research that found significant racial/ethnic differences in career aspirations among boys but found few significant racial/ethnic differences in career aspirations among combined samples of boys and girls (see Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; Csikszentmihalyi & Schneider, 2000; Dillard & Perrin, 1980; Phinney, Baumann, & Blanton, 2001).

Sex/gender differences. Research on career self-appraisal and gender has been inconclusive according to Gasser (2013). Larson and associates (2010) found that female engineering students had less mechanical confidence and interest, as well as, technical confidence than their male counterparts. However, Lent et al. (1994) found no gender differences among male and female engineering students. In this section, additional studies pertaining to gender and confidence (self-efficacy) will be considered.

Howard and associates (2011) discovered clear gender preferences among female students when it came to the top twenty career aspirations considered in the study of high school students discussed in the previous section. Female students selected acting, fashion design, cosmetology, veterinarian, photography, dancing, psychology, and elementary school while male students selected architect, police officer, professional athlete, autobody technician, computer programmer, computer engineer, mechanical engineer, and coach. However, some occupations were equally aspirational for both males and females: Artist, lawyer, musician, and FBI agent. Howard (2011) concluded that Gottfredson (1981) reached the correct conclusion. Societal, peer, and family shape gendered career aspirations.

Female students in all ethnic groups (Black, White, Hispanic, Asian/Pacific Islander, Native American) in the Howard and associates (2011) study aspired to careers that required a higher level of education than did male students. Howard (2011) reported that these findings were consistent with a previous study (see Mau, 2000) but inconsistent with Perry, Przybysz, & Al-Sheikh (2009) who found that White female students did not aspire to higher levels of education than boys although they did aspire to higher prestige careers. Although females aspired to careers that required more education, those careers had similar median salaries to those requiring less education chosen by male students. Howard (2011) pointed out that occupations dominated by females have often had lower salaries even if they require the same or a higher amount of education/training than similar occupations performed by men (see Raabe, 1996).

Zafar (2013) collected and analyzed data regarding gender differences in choice of college major. In this empirical study, the researcher attempted to develop a model to

explain how college majors are chosen. In the Zafar model, enjoying the coursework, gaining parental approval, and enjoying working at the job were the most important factors for major selection by both genders. Males and females evidenced different interests and preferences with males showing more interest in monetary outcomes while females showed more interest in non-monetary outcomes. The researcher concluded that differences in tastes and preferences rather than academic confidence or monetary discrimination lead to a gender gap. Zafar (2013) encourages redefinition of gender roles.

Place of collegiate residence. As stated in Chapter 1, Turley and Wotke (2010) studied the effect of place of collegiate residence on first-year students who participated in the 2000 National Student Aid Study (NPSAS), finding that for most students, place of collegiate residence is not significant in terms of academic performance during the first year in college. A significant difference was found for Black students and students at liberal arts colleges. Black students in the study who lived on campus during their freshman year had slightly higher GPAs than similar Black students who lived off campus with family. Students who lived on campus at liberal arts colleges had significantly higher GPAs than similar students who lived off campus with family. There were no significant differences between students who lived on campus and those who lived off campus in private apartments for either Black students or students at liberal arts colleges. There does not appear to be any research linking place of collegiate residence to career confidence or other social cognitive career factors. Therefore, this study incorporates a variable that has not been previously addressed in the literature.

Theoretical Framework: Social Cognitive Career Theory

As outlined in Chapter 1, Social Cognitive Career Theory (SCCT) (Lent et al., 2002) was developed from the work of Bandura (Social Cognitive Theory), Krumboltz (Social Learning Theory of Career Development), and Hackett and Betz (application of the self-efficacy construct to the career development of women). SCCT postulates that career development is influenced by the interaction of complex factors (culture, race/ethnicity, sex/gender, genetic endowment, socio-structural factors, disability or health status, etc.) with individual cognitions.

Three interlocking models compose SCCT: interest development, choice, and performance. Three key theoretical constructs, self-efficacy, outcome expectations, and personal goals underlie the models. Self-efficacy refers to a person's belief that he or she can perform a specific task in a specific domain. Outcome expectations refer to a person's beliefs about what will happen if he or she performs a particular task in a particular domain. Personal goals refer to particular tasks that a person is determined to accomplish.

According to SCCT, interest development leads to career choice, and choice leads to performance opportunities in the chosen area. Performance success or failure helps form beliefs about self-efficacy, leading to particular outcome expectations and influencing personal goals. Goals, in turn, may influence one to try new tasks, building or reducing self-efficacy and leading to positive or negative outcome expectations. Outcome expectations lead to affirmation of personal goals or goal revision. SCCT is seen as an overarching theory, bringing together many theories of career development. The developers of SCCT are clear that it extends career development to encompass academic

interests, choices and performance (Lent et al., 2002). Having now reviewed the basics of SCCT, the focus will shift to empirical studies utilizing the theory.

SCCT has been applied to diverse populations since its inception and seeks to build a bridge between career and academic goals (Lent et al., 2002). Wright, Jenkins-Guarniere, and Murdock (2012) conducted an empirical study utilizing 401 first-year university students at a medium-sized university in the mountain region of the United States in order to understand the role of self-efficacy in persistence and academic success. Results of regression analyses revealed that higher levels of college self-efficacy on the course subscale of the post test, as measured by the College Self Efficacy Inventory, were associated with increased levels of persistence to the next semester and academic success after controlling for gender, ethnicity, first-generation status, high school GPA, and initial level of college self-efficacy.

Wright and associates (2012) note that these results are consistent with the results of previous empirical studies (i.e., Brown et al., 2008; Gore, 2006; Gore, Leuwerke, & Turley, 2005; Zajacova, Lynch, & Epenshade, 2005). Furthermore, in the Wright study, being female was positively associated with greater likelihood of academic success, as was high school GPA. Wright and associates (2012) report that these findings are consistent with previous research on gender and academic success (i.e., Chee, Pino, & Smith, 2005; Sheard, 2009), as well as, research on high school GPA and academic success (i.e., Robbins et al., 2004). No significant differences were found related to first-generation student status. The researchers conclude that college self-efficacy may be an important cognitive variable related to students' career and academic success. Wright and associates encourage career counselors to consider this variable when working with

college students. In the Wright study, only the course subscale of College Self-Efficacy Inventory of the post-test administration was found to be a significant predictor of persistence and academic success. Therefore, the authors suggest that career counselors focus on brief interventions to increase self-efficacy beliefs regarding academics and coursework as a vehicle to facilitate college student career development.

Wright and associates (2012) caution that the majority of the participants in their study were White and suggest that future research be conducted with a more diverse subject pool. In fact, the number of minority participants in the Wright study was so low that they were divided into only White and non-White categories. A strength of the present study is that it draws participants from a wide variety of ethnic/racial backgrounds, including Black, Hispanic, Asian and White. In reviewing the literature regarding the applicability of SCCT to minority populations, Wright and associates (2012) note that the results of empirical studies regarding college self efficacy and academic success have been very mixed. According to Wright (2012), Aguayo, Herman, Ojeda, and Flores (2011) found no relationship between college self-efficacy and academic success for first-generation Mexican American college students. Interestingly, a positive relationship between the variables did exist for Mexican American second-generation and college students forward, suggesting that first-generation student status, as well as, ethnicity may be an important variable in the career development of college students.

BarNir, Watson, and Hutchins (2011) researched the effect of self-efficacy and role models on entrepreneurial career intention, using 393 undergraduate students at a large public university as participants. The survey was conducted in a business course

where 75% of the respondents were business students and 25% came from other academic disciplines. Most of the subjects (>95%) were seniors. BarNir and associates were particularly interested in whether the effects of self-efficacy and role models varied by gender and process.

The researchers (BarNir et al., 2011) found role models have a positive impact on career intention. Gender was a moderating variable and self-efficacy was a mediating variable. The influence of role models on self-efficacy was stronger for women. In turn, entrepreneurial career intention was influenced by self-efficacy. A direct link between role models and entrepreneurial career intention was not demonstrated by the results of this study. The researchers conclude that the findings may be related to gender-role expectations or the manner in which self-efficacy beliefs develop in women. Vicarious modeling (role models) and performance success are two constructs that Bandura theorized were related to self-efficacy development (BarNir et al., 2011). The current study considers how self-reported levels of career confidence of first-year students varies by gender. Having summarized some of the recent research that uses SCCT as a theoretical framework, let us turn our attention to theoretical conceptualizations of the academic experiences of minority students

To enhance understanding of SCCT in non-western culture, Restubog, Florentino, and Garcia (2010) conducted an empirical study with 146 undergraduate nursing students in the Philippines. Restubog and associates note that although previous research has focused on the applicability of SCCT to minority populations within western cultures, few studies have examined how the theory might be applied in other cultures. Restubog and associates were particularly interested in two variables related to academic and career

success, parental support and career counseling. These authors cite previous research (i.e., Turner & Lapan, 2002) has demonstrated that parental involvement is a key predictor of career confidence during early adolescence, and that career counseling increases career exploration, planning, self-efficacy, and outcome expectations of college students (e.g., Hirschi & Lage, 2008; McWhirter, Crothers, & Rasheet, 2000).

Restubog and associates (2010) found that higher career self-efficacy is associated with increased career decidedness. Greater career decidedness, in turn, was related to increased persistence levels eighteen months later, a finding that Restubog notes is consistent with a prior study (e.g., Marso & Pigge, 1997). These researchers, like Wright and associates (2012) suggest that career counselors focus interventions on enhancing students' self-efficacy beliefs. Furthermore, results of the Restubog study indicate that home and school environment may have a significant impact on persistence in post-secondary programs. These results appear to be consistent with the general body of retention/persistence literature that suggests that multiple interrelated factors influence persistence (Astin, 1975, 1985, 1991, 1993; Bean, 1980; Bean & Metzner, 1985; Cabrera, Nora, & Castaneda, 1993; Tinto 1975, 1987, 1993). The study conducted by this researcher examined the impact of place of collegiate residence (i.e., home environment) on the career confidence of diverse college students enrolled in a first-year experience course at a metropolitan research university. As noted in Chapter 1, the impact of place of collegiate residence appears to vary by race and institution type (Turley & Wotke, 2010), although research on this topic is very limited. Based upon the results obtained in their research with college students in the Philippines, Restubog and associates (2010) assert that SCCT is applicable to non-Western cultures where career-decision making is a

collective family endeavor rather than an individual pursuit and suggest that future research further explore how the theory can be applied in various cultural contexts.

Factors Affecting Student Success

Sedlacek's non-cognitive variables for Black students. Chung and Sedlacek (1999) studied first-year students and found that White students have higher academic and social self-appraisals than Black students. Previously, Sedlacek (1987) reviewed and summarized student development research from the 1960s through the 1980s pertaining to Black college students. He and his colleagues had previously hypothesized that seven non-cognitive variables were important components of college success for Black students. Sedlacek and associates later validated these variables plus an additional eighth variable during the construction of the Noncognitive Questionnaire (NCQ). The eight variables include 1) positive self-concept, 2) realistic self-appraisal, 3) understands and deals with racism, 4) community service, 5) long-range goals, 6) strong support person, 7) leadership experience, and 8) non-traditional knowledge. College grades, retention, and persistence to graduation of Black students have been successfully predicted using the NCQ.

The appendix to Sedlacek's (1987) literature review makes several recommendations for improving the experience of Black students on predominantly White campuses. Each recommendation is tied to one or more of the eight non-cognitive variables. Recommendations related to career development include helping Black students to recognize non-traditional leadership roles and encouraging them to include this information, as well as, community service experience on resumes and graduate school applications. Sedlacek also suggests that institutions encourage Black students to

earn credit by examination to highlight knowledge gained outside the classroom through non-traditional means. Social Cognitive Career Theory (Lent et al., 2002) would suggest that recognizing such performance accomplishments is one factor related to building career and academic self-efficacy.

Tierney's model of minority student college-going and retention. Tierney (1992) asserts that traditional theories of student attrition do not adequately address a variety of variables that affect minority students, calling his own approach to the retention of minority students an anthropological one. In particular, Tierney critiqued Tinto's popular theory of student departure, pointing out that it assumes an individualist perspective that may not be relevant to all cultures. Tierney suggests that Tinto's conceptualization of culture should be expanded through the use of additional theoretical perspectives including critical and feminist theories. He concludes that successful retention efforts for minority students should focus on "empowerment and emancipation" rather than "social integration and assimilation" (p. 616). Social Cognitive Career Theory (Lent et al., 2002) encourages practitioners to help build academic and career self-efficacy. These beliefs in one's own ability to successfully complete academic and career tasks might, by extension, be considered a form of empowerment.

In outlining his own model of Minority College-going and Retention, Tierney (1999) focused on areas he believes to be crucial to minority student success including cultural capital, cultural integrity, local context, local identity, and academic capital. His theoretical model was developed based upon his experience working with Black and Hispanic middle school students in a program designed to prepare them for admission to college. Tierney believes that institutions that wish to retain students of color must find

ways to honor a variety of student cultures in a dynamic and ever-changing environment. Rather than force minority students to assimilate into traditional academic culture, Tierney advocates a more inclusive approach that encourages institutions to help students of color to affirm their unique cultural identities. Honoring a variety of student cultures while allowing students to develop academic capital might be seen as a way of facilitating performance accomplishment by a practitioner using SCCT (Lent et al., 2002).

Factors affecting first-generation college students. Although the archival data that was utilized for the current study does not include information that identifies students as first-generation, some background regarding this population is salient. The urban, mid-southern university from which the sample for the current study was drawn enrolls a high number of first generation students. For example, in 2010, the most recent year for which data was available at the time of this writing, 38.70% of first-time, full-time freshmen were classified by the institution as first generation students. The first year retention rate for first-time, full-time first-generation students was 75.50%. This rate dropped to 56.20% for the second year, 53% for the third year, and 48.60 for the fourth year. (The University of Memphis, Office of Institutional Research, 2014a). Therefore, one could conclude that first-generation students are at risk for dropping out of the university.

Ishitani (2003) conducted an empirical study that examined the longitudinal effects of first-generation status on attrition. After controlling for race, gender, high school grade point average and family income, Ishitani found that the risk of attrition was 71% higher for first-generation students as compared to students with two parents who graduated from college. Gibbons and Shoffner (2004) advocate using Social Cognitive

Career Theory with prospective first-generation college students. They assert that SCCT's focus on self-efficacy, outcome expectations, barriers, and goal attainment can be effectively used to address common issues experienced by first-generation college students.

However, Owens, Lacey, Rawls, and Holbert-Quince (2010) authored a review of the literature regarding the career development of first-generation Black male college students and made recommendations for career counselors working with this population. They note that many older career development theories were based on information pertaining to the experiences of White males. Newer theories, such as Social Cognitive Career Theory may be more applicable to first generation Black male college students. However, these authors caution that critics question whether SCCT is specific enough to address the nuances of the experience of first-generation Black male students (Owens et al., 2010).

Socioeconomic status of college students. Although the archival data that was used for the current study does not include information that identifies socioeconomic status (SES) of participants, some basic background regarding this population is warranted. A large number of students need financial assistance at the institution from which the sample for the current study was drawn. For example, in 2010, in response to a university survey, 1,224 first-time, full-time freshmen indicated that they planned to work while in school while only 377 did not plan to work. Of 2,390 first-time freshmen entering the institution in 2010, 2,328 (97%) (unduplicated headcount) received some form of financial aid (The University of Memphis, Office of Institutional Research, 2013).

The American College Testing Association (ACT) issued a policy report in 2004 that addressed academic and non-academic factors impacting college student retention and academic performance (Lotkowski, Robbins, & Noeth, 2004). Lotkowski and associates (2004) conducted a meta-analysis on behalf of ACT. Nine non-academic factors were considered including academic-related skills, academic self-confidence, academic goals, institutional commitment, social support, contextual influences (institutional selectivity and financial support), social involvement, achievement motivation, and general self-confidence. Two academic factors, high school GPA, and ACT test score were considered, along with one other factor, socioeconomic status (SES).

The relationship to retention was strongest when SES, high school GPA, ACT test score, institutional commitment, academic goals, social support, academic self-confidence, and social involvement were included in the model. In terms of academic performance as measured by college GPA, the strongest relationship existed when SES, high school GPA, ACT test score, academic self-confidence, and achievement motivation were included in the model. High school GPA and SES had a stronger relationship than ACT score for retention. High school GPA and ACT scores had a stronger relationship than SES for academic success as measured by college GPA. Lotkowski and associates (2004) noted that SES was shown to have moderate relationships to retention and persistence. They also cautioned that the interaction of academic and non-academic factors may be different depending upon the specific population studied. For example, social support and integration are important non-academic variables for Black students

while social support and self-confidence are important non-academic variables for Native American students.

In conclusion, one might reasonably conclude that SES has an effect on academic performance and retention, and, by extension, upon college student career development since Social Cognitive Career Theory (Lent et al., 2002) considers academic and career factors to be closely linked. Additionally, one may conclude that it is important to consider differences in career and academic confidence among diverse groups of college students.

The effect of SES and perceived social status on social cognitive career factors has been well-researched in recent years (Huang & Hesi, 2011; Metheny & McWhirter, 2013; Rojewski, 1997; Thompson & Subich, 2006, 2007, 2011; Trusty, Watts, & Erdman, 1997). In one empirical study, Metheny and McWhirter (2013) developed a path model and conducted a path analysis to predict career decision self-efficacy and career-related outcome expectations of college students. The results confirm those of Thompson and Subich (2006, 2007): Perceived social status contributes to variables associated with outcome expectations. A direct positive relationship between SES and perceived social status was demonstrated by the analysis. However, no direct relationship between SES and outcome variables was found. In this study, outcome expectations fell slightly as SES rose, which contradicts previous research by Huang and Hsei (2011) and Rojewski (1997) who found linkages between SES and career outcomes. Metheny and McWhirter (2013) noted that several factors, including a limited range of socioeconomic statuses in the sample of college students, may have influenced the results.

Furthermore, Metheny and McWhirter (2014) found a significant, positive, direct relationship between perceived social status and career decision-making self efficacy. They also found a significant indirect effect between perceived social status and outcome expectations such that perceived social status influences outcome expectations through self-efficacy. Furthermore, the researchers discovered a small, significant, indirect effect of family support on self-efficacy such that SES operated indirectly through perceived family support and subjective social status to influence self-efficacy. Finally, family interactions did not mediate the relationship between SES and outcome variables. This finding is consistent with previous research by Trusty, Watts, and Erdman (1997).

Academic Major and Retention/Persistence

One of the important tasks that confront students as they enter college and begin the process of academic and social integration is the selection of an academic major. Titley and Titley (1980) reported that 75% of college students showed at least some indecision about academic major. Academic and career planning is described as an essential component of student success by Cuseo (2005), and he suggests infusing both into first-year experience courses.

Early commitment to academic major. Research conducted by Harackiewicz and associates (2002) and Kuh (2008) suggests that early commitment to an academic major increases the likelihood of persisting to degree completion. Early selection of a major is seen as a best practice for institutions that wish to retain their students (SREB, 2010). Lounsbury et al. (2004) identified career decidedness as one of 13 personality traits that affect students' intention to withdraw from college; they suggest that retention efforts include programs that increase students' sense of identity, career decidedness, and

emotional stability. Earlier researchers (Astin, 1975; Noel et al., 1985) concluded that uncertainty about academic major and delayed academic/career planning was associated with attrition. Research by Bergeson and Romano (1994), Groccia and Harrity (1991), and Lunneborg (1975) support this conclusion.

In contrast, Lewallen (1993, 1995) concluded that declared or undeclared status is not a predictor of retention. He found that undeclared students were more likely to persist toward graduation and had higher grade point averages than declared students. Anderson, Creamer, and Cross (1989) also found that declared/undeclared status had no impact on retention. Cuseo (2005) hypothesized that some declared students may be at greater risk for attrition if their decisions were premature or uninformed. Upcraft et al. (1984) likewise argued that early declarers may be pushed into an unsuitable choice by parents, may choose a popular major or career with little understanding of it, or may choose a random major simply to relieve anxiety.

Galotti (1999) found that students may have an unrealistic view of decision making, even when they are familiar with decision-making strategies and view choosing a college major as very important. In her study of 111 first-year students, Galotti concluded that students were likely to engage in a premature narrowing of options even when they had abundant information available to them, perhaps in an effort to reduce stress and avoid ambiguity. She recommends that interventions focus on helping students become comfortable with ambiguity and doubt, which are inherent parts of the decision-making process.

Variation in retention by type of academic major. Leppel (2001) hypothesized that rate of retention for freshman students may vary by type of academic major. Using

basic economic theory to develop her hypothesis, Leppel reasoned that students compare the current and future costs and benefits of attending college, as well as, the possible job-related outcomes. She further hypothesized that social forces might affect commitment to an academic major, making it more or less desirable in terms of cost/benefit analysis.

Using a national data set, Leppel (2001) found that retention rates did vary by major, as well as, declared/undeclared status when other variables were held constant. Undecided women were less likely to be retained than other women, and undecided men were less likely to be retained than other men. Retention also appeared to be linked to traditional gender expectations. Women were less likely to be retained in business despite high achievement, and men were less likely to be retained in education despite high achievement. Women in health majors were more likely to be retained than other women while men in business were slightly more likely to be retained than other men. Variance in retention was explained by goal commitment, subject interest, social forces, and self-image.

Leppel (2001) concluded that social forces may be responsible for gender differences in the results, and emphasized that Tinto previously reported that most students do not leave college due to academic failure. She urges college administrators to be aware of social biases that may exist among faculty and advisors and work to overcome them by providing training and using career interventions such as mentoring programs with freshmen students.

Although Leppel (2001) emphasized mentoring, Hildenbrand (2004) asserts that the variety of career interventions used with college students is as numerous as the number of colleges. Courses, workshops, and group and individual career counseling are

listed by Hildenbrand as common and effective career interventions on college campuses. However, she notes that it is somewhat unclear from the literature why such career interventions are efficacious. Hildenbrand makes a salient point with this observation, although more recent research on career development courses has added some clarity. The next section will explore career interventions in more depth, particularly those that occur in a course setting.

Career Interventions

Freshman and sophomore students identify choosing a major and career as important (Hannah & Robinson, 1990; Healy & Reilly, 1989; Herr & Cramer, 1992; Orndorff & Herr, 1996). Furthermore, career development is a need of both declared and undeclared students (Levitz & Noel, 1989; Orndorff & Herr, 1996). Given this need and the fact that the current study focuses on freshmen students in a first-year experience course, what factors might influence the efficacy of career interventions?

Hildenbrand (2004) noted that the effectiveness of career interventions may be determined by the inclusion of at least one of the five important components identified by Brown and Krane. Written exercises, individual interpretation/feedback, information regarding possible careers, modeling, and support/networking were identified as significant components of effective career interventions. While these components were independently effective, the effect size increased each time an additional component was added (Brown & Krane, 2000).

When no components were included in the career intervention, the effect size was .22; when one component was included, the effect size increased to .45; when two components were included, the effect size increased to .61; and when three components

were included, the effect size increased to .99 (Brown & Krane, 2000). Although no intervention studied by Brown and Krane included all five components, Hildenbrand (2004) asserted that including all five components in career interventions used with college students would be a best practice.

The career exploration unit in the ACAD 1100 course incorporates an array of written exercises and computerized career information. A limited amount of written feedback is provided by instructors on the final career project that is turned in for a grade. Students have the option to follow up with Career Services staff members for individual career advising and networking but doing so is not a required part of the course. Although a few ACAD 1100 instructors incorporate aspects of modeling into their sections of the course, a formalized modeling component is not included. This is consistent with Hildenbrand's (2004) finding that few first-year experience courses utilized modeling in the career component of the course.

In the following subsections, individual, group, computerized, and course-based career interventions will be examined in more detail and the efficacy of each will be addressed. A combination of individual, group, and computerized career interventions are used with freshmen students in the ACAD 1100 course, making the following discussion particularly salient to the current research.

Individual and group career interventions. College students have a vast array of choices when making career decisions, and academic majors do not always match up exactly to current job opportunities (Gordon & Grites, 1984). Elkins (1975) reported that career interventions that assist in clarifying interests, abilities, opportunities, earnings, and satisfaction are helpful to college students. Many different types of interventions

(individual, group, computerized, course-based) can provide the type of information that students find helpful.

A meta-analysis of 58 studies conducted between 1950 and 1988 found that group career interventions conducted within a class setting were most effective overall but required the greatest amount of time to implement. However, such interventions were cost effective since one counselor/instructor could reach multiple students (Oliver & Spokane, 1988). A replication meta-analysis (Whiston, Sexton, & Lasoff, 1998) evaluated studies conducted between 1988 and 1998. In addition to supporting the findings of Oliver and Spokane, Whiston and associates found that individual career counseling was most effective and efficient based upon the studies analyzed. Group and class-based career interventions were found to be efficacious but individual career counseling had a larger effect size. Further research conducted by Whiston, Brecheisen, and Stephens (2003) supported the effectiveness of structured groups, such as career development courses, to facilitate positive career decision-making outcomes. Career development courses will be discussed in more depth in a later sub-section.

First, however, an examination of computerized interventions that can be used individually, in groups, and in courses, as well as, combined with other interventions is in order. This brief review is necessary since online career assessment/exploration is included in the career exploration unit of the first-year experience course (ACAD 1100).

Computerized career interventions. Whiston and associates (1998) note that computerized career interventions are cost effective. Indeed, cost effectiveness is one of the factors that led staff at the university where the study was conducted to utilize online career assessments in the ACAD 1100 course. However, Whiston also reported that

computerized interventions are not as effective as group and individual career counseling. Combining computerized interventions with individual career counseling was effective (Whiston et al., 1998; Whiston et al., 2003).

In contrast, Glaize and Myrick (1984) concluded that computerized career interventions, group career interventions, and a combination of computerized and group interventions were equal in effectiveness; no significant differences among the intervention types were found. In the ACAD 1100 course, the career exploration unit is introduced with a series of exercises in the classroom, students work individually to complete online career assessments and do career-related research, and the capstone project is presented to the class. Students also receive individual feedback from their instructors on their project. In this way, the career exploration unit is a combination of individual, group, and computerized interventions.

Since the career exploration unit in the ACAD 1100 course is delivered to hundreds of students each year, it is important to be able to deliver a large amount of up-to-date information about multiple career options in a limited amount of time. Savard and associates assert that this is one of the primary advantages of computerized career interventions (Savard, Gingras, & Turcotte, 2002). Similarly, Barnes and Herr (1998) note that computerized career interventions are based on well-known career theories and resources. Although they focused on the DISCOVER software, an older resource that is no longer available, the Focus 2 Career Guidance System used in the ACAD 1100 course is also theoretically based, having been originally developed by Donald Super in coordination with the IBM Corporation (Career Dimensions, 2014). The My Future

system developed by Denley (2014a) is among the newest wave of computer aided career guidance systems that make use of big data analytics in a powerful way.

Having briefly examined computerized career interventions, it is now appropriate to return to the topic of career interventions that occur in a course setting. Much research has been conducted on career development courses in recent years. A brief examination of such courses will set the stage for the type of course that will ultimately be examined in the current study, a first-year experience course that includes a career component.

Career development courses. Career development courses have been found to be effective in increasing students' career self-efficacy (Reese & Miller, 2006; Scott & Ciani, 2008). The Social Cognitive Career Theory of Lent and associates suggests that self-efficacy beliefs and outcome expectations influence performance attainment (Lent, Hackett, & Brown, 2000). Furthermore, self-efficacy has been found to have a positive relationship with retention. In other words, students with a higher level of self-efficacy are more likely to persist to graduation (Brown et al., 2008; Gore, 2006; Hansen & Pederson, 2012; Robbins et al., 2004; Wright et al., 2012). Hansen and Pederson (2012) determined that undeclared students in their empirical study who were enrolled in a career development course were retained at higher rates and had higher GPAs than a comparison group of students who were not enrolled in a career development course. Might the same benefits observed in career development courses, by extension, be present in first-year experience courses that contain embedded career components?

Cuseo (2005) suggested that first-year experience courses are an ideal place to embed career and academic planning modules as a way to introduce the concept of career planning to a large group of entering students. Although many researchers have studied

career development courses and first-year experience courses, there is a lack of research on career interventions within first-year experience courses.

Pickett, Gore, Swanson, and Rinella (2009) presented a conference poster that examined career interventions in a first-year experience course. However, they focused on prediction of career exploration style from computerized career assessment results and not on issues related to academic major and retention. A further search of the literature revealed two unpublished theses (Hildenbrand, 2004; Ward, 2014) and one unpublished dissertation (Henderson, 2009) that also addressed career interventions in first-year experience courses. The following section provides a brief overview of first-year experience courses.

First-year Experience Courses

One of the main reasons that students cite for enrolling in college is to enhance their career outcomes (Orndorff & Herr; 1996; Pickett et al., 2009). Pickett and associates (2009), by extension, conclude that it is therefore appropriate for first-year experience courses to contain a career component, noting that retention and student development theorists such as Astin (1993), Chickering and Reisser (1993), and Tinto (1993) emphasize the importance of career development for college students. Hildenbrand (2004), while noting that first-year experience courses vary among institutions, found that a majority (87%, $n = 133$) of institutions included a career component in their first-year experience course. She noted that a primary purpose of first-year experience courses is to increase retention.

Burgette and Magun-Jackson (2008) examined outcomes of the specific first-year experience course, ACAD 1100, from which participants from the current study were

drawn. These researchers conducted a longitudinal analysis from 2001-2005 to determine the effects of the course on persistence to degree completion and academic achievement as measured by GPA. Logistic regression was used to analyze the data for persistence while controlling for gender, race, high school GPA, and decided/undecided on academic major. Controlling for the same factors, multiple regression was used to evaluate the impact of the course on college GPA.

The researchers found that of 1193 freshmen students in the 2001 cohort group, White students persisted at a higher level (70.1%) than Black students (62.9%). This difference was significant. Persistence to the second year was significantly higher for students who took ACAD 1100 (71.9%) than for students who chose not to take it (63.1%). Gender was a significant variable for Black students but not for White students. Black females persisted at a significantly higher rate (68.7%) than Black males (50.7%). For students who took ACAD 1100, there were no significant differences between Black students and White students in terms of persistence. However, for students who chose not to take ACAD 1100, race was a significant variable in terms of persistence. White students who did not take ACAD 1100 persisted at a rate of 67.3% while Black students who did not take the course persisted at a rate of 52.9%. The researchers note that both Black and White students benefitted from taking ACAD 1100 in terms of persistence. However, the difference between taking and not taking the course was significant for Black students while the difference did not reach the level of statistical significance for White students. High school GPA and College GPA were predictive of persistence. Higher grades were associated with higher rates of persistence. Whether or not students had decided on a major was not significant in the predictive model. These results are

consistent with those obtained by this author in an unpublished doctoral residency project that followed the 2010 ACAD 1100 cohort for four years. The research project used a Chi-Square analysis to determine that there was no significant difference in retention/persistence in any of the four years among ACAD 1100 students who chose a major as part of the ACAD 1100 Career Unit and those who did not (Woemmel, 2014).

By the third year, high school GPA and college GPA remained predictive of persistence. No other variables were significant predictors in the third year. By the fourth year, college GPA remained predictive of persistence. No other variables were significant predictors in the fourth year. Although students from the year 2001 cohort persisted to the fourth year, only 1% of Black students and 0.5% of White students graduated by 2005, supporting the hypothesis that many degree programs take longer than four years to complete (Burgette & Magun-Jackson, 2008).

The results from the 2001 cohort study differed from an unpublished 1990 cohort study (Magun-Jackson, 1996) where the ACAD 1100 course was shown to have a more long-lasting effect that was apparent from the freshman to sophomore year and the junior to senior year. Burgette and Magun-Jackson (2008) postulate that this may have been due to changing course content and the fact that only 11.7% of the ACAD 1100 students in the 2001 cohort were taught by faculty members among other factors. Since most instructors were adjunct, many students in the 2001 cohort did not have the opportunity to build relationships with full-time faculty members.

Career interventions in first-year experience courses. Ward (2014) conducted a study for her thesis project that compared the career thoughts of students who received a career intervention in their sections of a first-year experience course to a control group

of students who did not receive a career intervention in their sections. She concluded that students who received the career intervention did not differ significantly from the control group in terms of career thoughts as measured by the Career Thoughts Inventory (CTI). However, Ward's sample size was relatively small and was not representative of all students enrolled in the first-year experience course. Only students who participated in living-learning communities were included in her sample.

Conversely, Henderson (2009), in a study conducted for her dissertation research, found that a seven-part career intervention administered during a first-year experience course significantly improved dysfunctional career thoughts among underprepared college students. It is possible that the length of the interventions could explain this discrepancy. Hildenbrand (2004) noted relevant research that examined career intervention length. Group career interventions with three or fewer sessions were less effective than those with five or more sessions (Sherry & Staley, 1984). Likewise, Brown and Krane (2000) found that four to five sessions can be efficacious. In contrast, a one-time intervention, delivered to undeclared students early in the freshmen experience, was linked to vocational identity growth (Buescher, Johnston, Lucas, & Hughey, 1989).

Hildenbrand (2004) examined career interventions in first-year experience courses for her master's thesis. Specifically, she sought to discover how many first-year experience courses included career content and the nature of that content. The majority of respondents to her survey indicated that career content was being covered in the first-year experience course at their institution and was seen as important by course instructors. She found that work interests, personality, values, and skills were common areas of focus within the career content. In the ACAD 1100 course, these four areas of focus are

included in the career exploration unit along with one additional area, academic strengths. Hildenbrand (2004) also discovered that most first-year experience course instructors used some combination of the five significant components of effective career interventions noted by Brown and Krane (2000) although she noted the absence of modeling among respondents.

Cuseo (2005) emphasized the need for intentionally designed, intrusive interventions related to academic and career planning through vehicles such as first-year experience courses. He asserted that providing such interventions might increase student involvement with related supportive services throughout the college experience. Cuseo hypothesized that academic and career interventions in a first-year experience course would assist students in finding a fulfilling academic and career path while helping institutions to increase student satisfaction and retain more of their students.

Summary

Social Cognitive Career Theory (Lent et al., 2002) provides a useful and unifying framework for considering the career development of college students with its focus on self-efficacy, performance attainment, and personal goals. The career development needs and career confidence of college students from diverse backgrounds may differ. SCCT has been successfully applied to a number of populations including those that are diverse in terms of race/ethnicity, gender/sex, and sexual orientation. Significant differences in career self-perception have been found among racial/ethnic groups and genders/sexes (Gasser, 2013; Larson et al., 2010). The effect of place of college residence on career confidence has not been addressed in the literature.

Skipper (2002) found that instructors of first-year experience courses rated career development as one of the five most important topics covered. Cuseo (2005) hypothesized that embedding career content in first-year experience courses would be beneficial to students and institutions and would produce retention benefits. Pickett and associates (2009) also advocated for the inclusion of career content in first-year experience courses, noting that most students go to college to enter the workforce and describing career exploration and development as key tasks for college students. Key student development theorists such as Alexander Astin and Vincent Tinto have linked career preparation to retention and student satisfaction.

In general, a wide variety of career interventions have been found to be beneficial for college students. Components of effective career interventions include written exercises, individual interpretation and feedback, information regarding possible careers, modeling, and support/networking. Use of multiple components was shown to increase the effect size of the intervention (Brown & Krane, 2000). Hildenbrand (2004) asserts that including all five components in the career content of first-year experience courses as a best practice.

Pascarella and Terenzini (1991, 2005) concluded that first-year experience courses positively impacted retention and degree completion. Belson and Deegan (1993) reported that students who participated in a first-year experience course had more clearly defined career and academic goals at the end of the course and three semesters later. Cuseo (2010) reported that data from the 2005 National Survey of Student Engagement (NSSE), which drew responses from over 80,000 first-year college students, provided support for the efficacy of first-year experience courses. Students who participated in

first-year experience courses were more engaged and satisfied with career advising and planning according to the NSEE data.

In conclusion, career components are included in many first-year experience courses. Such career components have generally received positive reviews in the literature (Belson & Deegan, 1993; Cuseo, 2005, 2010; Pickett et al., 2009; Skipper, 2002). However, Hildenbrand (2004) accurately reflects that relatively little research has been done in this area. She correctly asserts that institutions should do their own studies of the effectiveness of career interventions within their first-year experience courses. By extension, it is also important to consider how career interventions affect specific groups of students within each institution such as those who differ in terms of race/ethnicity, gender/sex, and place of college residence. The current study describes the level of career confidence reported by diverse groups of students who completed the ACAD Career Unit within the ACAD 1100 course.

Chapter 3

Methodology

Introduction

Chapter 3 describes the methodology for the study. The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and place of college residence. Sections in this chapter include (a) research design, (b) participants, (c) instrumentation, (d) data collection procedures, (e) data analysis, (f) assumptions, (g) limitations, and (h) definition of terms.

The general research question explored how levels of career confidence differed among freshmen students based upon race, gender, and place of college residence. The first specific research question asked how students' confidence in the ability to identify the skills necessary for a desired career differed among freshmen students based on race, gender, and residential status. The second specific research question asked how confidence in students' selected academic major varied among freshmen students based on race, gender, and place of college residence. The third specific research question asked how confidence that students' chosen academic major will lead to a specific job or career path in the future varied among freshmen students based on race, gender, and place of college residence. The fourth specific research question asked how confidence in the ability to choose a second major when the first choice does not work out varied among freshmen students based on race, gender, and place of college residence.

Research Design

The research design used for the study was ex post facto. Silva (2010), writing for the *Encyclopedia of Research Design*, defined ex post facto research as an investigation of data that occurs after the fact. In this type of design, the researcher does not manipulate variables as one would do in a true experimental design. Rather, the researcher examines historical data after it has been collected.

An ex post facto research design was appropriate for this descriptive study because the historical data being analyzed were obtained from four cohort groups of first-year (freshmen) students who took a first-year experience course (ACAD 1100) during the fall 2011, fall 2012, fall 2013, and fall 2014 semesters. First-year students in the four cohort groups completed a career exploration unit as part of the course curriculum and responded to the career exploration unit learning assessment at the completion of the unit. Data to address each of the four research questions were collected via the learning assessment.

Population and Sample

This study analyzed archival data obtained from four cohort of freshmen students enrolled in a first-year experience course (ACAD 1100). The population was composed of freshmen students enrolled in the ACAD 1100 course during fall semesters from 2011-2014. The sample was composed of those students who completed the career exploration unit learning assessment during the fall semesters from 2011-2014.

2011 population. In 2011, 1,776 freshmen were enrolled in ACAD 1100. Of these, 1,708 were first-time freshmen and 68 were other freshmen. The course enrollment rate for first-time freshmen was 66.28% while the enrollment rate for other freshmen was

3.32%. Since first-time freshmen made up the majority of students enrolled in ACAD 1100 in 2011, it was important to examine their characteristics in more depth. Women were 61.30% (n = 1047) of enrolled first-time freshmen while men were 38.70% (n = 661). Of enrolled first-time freshmen, 50.06% (n = 855) identified as Black, 37.70% (n = 644) identified as White, 4.10% (n = 70) identified as Hispanic, 3.34% (n = 57) identified as Multi-racial, 2.34% (n = 40) identified as Asian, 0.64% (n = 11) as Non-resident Alien, 0.35% (n = 6) identified as Pacific Islander, 0.29% (n = 5) identified as American Indian, and 1.17% (n = 20) chose not to respond to this item (S. A. Burkes, personal communication, April 23, 2013).

2011 sample. A career exploration unit learning assessment was administered to freshmen students enrolled in the ACAD 1100 course during the fall 2011 semester at the conclusion of the career exploration unit. One thousand one hundred sixty-six (1,166) responses were received from the 2011 cohort group, a response rate of 65.65%. Of the respondents, 65.77% (n = 761) were women and 34.23% (n = 396) were men.

Information regarding race and ethnicity of respondents was collected using somewhat different categories than those used during the enrollment process. Therefore, the foregoing categories do not exactly match those listed in enrollment records. Of respondents, 54.55% (n = 636) identified as Black, 38.25% (n = 446) identified as White, 3.77% (n = 44) identified as Asian/Asian American, 2.83% (n = 33) identified as Hispanic/Latino, 2.32% (n = 27) identified as Other, 1.46% (n = 17) identified as American Indian, 0.69% (n = 8) identified as Hawaiian Native or Other Pacific Islander, .051% (n = 6) identified as Alaskan Native, and 0.94% (n = 11) did not respond to the

item. Note: Some respondents marked more than one race/ethnicity since biracial was not an item choice.

2012 population. In 2012, 1,169 freshmen were enrolled in ACAD 1100. Of these, 1,133 were first-time freshmen and 36 were other freshmen. The course enrollment rate for first-time freshmen was 50.31% while the enrollment rate for other freshmen was 2.15%. Women were 60.90% (n = 690) of enrolled first-time freshmen while men were 39.09% (n = 443). Of enrolled first-time freshmen, 47.13% (n = 534) identified as Black, 42.10% (n = 477) identified as White, 3.70% (n = 42) identified as Hispanic/Latino, 4.06% (n = 46) identified as Multi-racial, 1.94% (n = 22) identified as Asian, .09% (n = 1) chose not to respond to this item, .88% (n = 10) as Non-resident Alien, and .09% (n = 1) identified as American Indian (B.O. Briggs, personal communication, February 16, 2016).

2012 sample. A career exploration unit learning assessment was administered to freshmen students enrolled in the ACAD 1100 course during the fall 2012 semester at the conclusion of the career exploration unit. Five hundred seventy-six (n = 576) responses were received from the 2012 cohort group, a response rate of 49.27%. Of the respondents, 63.72% (n = 367) were women and 35.24% (n = 203) were men.

Approximately 1.04% (n = 6) respondents did not provide a response to the item.

Information regarding race and ethnicity of respondents was collected using somewhat different categories than those used during the enrollment process. Therefore, the foregoing categories do not exactly match those listed in enrollment records. Of respondents, 54.17% (n = 312) identified as Black/African American, 37.5% (n = 216) identified as White/Caucasian, 2.95% (n = 17) identified as Asian/Asian American,

3.82% (n = 22) identified as Hispanic/Latino, 2.43% (n = 14) identified as Other, 2.08% (n= 12) identified as American Indian, .18% (n= 1) identified as Hawaiian Native or Other Pacific Islander, .88% (n= 5) identified as Alaskan Native, and .88% (n= 5) did not respond to the item. Note: Some respondents marked more than one race/ethnicity since biracial was not an item choice.

2013 population. In 2013, 1,093 freshmen were enrolled in ACAD 1100. Of these, 1,071 were first-time freshmen and 22 were other freshmen. The course enrollment rate for first-time freshmen was 50.19% while the enrollment rate for other freshmen was 1.57%. Women were 59.10% (n = 633) of enrolled first-time freshmen while men were 40.90% (n = 438). Of enrolled first-time freshmen, 42.20% (n = 452) identified as Black, 45% (n = 482) identified as White, 4.67% (n = 50) identified as Hispanic, 8.50% (n = 91) identified as Multiracial, 2.89 % (n = 31) identified as Asian, .93% (n = 10) identified as Non-resident Alien, .09% (n = 1) identified as American Indian, and .09% (n = 1) chose not to respond to this item. (B.O. Briggs, personal communication, February 16, 2016).

2013 sample. A career exploration unit learning assessment was administered to freshmen students enrolled in the ACAD 1100 course during the fall 2013 semester at the conclusion of the career exploration unit. Seven hundred thirty-seven (737) responses were received from the 2013 cohort group, a response rate of 67.43%. Of the respondents, 62.69% (n = 462) were women and 37.10% (n = 273) were men. Approximately .27% (n = 2) did not provide a response to this item.

Information regarding race and ethnicity of respondents was collected using somewhat different categories than those used during the enrollment process. Therefore, the foregoing categories do not exactly match those listed in enrollment records. Of

respondents, 41.93% (n = 309) identified as Black/African American, 49.39% (n = 364) identified as White/Caucasian, 4.61% (n = 34) identified as Asian/Asian American, 5.29% (n = 39) identified as Hispanic/Latino, 2.72% (n = 20) identified as Other, 1.50 % (n = 11) identified as American Indian, .82% (n = 6) identified as Hawaiian Native or Other Pacific Islander, .14% (n = 1) identified as Alaskan Native, and .27% (n = 2) did not respond to the item. Note: Some respondents marked more than one race/ethnicity since biracial was not an item choice.

2014 population. In 2014, 1,265 freshmen were enrolled in ACAD 1100. Of these, 1,247 were first-time freshmen and 18 were other freshmen. The course enrollment rate for first-time freshmen was 52.73% while the enrollment rate for other freshmen was 1.37%. Women were 61.35% (n = 765) of enrolled first-time freshmen while men were 38.65% (n = 482). Of enrolled first-time freshmen, 40% (n = 508) identified as Black, 44.59% (n = 556) identified as White, 5.61% (n = 70) identified as Hispanic, 4.49 % (n = 56) identified as Multi-racial, 2.41% (n = 30) identified as Asian, 1.20% (n = 15) as Non-resident Alien, .08% (n = 1) as Pacific Islander, .08% (n = 1) identified as American Indian, and .72% (n = 9) chose not to respond to this item. (B.O. Briggs, personal communication, February 16, 2016).

2014 sample. A career exploration unit learning assessment was administered to freshmen students enrolled in the ACAD 1100 course during the fall 2014 semester at the conclusion of the career exploration unit. Nine hundred twenty-one (921) responses were received from the 2014 cohort group, a response rate of 72.81%. Of the respondents, 62.32% (n = 574) were women and 36.48% (n = 336) were men. Approximately 1.19% (n = 11) did not provide a response to this item.

Information regarding race and ethnicity of respondents was collected using somewhat different categories than those used during the enrollment process. Therefore, the foregoing categories do not exactly match those listed in enrollment records. Of respondents, 42.02% (n = 387) identified as Black/African American, 50.38% (n = 464) identified as White/Caucasian, 2.61% (n = 24) identified as Asian/Asian American, 4.67% (n = 43) identified as Hispanic/Latino, 2.85% (n = 20) identified as Other, 2.30% (n = 21) identified as American Indian, .77% (n = 7) identified as Hawaiian Native or Other Pacific Islander, .33% (n = 3) identified as Alaskan Native, and .98% (n = 9) did not respond to the item. Note: Some respondents marked more than one race/ethnicity since biracial was not an item choice.

Description of the course. Prior to 2012, the ACAD 1100 course was titled Introduction to the University. The purpose of the course was to introduce freshmen students to various university programs and resources. The 2011 cohort group completed this slightly different version of the course. The current purpose of the ACAD 1100 course is to help freshmen students develop academic skills necessary for college-level study and familiarize them with resources that could assist them in being academically successful. The course is currently titled Academic Strategies. The 2012, 2013, 2014 cohort groups completed this version of the course. Throughout its history and at the present time, ACAD 1100 is a three credit-hour elective taught primarily by adjunct instructors. Freshmen students are encouraged to take the course. Non-freshmen students enroll on rare occasions when such enrollment is recommended by an academic advisor or other university administrator (C. Cockrum, personal communication, July 13, 2015).

Although the ACAD 1100 course curriculum underwent significant changes prior to the fall 2012 semester, the career unit and its associated learning assessment have remained consistent throughout the time period (2011-2014) that the current study addressed. The career unit was initially piloted in 2008. Feedback from instructors and the ACAD program director was used to revise the career unit prior to the start of the fall 2009 semester. The career unit learning assessment was developed during the summer of 2009 and was first used for the fall 2009 semester.

The ACAD career unit focuses on career planning and decision making and is designed to engage students in basic career assessment that would assist them in learning about their academic strengths, work interests, personality, skills, and values. Students complete the online career assessments, and based on the information they learn, complete a final project focused on identifying a career and related academic major.

Students consult with their course instructors to complete a term paper, poster presentation, video, or other project that describes the career and academic major that was identified during the career unit. Students are encouraged to research and include information about resources on campus that can help facilitate the career development process in their final project. Examples of such resources include the Academic Counseling Center, Career Services, the Counseling Center, and so forth. Students are also encouraged to research and include information in their project about student organizations on the campus or professional organizations in the community that could provide them with further information about their desired career. For example, a student interested in a career in human resources might choose to major in business management and join the student chapter of the Society of Human Resources Management. At the

conclusion of the final career project, students complete the career exploration unit learning assessment.

Instrumentation

Each student who completed the career exploration unit as part of the ACAD 1100 course was asked to complete a career exploration unit learning assessment. The learning assessment instrument was designed by the researcher in consultation with the assistant vice president for Student Affairs/Student Development and the director of Student Affairs Learning and Assessment. It was designed to capture a snapshot of students as they completed the career component of the ACAD course. The assistant vice president for Student Affairs/Student Development holds a Ph.D. in counseling psychology and previously served as director of Student Affairs Learning and Assessment. The current director of Student Affairs Learning and Assessment holds a Ph.D. in higher education with a concentration in student affairs.

Both consultants were familiar with research design and instrumentation and have conducted ongoing research and assessment in higher education settings. The assistant vice president for Student Affairs/Student Development consulted on the version of the learning assessment used in 2009 and 2010. The current director of Student Affairs Learning and Assessment consulted on the version used with the 2011, 2012, 2013, and 2014 cohorts. The career unit learning assessment includes three parts: a demographic panel, a series of items matched to the learning objectives for the career development unit, and a series of items designed to assess students' level of confidence in the career path and academic major they identified during the career exploration unit.

For the present study, six questions from the learning assessment were considered. Question 11 asked: “On a scale of 1 to 5, how confident are you that you selected the best major based on your personality, interests, values, skills, and academic abilities?” A 5-point Likert scale was utilized to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. Question 14 asked “Have you determined a major?” Question 15 asked “Are you able to identify a job or career path associated with your specific major?” Students who answered yes to Questions 14 and 15 were presented with three additional questions about their level of confidence in the major they selected.

Question 16 asked “On a scale of 1 to 5, how confident are you that you selected the best major based on your personality, interests, values, skills, and academic abilities?” Question 17 asked “On a scale of 1 to 5, how confident are you that your major leads to a specific job or career path based on your personality, interests, values, skills, and academic abilities? Question 18 asked “On a scale of 1 to 5, how confident are you in your ability to select another major that fits your personality, interest, values, skills, and academic abilities if your current major does not work out? For all three questions, a 5-point Likert scale was utilized to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. The career exploration unit learning assessment is displayed in the Appendix.

Data Collection Procedures

Most freshmen students enrolled in ACAD 1100 complete the career exploration unit learning assessment at the conclusion of the career exploration unit in October or November of each academic year. However, this timeline varies depending upon the syllabi of individual faculty members. All data collected from the career exploration unit learning assessment are received by the conclusion of the fall semester in early December of each academic year.

All responses to the career exploration unit learning assessment by students in the four cohort groups (2011, 2012, 2013, and 2014) were collected electronically via secure web transmission using a university subscription to the commercial Survey Monkey software. Students were provided with a link to the learning assessment in the course materials and a small portion of the grade for the career exploration unit was based upon the completion of this assessment.

Data Analysis Procedures

The general research question asked how levels of career confidence differed among students based upon race, gender, and residential status. This section addresses the method of data analysis for each of the five research questions. Each question is addressed in a corresponding sub-section below.

Research question 1. The first specific research question asked how confidence in the ability to identify the skills necessary for a desired career differed among freshmen students based on race, gender, and residential status. The one-way analysis of variance (ANOVA) and the independent samples t-test were chosen as statistical procedures since the data regarding level of confidence in ability to identify job skills are interval in

nature. A 5-point Likert scale was used to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. Creswell (2009) identified ANOVA as an appropriate statistical procedure for group comparison of parametric data when one or more independent variables are included. Furthermore, he identified the independent samples t-test as appropriate for group comparison of parametric data when one independent variable is included. One ANOVA and two independent samples t-tests were calculated to answer the first research question.

Research question 2. The second specific research question asked how confidence in academic major selected varied among freshmen students based on race, gender, age, and residential status and age across time. ANOVA and independent samples t-tests were chosen as statistical methods since the data regarding level of confidence in academic major are interval in nature. A 5-point Likert scale was used to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. Creswell (2009) identified ANOVA as an appropriate statistical procedure for group comparison of parametric data when one or more independent variables are included. Furthermore, he identified the independent samples t-test as appropriate for group comparison of parametric data when one independent variable is included. One ANOVA and two independent samples t-tests were calculated to answer the second research question.

Research question 3. The third specific research question asked how confidence that chosen academic major leads to a specific job or career path in the future differed among freshmen students based on race, gender, and residential status. ANOVA and independent samples t-tests were chosen as statistical methods since the data regarding level of confidence in major leading to a specific job are interval in nature. A 5-point Likert scale was used to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. Creswell (2009) identified ANOVA as an appropriate statistical procedure for group comparison of parametric data when one or more independent variables are included. Furthermore, he identified the independent samples t-test as appropriate for group comparison of parametric data when one independent variable is included. One ANOVA and two independent samples t-tests were calculated to answer the third research question.

Research question 4. The fourth specific research question asked how confidence in the ability to choose a second major when the first choice does not work out varied among freshmen students based on race, gender, and residential status. ANOVA and independent samples t-tests were chosen as statistical methods since the data regarding level of confidence in ability to identify an alternative major are interval in nature. A 5-point Likert scale was used to measure confidence with 1 equating to no confidence, 2 to below average confidence, 3 to average confidence, 4 to above average confidence, and 5 to extensive confidence. Creswell (2009) identified ANOVA as an appropriate statistical procedure for group comparison of parametric data when one or more independent variables are included. Furthermore, he identified the independent

samples t-test as appropriate for group comparison of parametric data when one independent variable is included. One ANOVA and two independent samples t-tests were calculated to answer the fourth research question.

Assumptions

The following assumptions, first introduced in Chapter 1, were made in this study:

(1) The sample of freshmen students who completed the career exploration unit learning assessment during the fall 2011, 2012, 2013, and 2014 semesters as part of their first-year experience course (ACAD 1100) were representative of ACAD 1100 students in general.

(2) The sample of freshmen students who completed the career exploration unit learning assessment during the fall 2011, 2012, 2013, and 2014 semesters as part of their first-year experience course (ACAD 1100) answered each question of the career exploration unit learning assessment honestly.

Limitations

The following limitations are present in this study:

(1) The sample is not representative of the population of all freshmen students in all first-year experience courses. Only students at a large, metropolitan research university in the mid-south region of the United States were surveyed.

(2) The sample of freshmen students who completed the career exploration unit learning assessment during the fall 2011, 2012, 2013, and 2014 semesters as part of the ACAD 1100 course were not randomly selected. Some first-year students elect to take the ACAD 1100 course on their own while many others are encouraged to do so by their academic advisors. Of those students who elected to take the ACAD 1100 course during

the fall 2011, 2012, 2013, and 2014 semesters, the participants completed the career unit learning assessment while some other ACAD 1100 students did not complete it.

Therefore, both the population and the sample were self-selected.

(3) A nationally normed standardized instrument was not used in data collection. Instead, a local instrument was developed to reflect the particular learning outcomes of the career exploration unit in the ACAD 1100 course.

(4) Although a common syllabus and calendar are provided to the adjunct course instructors by the program director, a standardized teaching method is not used.

Instructors receive limited training and it is possible that some do not possess in-depth knowledge of or interest in college student career development. Therefore, the results of the study are not generalizable beyond the ACAD program.

Definition of Terms

The definition of terms section, first presented in Chapter 1, is reprinted here for the convenience of the reader.

(1) ACAD 1100: An elective first-year experience course. Freshmen are encouraged to take the course. Prior to 2012, the course was titled Introduction to the University. It focused on introducing students to university programs and resources (C. Cockrum, personal communication, July 13, 2015). From 2012-present, the course has been titled Academic Strategies. The ACAD 1100 website describes the current course as focusing on the “academic strategies needed to be successful as a college student” (The University of Memphis, ACAD 1100 Program, 2014b).

(2) Career exploration unit: For the purpose of this study, a two class-period part of the ACAD 1100 curriculum focused on completing career assessments, making an

initial selection of a career path and academic major, and completing a related capstone project. This unit is sequenced to occur following the academic advising unit so that the concepts of academic major and career are linked in the curriculum.

(3) Identification of academic major: For the purpose of this study, the selection of a proposed academic major that is linked to one's desired career path and articulated during the career exploration unit of the ACAD 1100 course.

(4) First-year students: An alternate term for freshmen students that is used interchangeably with the term freshmen students in the literature.

(5) First-year experience course: In most cases, a course that assists first-year students in adjusting to college and becoming academically successful (Pickett, Gore, Swanson, & Rinella, 2009). Some authors (i.e. Hunter & Linder, 2005) also include social development in the definition.

Chapter 4

Results

The fourth chapter presents the statistical analysis for each of the four research questions described previously. It is divided into three sections including (a) description of the participants, (b) statistical analysis, and (c) interaction effects.

The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and place of college residence. The ACAD Career Unit Learning Assessment, described in the previous chapter, was used to gather the data.

Participants

The participants for this descriptive study were freshmen students who (a) enrolled in ACAD 1100 during the fall 2011, 2012, 2013, and 2014 semesters, (b) completed the ACAD Career Exploration Unit as part of the course, and (c) provided a usable response to the ACAD Career Exploration Unit Learning Assessment. In 2011, 1,166 responses were received; in 2012, 576; in 2013, 737; and in 2014, 921 for a total of 3,400 responses. Once duplicate responses were eliminated, 2,933 responses remained. Of these, 997 were from 2011, 481 were from 2012, 642 were from 2013, and 813 were from 2014.

Some respondents began the survey but did not complete it. Incomplete responses were eliminated from the data set. The number of responses from Native American/American Indian, Native Hawaiian/Other Pacific Islander, and Alaskan Native

was too small to produce a reliable statistical analysis. These responses were also removed from the data set. Some individuals marked more than one race/ethnicity when responding to the survey (n = 130) or marked other (n = 55). Since these responses could not be placed into discrete categories for statistical analysis and any decision on where to place them would have been arbitrary, they were also eliminated from the data set. Therefore, 2,653 usable responses remained for analysis.

The present study was designed to consider the self-reported career confidence levels of participants in terms of academic major and career path. Not all students who completed the ACAD 1100 Career Exploration Unit were able to identify a major and career path at the conclusion of the unit. In fact, of the 2,653 usable responses, 1,953 students were able to identify a major and career path while 700 students were not able to do so. Skip logic was used in the electronic learning assessment so that only those students who had identified a major and career path were presented with the questions about career confidence levels. Therefore, the responses of the 1,953 participants who identified a major and career path were analyzed for the current study.

Of the 1,953 participants selected for study, 50 identified as Asian/Asian American, 1,009 identified as Black/African American, 68 identified as Hispanic/Latino, and 826 identified as White/Caucasian. Six hundred forty-two (642) were male while 1,311 were female. Eleven hundred (1,100) were residential students while 853 were commuter students.

Statistical Analysis

A series of one-way ANOVAs were conducted to determine how career confidence varied by race/ethnicity for each of the four specific research questions while

independent sample t-tests were used to determine variation in career confidence by gender and place of collegiate residence. It was initially proposed that ANOVA be used to analyze all data for all parts of all research questions. However, the assumption of homogeneity of variance that underlies ANOVA could not be met for all test cases. Therefore, the independent samples t-test with SPSS correction for unequal variances was used for comparisons based on gender and collegiate residence.

Research question 1: Confidence in identification of skills. The first specific research question asked how confidence in the ability to identify the skills necessary for a desired career differed among freshmen students based on race, gender, and residential status.

Race/ethnicity. A one-way ANOVA showed that the difference in self-reported confidence in ability to identify the skills necessary for a desired career among Group 1, Asian/Asian Americans ($n = 50$, $M = 3.64$, $SD = .78$), Group 2, Black/African Americans ($n = 1009$, $M = 3.93$, $SD = .80$), Group 3, Hispanic/Latinos ($n = 68$, $M = 3.87$, $SD = .71$), and Group 4, White/Caucasians ($n = 826$, $M = 3.88$, $SD = .75$) was statistically significant, $F(3, 1949) = 2.73$, $p = .043$, $\alpha = .05$. Post hoc comparisons using the Tukey HSD test indicated that the mean score for Asian/Asian Americans ($M = 3.64$, $SD = .78$) was significantly different from the mean score for Black/African Americans ($M = 3.93$, $SD = .80$), $d = .37$ when $\alpha = .05$. All other homogenous subsets were non-significant at the .05 level. These results suggest that Black/African American students have significantly higher confidence in their ability to identify the skills needed for a desired career than do Asian/Asian American students although the effect size was small. Results are presented in Table 1.

Table 1

One-way ANOVA for Confidence x Race/Ethnicity: Confidence in Ability to Identify Skills Necessary for Desired Career

Confidence Skills	1: Asian		2: Black		3: Hispanic		4: White		F	p	Tukey HSD
	M	SD	M	SD	M	SD	M	SD			
	3.64	.78	3.93	.80	3.87	.71	3.88	.75	2.73	.043	2 > 1

* $p \leq .05$, $d = .37$

Sex/gender. An independent samples t-test showed that the difference in self-reported confidence in ability to identify the skills needed for a desired career between Group 1, Males ($n = 642$, $M = 3.98$, $SD = .76$) and Group 2, Females ($n = 1311$, $M = 3.86$, $SD = .78$) was statistically significant, $t(1311.87) = 2.98$, $p = .003$, 95% CI [.04, .18], $d = .16$. These results suggest that males have greater confidence in their ability to identify the skills needed for a desired career although the effect size is small. Results are presented in Table 2 below.

Table 2

Independent t-test for Confidence x Sex/Gender: Confidence in Ability to Identify Skills Necessary for Desired Career

Confidence Skills	1: Males		2: Females		t (1311.87)	p	95% CI	Cohen's d
	M	SD	M	SD				
	3.98	.76	3.86	.78	2.98	.003	[.04, .18]	.16

* $p \leq .05$

Collegiate residence. An independent samples t-test showed that the difference in self-reported confidence in ability to identify the skills needed for a desired career between Group 1, Residential Students ($n = 1100$, $M = 3.91$, $SD = .77$) and Group 2, Commuter Students ($n = 853$, $M = 3.90$, $SD = .78$) were not statistically significant, $t(1951) = .28$, $p = .782$, 95% CI [-.06, .08]. These results suggest that residential students and commuter

students do not differ significantly in terms of confidence in ability to identify the skills needed for a desired career. Results are presented in Table 3.

Table 3

Independent t-test for Confidence x Collegiate Residence: Confidence in Ability to Identify Skills Necessary for Desired Career

Confidence	1: Residential		2: Commuter		<i>t</i> (1951)	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Skills	3.91	.77	3.90	.78	.28	.782	[-.06, .08]

* $p \leq .05$

Research question 2: Confidence in choice of academic major. The second specific research question asked how confidence in academic major selected varied among freshmen students based on race, gender, and residential status.

Race/ethnicity. The difference in self-reported confidence in ability to select the best academic major based on personality, skills, values, interests, and academic abilities among Group 1, Asian/Asian Americans ($n = 50$, $M = 3.80$, $SD = .81$), Group 2, Black/African Americans ($n = 1009$, $M = 4.07$, $SD = .87$), Group 3, Hispanic/Latinos ($n = 68$, $M = 3.94$, $SD = .96$), and Group 4, White/Caucasians ($n = 826$, $M = 4.08$, $SD = .80$) was non-significant, $F(3, 1949) = 2.22$, $p = .084$, $\alpha = .05$. These results suggest that Asian/Asian American, Black/African American, Hispanic/Latino, and White/Caucasian students do not differ significantly in terms of confidence in ability to select the best academic major based on personality, skills, values, interest, and academic abilities. Results are presented in Table 4.

Table 4

One-way ANOVA for Confidence x Race/Ethnicity: Confidence in Ability to Select a Desired Academic Major

Confidence	1: Asian		2: Black		3: Hispanic		4: White		F	p
	M	SD	M	SD	M	SD	M	SD		
Skills	3.80	.81	4.07	.87	3.94	.96	4.08	.80	2.22	.084

* $p \leq .05$

Sex/gender. An independent samples t-test showed that the difference in self-reported confidence in ability to select the best academic major based on personality, skills, values, interests, and academic abilities between Group 1, Males ($n = 642$, $M = 4.03$, $SD = .84$) and Group 2, Females ($n = 1311$, $M = 4.08$, $SD = .85$) were non-significant, $t(1951) = -1.13$, $p = .260$, 95% CI [-1.13, .03]. These results suggest that there is no significant difference between males and females in self-reported confidence in ability to select the best academic major based on personality, skills, values, interests, and academic abilities. Results are presented in Table 5 below.

Table 5

Independent t-test for Confidence x Sex/Gender: Confidence in Ability to Select a Desired Academic Major

Confidence	1: Males		2: Females		t (1951)	p	95% CI
	M	SD	M	SD			
Skills	4.03	.84	4.08	.85	-1.13	.260	[-1.13, .03]

* $p \leq .05$

Collegiate residence. An independent samples t-test showed that the difference in self-reported confidence in ability to select the best academic major based on personality, skills, values, interests, and academic abilities between Group 1, Residential Students ($n = 1100$, $M = 4.05$, $SD = .85$) and Group 2, Commuter Students ($n = 853$, $M = 4.08$, $SD = .84$)

was not statistically significant, $t(1951) = -.91, p = .363, 95\% \text{ CI} [-.11, .04]$. These results suggest that residential students and commuter students do not differ significantly in terms of confidence in ability to select the best academic major based on personality, skills, values, interests, and academic abilities. Results are presented in Table 6.

Table 6

Independent t-test for Confidence x Collegiate Residence: Confidence in Ability to Select a Desired Academic Major

Confidence	1: Residential		2: Commuter		$t(1951)$	p	95% CI
	M	SD	M	SD			
Skills	4.05	.85	4.08	.84	-.91	.363	[-.11, .04]

* $p \leq .05$

Research question 3: Confidence that academic major leads to job/career.

The third specific research question asked how confidence that chosen academic major leads to a specific job or career path in the future varied among freshmen students based on race, gender, and residential status.

Race/ethnicity. The difference in self-reported confidence that chosen academic major leads to a job/career among Group 1, Asian/Asian Americans ($n = 50, M = 3.94, SD = .82$), Group 2, Black/African Americans ($n = 1009, M = 4.06, SD = .84$), Group 3, Hispanic/Latinos ($n = 68, M = 3.94, SD = .90$), and Group 4, White/Caucasians ($n = 826, M = 4.07, SD = .84$) was non-significant, $F(3, 1949) = .81, p = .486, \alpha = .05$. These results suggest that Asian/Asian American, Black/African American, Hispanic/Latino, and White/Caucasian students do not differ significantly in terms of confidence that chosen academic major leads to a specific job or career path in the future. Results are presented in Table 7 below.

Table 7

One-way ANOVA for Confidence x Race/Ethnicity: Confidence that Chosen Academic Major Leads to Job/Career

Confidence	1: Asian		2: Black		3: Hispanic		4: White		F	p
	M	SD	M	SD	M	SD	M	SD		
Skills	3.94	.82	4.06	.84	3.94	.90	4.07	.84	.81	.486

* $p \leq .05$

Sex/gender. An independent samples t-test showed that the difference in self-reported confidence that chosen academic major leads to a job/career between Group 1, Males ($n = 642$, $M = 4.03$, $SD = .85$) and Group 2, Females ($n = 1311$, $M = 4.07$, $SD = .84$) were non-significant, $t(1951) = -1.15$, $p = .249$, 95% CI [-.13, .03]. These results suggest that there is no significant difference between males and females in self-reported confidence that chosen academic major leads to a job/career. Results are presented in Table 8 below.

Table 8

Independent t-test for Confidence x Sex/Gender: Confidence that Chosen Academic Major Leads to Job/Career

Confidence	1: Males		2: Females		t (1951)	p	95% CI
	M	SD	M	SD			
Skills	4.03	.85	4.07	.84	-1.15	.249	[-.13, .03]

* $p \leq .05$

Collegiate residence. An independent samples t-test showed that the difference in self-reported confidence that chosen academic major leads to a job/career between Group 1, Residential Students ($n = 1100$, $M = 4.04$, $SD = .85$) and Group 2, Commuter Students ($n = 853$, $M = 4.08$, $SD = .83$) were not statistically significant $t(1951) = -.90$, $p = .367$, 95% CI [-.11, .04]. These results suggest that residential students and commuter students

do not differ significantly in terms of confidence that chosen academic major leads to a job/career. Results are presented in Table 9.

Table 9

Independent t-test for Confidence x Collegiate Residence: Confidence that Chosen Academic Major Leads to a Job/Career

Confidence	1: Residential		2: Commuter		<i>t</i> (1951)	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Skills	4.04	.85	4.08	.83	-.90	.367	[-.11, .04]

* $p \leq .05$

Research question 4: Confidence in ability to choose alternate academic major. The fourth specific research question asked how confidence in the ability to choose a second major when the first choice does not work out varied among freshmen students based on race, gender, and residential status.

Race/ethnicity. The difference in self-reported confidence in ability to choose a second major when the first choice does not work out among Group 1, Asian/Asian Americans ($n = 50$, $M = 3.38$, $SD = .81$), Group 2, Black/African Americans ($n = 1009$, $M = 3.55$, $SD = .96$), Group 3, Hispanic/Latinos ($n = 68$, $M = 3.53$, $SD = .89$), and Group 4, White/Caucasians ($n = 826$, $M = 3.48$, $SD = .99$) was non-significant, $F(3, 1949) = 1.22$, $p = .299$, $\alpha = .05$. These results suggest that Asian/Asian American, Black/African American, Hispanic/Latino, and White/Caucasian students do not differ significantly in terms of confidence in ability to choose a second major when the first choice does not work out. Results are presented in Table 10.

Table 10

One-way ANOVA for Confidence x Race/Ethnicity: Confidence in Ability to Choose Alternate Academic Major

Confidence	1: Asian		2: Black		3: Hispanic		4: White		F	p
	M	SD	M	SD	M	SD	M	SD		
Skills	3.38	.81	3.55	.96	3.53	.89	3.48	.99	1.22	.299

* $p \leq .05$

Sex/gender. An independent samples t-test showed that the difference in self-reported confidence in the ability to choose a second major when the first choice does not work out between Group 1, Males ($n = 642$, $M = 3.58$, $SD = .94$) and Group 2, Females ($n = 1311$, $M = 3.48$, $SD = .98$) was statistically significant, $t(1951) = 2.01$, $p = .045$, 95% CI [.01, .19], $d = .10$. These results suggest that males have greater confidence in their ability to choose a second major when the first choice does not work out than females although the effect size is small. Results are presented in Table 11.

Table 11

Independent t-test for Confidence x Sex/Gender: Confidence in Ability to Choose an Alternate Academic Major

Confidence	1: Males		2: Females		t (1951)	p	95% CI	Cohen's d
	M	SD	M	SD				
Skills	3.58	.94	3.48	.98	2.01	.045	[.01, .19]	.10

* $p \leq .05$

Collegiate residence. An independent samples t-test showed that the difference in self-reported confidence in the ability to choose a second major when the first choice does not work out between Group 1, Residential Students ($n = 1100$, $M = 3.52$, $SD = .97$) and Group 2, Commuter Students ($n = 853$, $M = 3.50$, $SD = .97$) was not statistically significant $t(1951) = .38$, $p = .703$, 95% CI [-.07, .10]. These results suggest that residential students

and commuter students do not differ significantly in terms of confidence in ability to choose an alternate academic major. Results are presented in Table 12.

Table 12

Independent t-test for Confidence x Collegiate Residence: Confidence in Ability to Choose Alternate Academic Major

Confidence	1: Residential		2: Commuter		<i>t</i> (1951)	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Skills	3.52	.97	3.50	.97	.38	.703	[-.07, .10]

* $p \leq .05$

Interaction Effects

A series of two way ANOVAs were calculated at the conclusion of the statistical analysis to check for possible interaction effects among variables. No statistically significant interactions were found when $\alpha = .05$. However, one interaction approached significance at the .05 level and was significant at the .10 level.

For confidence in ability to choose an alternate academic major, Gender, $F(1, 1949) = 4.91, p = .027, \alpha = .05$, was statistically significant while collegiate residence, $F(1, 1949) = .06, p = .813, \alpha = .05$, was not significant. The interaction between gender and collegiate residence approached significance for confidence in ability to choose an alternate academic major, $F(1, 1949) = 3.72, p = .054, \alpha = .05$. The mean confidence score for females was higher for residential students ($M = 3.52$) than commuter students ($M = 3.44$) while the mean confidence score for males was higher for commuter students ($M = 3.63$) than for residential students ($M = 3.53$). Descriptive statistics for these analyses are presented in Table 13.

Table 13

Descriptive Statistics: Sex/gender x Collegiate Residence for Confidence in Ability to Select an Alternate Academic Major

Gender	Collegiate Residence	<i>M</i>	<i>SD</i>	<i>n</i>
Female	Commuter Student	3.44	.970	560
	Residential Student	3.52	.982	751
	Total	3.48	.977	1311
Male	Commuter Student	3.63	.951	293
	Residential Student	3.53	.933	349
	Total	3.58	.942	642
Total	Commuter Student	3.50	.967	853
	Residential Student	3.52	.966	1100
	Total	3.51	.967	1953

* $p \leq .05$

Chapter 5

Discussion

Chapter 5 contains (a) a summary of the present study, (b) conclusions regarding the results, and (c) recommendations for future programming and research efforts. Significant statistical results first presented in the previous chapter are discussed in Chapter 5 as they relate to conclusions and recommendations.

Summary of the Study

The purpose of the study was to examine archival data that was gathered from freshmen students who completed a career exploration unit in a first-year experience course during a four-year time span (2011-2014) to determine how levels of career confidence differed among students based upon race, gender, and place of college residence. In undertaking the study, it was thought that knowledge of differences in career confidence among students based on race, gender, and place of collegiate residence would enable career services staff, first-year experience course administrators, and academic advisors to target career interventions based on the needs of particular groups of diverse learners.

Social Cognitive Career Theory (SCCT) (Lent et al., 2002) provided a useful and unifying framework for considering the career development of college students with its focus on self-efficacy, performance attainment, and personal goals. Previous studies (Gasser, 2013; Larson et al., 2010) have found significant differences in career-self appraisal based on sex/gender and race/ethnicity. Place of collegiate residence as it relates to career self-appraisal has not been addressed previously in the literature. However, previous studies have considered how place of collegiate residence is related to

academic success. Turley and Wotke (2010) found that Black students who lived on campus during their freshmen year had significantly higher grade point averages than similar Black students who lived at home with family. Although career interventions and first-year experience courses have both been well-researched, there is a lack of published literature on impact of career interventions that occur within first-year experience courses.

The general research question asked how levels of career confidence differ among students based upon race, gender, and place of college residence. Four specific research questions were examined. (1) How does confidence in the ability to identify the skills necessary for a desired career differ among freshmen students based on race, gender, and collegiate residential status? (2) How does confidence in academic major selected vary among freshmen students based on race, gender, and collegiate residential status? (3) How does confidence that academic major will lead to a specific job/career path differ among freshmen students based on race, gender, and collegiate residential status? (4) How does confidence in the ability to choose a second major when the first choice did not work out vary among freshmen students based on race, gender, and residential status?

The participants for the study were 1,953 freshmen students who enrolled in a first-year experience course, ACAD 1100, and completed the ACAD Career Exploration Unit and its associated learning assessment during the years 2011-2014. Fifty of the participants identified as Asian/Asian American, 1,009 identified as Black/African American, 68 identified as Hispanic/Latino, and 826 identified as White/Caucasian. Six hundred forty-two (642) were male while 1,311 were female. Eleven hundred (1,100) were residential students while 853 were commuter students.

Results of the statistical analysis suggested that Black/African American students had significantly higher confidence in their ability to identify the skills needed for a desired career than Asian/Asian American students although the effect size was small. Furthermore, males had greater confidence in their ability to identify the skills needed for a desired career than females although the effect size was small. Finally, males reported greater confidence than females in their ability to choose a second major when the first choice of major did not work out although this effect size was also small. No significant interaction effects between variables were found in this study although the interaction between gender and collegiate residence approached significance for confidence in ability to choose an alternate academic major when the first choice did not work out. The mean confidence score was higher for female residential students than female commuter students while the mean confidence score for male commuter students was higher than for male residential students.

Conclusions regarding Significant Findings

Research question 1: Confidence in identification of skills. Confidence in the ability to identify the skills needed for a desired job/career was measured using a 5-point Likert scale, with possible scores ranging from 1-5. Four racial/ethnic groups were represented in the study including Asian/Asian American, Black/African American, Hispanic/Latino, and White/Caucasian. There was a statistically significant difference between the self-reported confidence levels of Black/African American students and Asian/Asian American students although the effect size was small. Differences between all other homogenous pairs were non-significant. These findings appear to contradict the results obtained by Gasser (2013) who found that a group of White students had higher

career self-appraisals than a group of Black and Asian students. Gasser (2013) did not address the potential differences between Black and Asian students since in her 2013 study they were combined into one group. It is important to consider the limitations of the current study when interpreting these results. First, a nationally normed standardized instrument was not used for the present study, which may account for measurement differences. Second, the sizes of the student groups in the present study were unequal. Fifty (50) of the participants identified as Asian/Asian American, 1,009 identified as Black/African American, 68 identified as Hispanic/Latino, and 826 identified as White/Caucasian. Unequal group sizes can impact homogeneity of variance, one of the assumptions underlying ANOVA. In this case, the assumption of homogeneity was checked using Levene's *F* Statistic and was met.

For sex/gender comparisons, confidence in the ability to identify the skills needed for a desired job/career was once again measured using a 5-point Likert scale, with possible scores ranging from 1-5. Two groups, men and women were represented. Men were more confident in their ability to identify the skills needed for a desired job/career than were women although the effect size was small. This finding is consistent with the results obtained by Larson and associates (2010), who found significant differences in confidence, as measured by the Expanded Skills Confidence Inventory, and interests, as measured by the 2005 Strong Interest Inventory between men and women. As mentioned previously, a limitation of the current study is that it did not use a nationally normed standardized instrument as was the case in Larson. Secondly, the group sizes for the independent samples t-test were unequal. There were 1,311 females and 642 males. The assumption of homogeneity of variance underlying the independent samples t-test was

not met in this instance. Therefore, the SPSS correction for unequal variances was used to complete the calculation. The unequal group sizes and small effect size should be taken into consideration when interpreting these results.

Research Question 4: Confidence in ability to choose an alternate major. To measure confidence in the ability to choose a second academic major if the first choice did not work out, a 5-point Likert scale was used, with scores ranging from 1-5. For sex/gender comparisons, two groups were considered, men and women. Males reported significantly higher levels of confidence than females in their ability to choose a second academic major if the first choice did not work out, although the effect size was small. These results are consistent with those reported by Larson and associates (2010) who found statistically significant differences in the career self-appraisal of men and women in terms of confidence and interests. Limitations of the current study include the fact that a nationally normed standardized instrument was not used, as was the case in Larson. Secondly, the group sizes for the independent samples t-test were unequal. There were 1,311 females and 642 males. The assumption of homogeneity of variance underlying the independent samples t-test was met in this instance. The unequal group size and small effect size should be taken into consideration when interpreting these results.

Conclusions regarding Additional Findings

The researcher was interested in learning about possible interaction effects between the variables of race/ethnicity, sex/gender, and place of collegiate residence. To see if interactions were present, the researcher conducted a series of two-way ANOVAs. No statistically significant interactions were found but one interaction between gender and collegiate residence approached significance at the .05

level for confidence in ability to choose an alternate academic major when the first choice did not work out. Turley and Wotke (2010) found that Black students who lived on campus had significantly higher grade point averages than Black students who lived at home with family. No significant interaction effect between race/ethnicity and collegiate residence was found for any of the four research questions examined in the current study.

Interestingly, men who lived off campus had higher mean confidence scores in their ability to choose a second major when the first choice did not work out than men who lived on campus. The results for women revealed an opposite tendency. Women who lived on campus had higher mean confidence scores in their ability to choose a second major when the first choice did not work out than women who lived off campus. One might hypothesize that men and women build career confidence in different ways and in different environments. Social Cognitive Career Theory (Lent et al., 2002) suggests that complex factors such as gender and environment interact to shape career self-efficacy. The effect of gender and collegiate residence on career confidence is an area for future research. As was noted in previous chapters, no published studies have addressed the impact of collegiate residence on the career confidence of college freshmen.

It is also important to consider which results from the current study were not significant. With the one exception of Black/African American and Asian/Asian American students who differed significantly in confidence in ability to identify the skills necessary for a desired career, freshmen students who completed the ACAD Career Exploration Unit did not differ widely in terms of career confidence by race/ethnicity across any other areas studied. Although Gasser (2013) found that White freshmen

students had higher career self-appraisals than non-white freshmen students, the results of the current study do not support that conclusion. Chung and Sedlacek (1999) reported that White freshmen students had higher academic and social self-appraisals than Black freshmen students. However, in the current study, no significant differences were found in confidence in the ability to select the best academic major due to race/ethnicity.

While sex/gender was a significant variable in terms of confidence in the ability to identify the skills needed for a desired career and confidence in the ability to select a second academic major when the first choice did not work out, it was non-significant for confidence in the ability to choose the best academic major and confidence that the major chosen leads to a job/career in the future. These mixed results suggest that the role that gender plays in career confidence remains unclear. This lack of clarity is borne out in the literature. Gasser (2013) concluded that career-related variables do not vary greatly by gender while Larson and associates (2010) concluded that significant differences exist based on gender. Further research is needed to more clearly define the relationship between gender and career confidence.

Place of collegiate residence was not a significant variable for level of career confidence for any of the four research questions studied. However, the interaction of sex/gender and place of collegiate residence is an important area for future study to determine if the career confidence of male and female college students varies by place of collegiate residence.

Recommendations

Research recommendations. Based upon the results of the current study, a number of recommendations for future research can be made.

1. Future research should utilize a nationally normed standardized instrument to more precisely measure the career confidence of freshmen students in first-year experience courses.

2. The current study made use of archival data collected over a four-year time span. Although the use of such data was expedient and allowed for a large sample size, it does not allow the researcher to evaluate all of the variables that may have a significant impact on the career confidence of freshmen students in a first-year experience course. For example, at the university where the current study was conducted, many freshmen students (38.70% as of 2010) are classified as first generation students (The University of Memphis, Office of Institutional Research, 2014a). A large percentage of freshmen students at the institution also demonstrate financial need. Variables representing first-generation student status and socioeconomic status were not contained in the archival data that was analyzed for the current study but should be included in future research on the career confidence of freshmen college students. Howard and associates (2011) found that socioeconomic status (SES) was a significant variable in the career aspirations of high school students, and it is likely that the impact of SES carries over to the college years. Owens and associates (2010) pointed out that the interaction of race, gender, and first-generation student status may be a particularly important area of study, especially for those providing career counseling to Black male students. Future

studies should focus on collecting information on as many salient demographic variables as possible.

3. Since the conclusions on the impact of sex/gender on the career confidence of freshmen college students in a first-year experience course were mixed, future research should attempt to clarify the relationship between these variables. The archival data that was analyzed contained only two possible responses: Male or female. Future studies should utilize a demographic panel that more fully acknowledges gender identity by allowing participants to identify as transgendered.

4. Given that the interaction between sex/gender and place of collegiate residence approached significance for the fourth research question (confidence in ability to select an alternate major when the first choice did not work out), future research should explore this effect in more depth.

5. Future research involving career interventions in first-year experience courses should utilize a repeated measures design so that the impact of the career intervention on the career confidence of freshmen students can be clearly measured through pre and post testing. In addition to evaluating the overall efficacy of the intervention, this type of research design will also allow analysis of the impact of the intervention on diverse students including factors such as race/ethnicity, sex/gender, collegiate residence, first-generation student status, socioeconomic status, and so forth. As Hildenbrand (2004) pointed out, career interventions in first-year experience courses have not been well researched in the literature. Given the potential of such interventions to positively impact retention and persistence (Cuseo, 2005) such research should be a priority.

6. A qualitative or mixed methods design should be used to more thoroughly understand the perceptions that underlie students' career self-appraisals, as well as the impact that the career exploration unit has on freshmen students in a first year experience course. Social Cognitive Career Theory (SCCT) (Lent et al., 2002) suggests that complex factors interact throughout the career development process. Qualitative analysis of the experiences of individual students may lead to a greater understanding of these interactions among study participants.

Programmatic recommendations. Given the results of this study, a number of programming recommendations are suggested.

1. Given that significant differences in career confidence were found among Black/African American and Asian/Asian American freshmen students, as well as among male and female freshmen students, place emphasis on helping students to develop career decision-making self-efficacy through the career unit in their first-year experience course. This is particularly important since higher levels of career self-efficacy have been linked with increased retention/persistence in the literature (Brown et al., 2008; Gore, 2006; Hansen & Pederson, 2012; Robbins et al., 2004; Wright et al., 2012).

2. Since the interaction between gender and place of collegiate residence approached significance in the current study, purposefully engage freshmen students in an examination of how environmental factors may facilitate or hinder their academic and career development while in college.

3. In the future, the career exploration unit in the first-year experience course should utilize a more detailed demographic panel and a nationally normed

standardized instrument. Locally developed questions can also be added. An enhanced learning assessment will allow program leaders to more accurately measure freshman students' career decision-making self-efficacy. Both pre- and post-intervention measures should be conducted for the career exploration unit in the first-year experience course. A repeated measures design will allow program staff to better evaluate the effectiveness of the intervention and make programmatic changes when necessary.

4. Career and academic advisors, as well as, instructors of first-year experience courses should receive training on the potential impact of career decision-making self-efficacy on college students. Such professionals are in a unique position to evaluate the career confidence of students, comparing their own evaluation to the students' self-appraisals. Intervention, when appropriate, would provide an opportunity to engage students in activities to enhance their career-decision making self-efficacy, which may, in turn enhance retention and persistence to graduation.

References

- Aguayo, D., Herman, K., Ojeda, L., & Flores, L. Y. (2011). Culture predicts Mexican Americans' college self-efficacy and college performance. *Journal of Diversity in Higher Education, 4*(2), 79. doi: 10.1037/a0022504
- Anderson, B. C., Creamer, D. G., & Cross, L. H. (1989). Undecided, multiple change, and decided students: How different are they? *NACADA Journal, 9*, 46-50. doi: 10.12930/0271-9517-9.1.46
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco, CA: Jossey-Bass.
- Astin, A. W. (1985). *Achieving educational excellence*. San Francisco, CA: Jossey-Bass.
- Astin, A. W. (1991). *Assessment for excellence*. Old Tappan, NJ: Macmillan.
- Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco, CA: Jossey-Bass.
- Barnes, J. A., & Herr, E. L. (1998). The effects of interventions on career progress. *Journal of Career Development, 24*(3), 179-193. doi: 10.1023/A:1025025617806
- BarNir, A., Watson, W. E., & Hutchins, H. M. (2011). Mediation and moderated mediation in the relationship among role models, self-efficacy, entrepreneurial career intention, and gender. *Journal of Applied Social Psychology, 41*(2), 270-297. doi: 10.1111/j.1559-1816.2010.00713.x
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education, 12*, 155-187. doi: 10.1007/BF00976194

- Bean, J. P., & Metzner, B. (1985). A conceptual model of nontraditional student attrition. *Review of Educational Research, 55*, 485-540. doi: 10.3102/00346543055004485
- Belson, K., & Deegan, R. (1993). Irvine Valley College. In B. O. Barefoot (Ed.) *Exploring the evidence: Reporting outcomes of freshman seminars* (Monograph No. 11) (pp. 17-18). Columbia, SC: University of South Carolina, National Resource Center for The Freshman Experience and Students in Transition.
- Bergeson, L. M., & Romano, J. L. (1994). The relationships among career decision making, self-efficacy, educational indecision, and gender. *Journal of College Student Development, 35*, 19-24.
- Bowen, W. G., Chingos, M. M., & McPherson, M. S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, NJ: Princeton University Press.
- Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., & Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and persistence: A meta-analytic path analysis. *Journal of Vocational Behavior, 72*(3), 298-308. doi:10.1016/j.jvb.2007.09.003
- Brown, S. D., & Krane, N. E. R. (2000). Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In S. D. Brown & R. W. Lent (Eds.), *Handbook of Counseling Psychology* (3rd ed.). (pp. 740-766). New York, NY: John Wiley & Sons, Inc.
- Buescher, K. L., Johnston, J. A., Lucas, E. B., & Hughey, K. F. (1989). Early intervention with undecided college students. *Journal of College Student Development, 30*(4), 375-376.

- Burgette, J. E., & Magun-Jackson, S. (2008). Freshman orientation, persistence, and achievement: A longitudinal analysis. *Journal of College Student Retention: Research, Theory & Practice*, 10(3), 235-263. doi: 10.2190/CS.10.3.a
- Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modeling test of an integrated model of student retention. *The Journal of Higher Education*, 64(2), 123-139. doi: 10.2307/2960026
- Career Dimensions, Inc. (2014). *History of the design of our career assessment, education, and career planning systems*. Retrieved from www.careerdimensions.com/producthistory.php.
- Chang, E. S., Chen, C., Greenberger, E., Dooley, D., & Heckhausen, J. (2006). What do they want in life: The life goals of a multi-ethnic, multi-generational sample of high school seniors. *Journal of Youth and Adolescence*, 35(3), 302-313. doi: 10.1007/s10964-006-9034-9
- Chee, K. H., Pino, N. W., & Smith, W. L. (2005). Gender differences in the academic ethic and academic achievement. *College Student Journal*, 39(3), 604-618.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Chung, Y. B., & Sedlacek, W. E. (1999). Ethnic differences in career, academic, and social self-appraisals among incoming college freshmen. *Journal of College Counseling*, 2(1), 14-24. doi: 10.1002/j.2161-1882.1999.tb00138.x
- Cueso, J. (2002-2003). *Academic advisement and student retention: Empirical connections and systemic interventions*. Brevard, NC: Policy Center on the first

Year of College, Brevard College. Retrieved from <http://www.geocities.ws/jccadjunct/advret.html>

- Cuseo, J. (2005). Decided, undecided, and in transition: Implications for academic assessment, career counseling, and student retention. In R. S. Feldman (Ed.), *Improving the first-year of college: Research and practice*. Mahwah, NJ: Lawrence Erlbaum Associations, Inc.
- Cuseo, J. (2010). The empirical case for the first-year seminar: Promoting positive student outcomes and campus-wide benefits. In *The first-year seminar: Research-based recommendations for course design, delivery, and assessment*. Dubuque, IA: Kendall/Hunt.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approach* (3rd ed.). Los Angeles, CA: Sage.
- Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adult: How teenagers prepare for the world of work*. New York, NY: Basic Books.
- Denley, T. (2014a). How predictive analytics and choice architecture can improve student success. *Research & Practice in Assessment*, 9(2), 61-69.
- Denley, T. (2014b, May). *Predictive analytics, choice architecture and bespoke education*. Keynote address presented at the 24th annual Memphis in May Student Affairs Conference, Memphis, TN.
- Denley, T. (2013). Degree Compass: A Course Recommendation System. *EDUCAUSE Review Online*. Retrieved from <http://www.educause.edu/ero/article/degree-compasscourse-recommendation-system>

- Dillard, J. M., & Perrin, D. W. (1980). Puerto Rican, Black, and Anglo adolescents' career aspirations, expectations, and maturity. *Vocational Guidance Quarterly*, 28(4), 313-321. doi: 10.1002/j.2164-585X.1980.tb01004.x
- Donnay, D. A., & Borgen, F. H. (1996). Validity, structure, and content of the 1994 Strong Interest Inventory. *Journal of Counseling Psychology*, 43(3), 275. doi: 10.1037/0022-0167.43.3.275
- Elkins, J. K. (1975). Factors in college students' career planning. *Vocational Guidance Quarterly*, 23(4), 354-357. doi: 10.1002/j.2164-585X.1975.tb02189.x
- Galotti, K. M. (1999). Making a "major" real-life decision: College students choosing an academic major. *Journal of Educational Psychology*, 91(2), 379-387. doi: 10.1037/0022-0663.91.2.379
- Gasser, C. (2013). Career self-appraisals and educational aspirations of diverse first-year college students. *College Student Journal*, 47(2), 364-372. Retrieved from <http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?sid=87fae272-929e-4a1b-a1b6-54ed5b725928%40sessionmgr4005&vid=0&hid=4213&preview=false>
- Gibbons, M. M., & Shoffner, M. F. (2004). Prospective first-generation college students: Meeting their needs through social cognitive career theory. *Professional School Counseling*, 91-97. Retrieved from <http://www.jstor.org/stable/42732419>
- Glaize, D. L., & Myrick, R. D. (1984). Interpersonal groups or computers: A study of career maturity and career decidedness. *Vocational Guidance Quarterly*, 32, 168-176. doi: 10.1002/j.2164-585X.1984.tb01576.x
- Gordon, V. N., & Grites, T. J. (1984). The freshman seminar course: Helping students succeed. *Journal of College Student Personnel*, 25(4), 315-320.

- Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment, 14*(1), 92-115. doi: 10.1177/1069072705281367
- Gore, P. A., Leuwerke, W. C., & Turley, S. E. (2005). A psychometric study of the college self-efficacy inventory. *Journal of College Student Retention: Research, Theory, and Practice, 7*, 227-244. doi: 10.2190/5CQF-F3P4-2QAC-GNVJ
- Gottfredson, L. S. (1981). Circumscription and compromise: A developmental theory of occupational aspirations. *Journal of Counseling Psychology, 28*(6), 545. doi: 10.1037/0022-0167.28.6.545
- Gray, K. (2006, October 12). The role of career services in students' retention, persistence to graduation. *National Association of Colleges and Employers Spotlight Online for Career Services Professionals*. Retrieved from http://www.naceweb.org/info_public/spotlight_online.htm.
- Groccia, J. E., & Harrity, M. B. (1991). The major selection program: A proactive retention and enrichment program for undecided freshmen. *Journal of College Student Development, 32*, 178-179.
- Hannah, L. K., & Robinson, L. F. (1990). Survey report: How colleges help freshmen select courses and careers. *Journal of Career Planning and Employment, 1*(4), 53-57.
- Hansen, M. J., & Pedersen, J. S. (2012). An examination of the effects of career development courses on career decision-making self-efficacy, adjustment to college, learning integration, and academic success. *Journal of the First-year Experience & Students in Transition, 24*(2), 33-61.

- Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology, 94*(3), 562-575. doi: 10.1037/0022-0663.94.3.562
- Healy, C. C., & Reilly, K. C. (1989). Career needs of community college students: Implications for services and theory. *Journal of College Student Development, 30*, 541-545.
- Henderson, K. M. (2009). *The effects of a cognitive information processing career intervention on the dysfunctional career thoughts, locus of control, and career decision self-efficacy of underprepared college students* (Unpublished doctoral dissertation, Kansas State University). Retrieved from <http://krex.k-state.edu/dspace/bitstream/handle/2097/1820/KristinaHenderson2009.pdf?sequence=3>
- Herr, E. L., & Cramer, S. H. (1992). *Career guidance and counseling through the life span: Systematic approaches* (4th ed.). New York, NY: HarperCollins.
- Hildenbrand, M. E. (2004). *A critical evaluation of the inclusion of empirically supported career interventions in first-year experience courses* (Unpublished master's thesis, Southern Illinois University-Carbondale).
- Hirschi, A., & Läge, D. (2008). Increasing the career choice readiness of young adolescents: An evaluation study. *International Journal for Educational and Vocational Guidance, 8*(2), 95-110. doi: 10.1007/s10775-008-9139-7

- Howard, K. A., Carlstrom, A. H., Katz, A. D., Chew, A. Y., Ray, G. C., Laine, L., & Caulum, D. (2011). Career aspirations of youth: Untangling race/ethnicity, SES, and gender. *Journal of Vocational Behavior*, 79(1), 98-109. doi: 10.1016/j.jvb.2010.12.002
- Huang, J. T., & Hsieh, H. H. (2011). Linking socioeconomic status to social cognitive career theory factors a partial least squares path modeling analysis. *Journal of Career Assessment*, 19(4), 452-461. doi: 10.1177/1069072711409723
- Hunter, M., & Linder, C. (2005). First-year seminars. In M. L. Upcraft, J. N. Gardner, B. O. Barefoot, & Associates (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first-year of college*. San Francisco, CA: Jossey-Bass.
- Ishitani, T. T. (2003). A longitudinal approach to assessing attrition behavior among first-generation students: Time-varying effects of pre-college characteristics. *Research in Higher Education*, 44(4), 433-449. doi: 10.1023/A:1024284932709
- Janasiewicz, B. A. (1987). Campus leaving behavior. *NACADA Journal*, 7(2), 23-30. doi: 10.12930/0271-9517-7.2.23
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 78(5), 540-563. doi: 10.1353/jhe.0.0019
- Larson, L. M., Wu, T. F., Bailey, D. C., Borgen, F. H., & Gasser, C. E. (2010). Male and female college students' college majors: The contribution of basic vocational confidence and interests. *Journal of Career Assessment*, 18(1), 16-33. doi: 10.1177/1069072709340520

- Lent, R. W., Brown, S. 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. doi:10.1006/jvbe.1994.1027
- Lent, R. W., Hackett, G., & Brown, S. D. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology, 47*(1), 36-39. doi: 10.1037/0022-0167.47.1.36
- Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. *Career Choice and Development, 4*, 255-311.
- Leppel, K. (2001). The impact of major on college persistence among freshmen. *Higher Education, 41*(3), 327-342. doi: 10.1023/A:1004189906367
- Levitz, R., & Noel, L. (1989). Connecting students to institutions: Keys to retention and success. In M. Upcraft, J. Gardner, & Associates (Eds.) *The freshman year experience* (pp.65-81). San Francisco, CA: Jossey-Bass.
- Lewallen, W. C. (1993). The impact of being “undecided” on college student persistence. *Journal of College Student Development, 34*, 103-112.
- Lewallen, W. C. (1995). Students decided and undecided about career choice: A comparison of college achievement and student involvement. *NACADA Journal, 15*(1), 22-30.
- Lotkowski, V. A., Robbins, S. B., & Noeth, R. J. (2004). The role of academic and non-academic factors in improving college retention. ACT policy report. *American College Testing (ACT), Inc.* Retrieved from <http://files.eric.ed.gov/fulltext/ED485476.pdf>

- Lounsbury, J. W., Saudargas, R. A., & Gibson, L. W. (2004). An investigation of personality traits in relation to intention to withdraw from college. *Journal of College Student Development, 45*(5), 517-534. doi: 10.1353/csd.2004.0059
- Lunneborg, P. W. (1975). Interest differentiation in high school and vocation indecision in college. *Journal of Vocational Behavior, 7*, 297-303. doi:10.1016/0001-8791(75)90071-8
- Magun-Jackson, S. (1996). *The relationship of a freshman orientation course to minority and non-minority retention at a large urban university* (Unpublished doctoral dissertation, The University of Memphis).
- Marso, R. N., & Pigge, F. L. (1997). A longitudinal study of persisting and non-persisting teachers' academic and personal characteristics. *The Journal of Experimental Education, 65*(3), 243-254. doi: 10.1080/00220973.1997.9943457
- Mau, W. C., & Bikos, L. H. (2000). Educational and vocational aspirations of minority and female students: A longitudinal study. *Journal of Counseling & Development, 78*(2), 186-194.
- McWhirter, E. H., Crothers, M., & Rasheed, S. (2000). The effects of high school career education on social-cognitive variables. *Journal of Counseling Psychology, 47*(3), 330. doi: 10.1037/0022-0167.47.3.330
- Metheny, J. & McWhirter, E. H. (2013) Contributions of social status and family support to college students' self-efficacy and outcome expectation. *Journal of Career Assessment, 21*(3), 378-394. doi: 10.1177/1069072712475164
- Noel, L., Levitz, R., & Saluri, D. (Eds.). (1985). *Increasing student retention: New challenges and potential*. San Francisco, CA: Jossey-Bass.

- Oliver, L. W., & Spokane, A. R. (1988). Career-intervention outcome: What contributes to client gain. *Journal of Counseling Psychology, 35*, 447-462. doi: 10.1037/0022-0167.35.4.447
- Orndorff, R. M., & Herr, E. L. (1996). A comparative study of declared and undeclared college students on career uncertainty and involvement in career development activity. *Journal of Counseling & Development, 74*, 632-639. doi: 10.1002/j.1556-6676.1996.tb02303.x
- Owens, D., Lacey, K., Rawls, G., & Holbert-Quince, J. A. (2010). First-generation African American male college students: Implications for career counselors. *The Career Development Quarterly, 58*(4), 291-300. doi: 10.1002/j.2161-0045.2010.tb00179.x
- Pascarella, E.T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Josey-Bass.
- Pascarella, E. T., & Terenzini, P.T. (2005). *How college affects students, Volume 2: A third decade of research*. San Francisco, CA: Josey-Bass.
- Parry, M. (2012, July 18). College degrees designed by the numbers. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/College-Degrees-Designed-by/132945/>.
- Perry, J. C., Przybysz, J., & Al-Sheikh, M. (2009). Reconsidering the “aspiration expectation gap” and assumed gender differences among urban youth. *Journal of Vocational Behavior, 74*(3), 349-354. doi:10.1016/j.jvb.2009.02.006

- Phinney, J. S., Baumann, K., & Blanton, S. (2001). Life goals and attributions for expected outcomes among adolescents from five ethnic groups. *Hispanic Journal of Behavioral Sciences, 23*(4), 363-377. doi: 10.1177/0739986301234002
- Pickett, R. F., Gore, P. A., Swanson, J. L., & Rinella, V. (2009, February). *An examination of first-year students' vocational interest patterns*. Poster presented at the 28th Annual Conference on the First-year Experience, Orlando, FL.
- Raabe, P. H. (1996). Constructing pluralistic work and career arrangements. In S. Lewis & J. Lewis (Eds.) *The work family challenge: Rethinking employment* (pp.128-141). London, England: Sage.
- Raimst, L. (1981). College student attrition and retention. College Board Report No. 81 1. New York: College Entrance Examination Board. Retrieved from <http://research.collegeboard.org/publications/college-student-attrition-and-retention-0>
- Reese, R. J., & Miller, C. D. (2006). Effects of a university career development course on career decision-making self-efficacy. *Journal of Career Assessment, 14*(2), 252-266. doi: 10.1177/1069072705274985
- Restubog, S. L. D., Florentino, A. R., & Garcia, P. R. J. M. (2010). The mediating roles of career self-efficacy and career decidedness in the relationship between contextual support and persistence. *Journal of Vocational Behavior, 77*(2), 186-195. doi: 10.1016/j.jvb.2010.06.005
- Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin, 130*(2), 261. doi: 10.1037/0033-2909.130.2.261

- Rojewski, J. W., & Yang, B. (1997). Longitudinal analysis of select influences on adolescents' occupational aspirations. *Journal of Vocational Behavior, 51*(3), 375-410. doi: 10.1006/jvbe.1996.1561
- Savard, R., Gingras, M., & Turcotte, M. (2002). Delivery of career development information in the context of information computer technology. *International Journal for Educational and Vocational Guidance, 2*(3), 173-191. doi: 10.1023/A:1020659801270
- Scott, A. B., & Ciani, K. D. (2008). Effects of an undergraduate career class on men's and women's career decision-making self-efficacy and vocational identity. *Journal of Career Development, 34*(3), 263-285. doi: 10.1177/0894845307311248
- Sedlacek, W. E. (1987). Black students on white campuses: 20 years of research. *Journal of College Student Development, 40*(5), 538-550.
- Sheard, M. (2009). Hardiness commitment, gender, and age differentiate university academic performance. *British Journal of Educational Psychology, 79*(1), 189-204. doi: 10.1348/000709908X304406
- Sherry, P., & Staley, K. (1984). Career exploration groups: An outcome study. *Journal of College Student Personnel, 25*, 155-159.
- Silva, C. N. (2010). Ex post facto study. In N. J. Salkid (Ed.) *Encyclopedia of research design*. Retrieved from <http://srmo.sagepub.com/view/encyc-of-research-design/n145.xml>.
- Skipper, T. L. (2002). Survey results and analyses. In *The 2002 national survey of first year seminar programs: Continuing innovations on the collegiate curriculum* (Monograph 35, pp. 11-76). Columbia, SC: University of South Carolina,

National Resource Center for the First-year Experience and Students in Transition.

Southern Regional Education Board (SREB) (2010). *Promoting a culture of student success: How colleges and universities are improving degree completion*. Atlanta, GA: Southern Regional Education Board.

Strommer, D. (1993). *Portals of entry: University colleges and undergraduate divisions*. Columbia, SC: University of South Carolina, National Resource Center for the Freshman Year Experience.

The University of Memphis, Office of Institutional Research (2013). *Fall 2010 first-time, full-time, degree seeking freshmen*. Retrieved from <http://oir.memphis.edu/WebReports/ProfilesAndFactbooks/FreshmanProfile2010.pdf>.

The University of Memphis, Office of Institutional Research (2014a). *Retention and graduation rates of first-time, full-time freshmen at the University of Memphis*. Retrieved from [http://oir.memphis.edu/WebReports/Retention/RetentionConsolidated .pdf](http://oir.memphis.edu/WebReports/Retention/RetentionConsolidated.pdf).

The University of Memphis (2014b). *ACAD 1100*. Retrieved from ACAD 1100 website: www.memphis.edu/acad1100.

Thompson, M. N., & Subich, L. M. (2006). The relation of social status to the career decision-making process. *Journal of Vocational Behavior*, 69(2), 289-301. doi: 10.1016/j.jvb.2006.04.008

Thompson, M. N., & Subich, L. M. (2007). Exploration and validation of the differential status identity scale. *Journal of Career Assessment*, 15(2), 227-239. doi: 10.1177/1069072706298155

- Thompson, M. N., & Subich, L. M. (2011). Social status identity: Antecedents and vocational outcomes. *The Counseling Psychologist, XX(X)*, 1-29. doi: 10.1177/0011000010389828
- Tierney, W. G. (1992). An anthropological analysis of student participation in college. *The Journal of Higher Education, 63*(6), 603-618. doi: 10.2307/1982046
- Tierney, W. G. (1999). Models of minority college-going and retention: Cultural integrity versus cultural suicide. *Journal of Negro Education, 68*(1), 80-91. doi: 10.2307/2668211
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125. Retrieved from <http://www.jstor.org/stable/1170024>
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures for student attrition*. Chicago, IL: University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures for student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.
- Titley, R. W., & Titley, B. S. (1980). Initial choice of college major: Are only the “undecided” undecided? *Journal of College Student Personnel, 21*, 293-298.
- Trusty, J., Watts, R. E., & Erdman, P. (1997). Predictors of parents' involvement in their teens' career development. *Journal of Career Development, 23*(3), 189-201. doi: 10.1007/BF02359189
- Turley, R. N. L., & Wodtke, G. (2010). College residence and academic performance: Who benefits from living on campus. *Urban Education, 45*(4), 506-532. doi: 10.1177/0042085910372351

- Turner, S., & Lapan, R. T. (2002). Career self-efficacy and perceptions of parent support in adolescent career development. *The Career Development Quarterly*, 51(1), 44. doi: 10.1002/j.2161-0045.2002.tb00591.x
- U.S. Department of Education, National Center for Education Statistics (2014). *The condition of education 2014: Institutional retention and graduation rates for undergraduate students*. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=40>
- Upcraft, M. L., Finney, J. E., & Garland, P. (1984). Orientation: A context. In M. L. Upcraft (Ed.), *Orienting students to college*. San Francisco, CA: Jossey-Bass.
- Ward, R. L. (2014). *The impact of first-year seminar courses career development component on the career decision making process of undecided college students* (Unpublished master's thesis, Wright State University).
- Whiston, S. C., Brecheisen, B. K., & Stephens, J. (2003). Does treatment modality affect career counseling effectiveness? *Journal of Vocational Behavior*, 62, 390-410. doi: 10.1016/S0001-8791(02)00050-7
- Whiston, S. C., Sexton, T. L., & Lasoff, D. L. (1998). Career-intervention outcome: A replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology*, 45, 150-165. doi: 10.1037/0022-0167.45.2.150
- Whitten, L. S., Sanders, A. R., & Stewart, J. G. (2013). Degree compass: The preferred choice approach. *Journal of Academic Administration in Higher Education*, 9(2), 39-42. Retrieved from <http://jwpress.com/JAAHE/Issues/JAAHE-2013-Fall.pdf#page=51>

- Woemmel, C. A. (2014). *A review of a career intervention in a first-year experience course at a major southern metropolitan research university* (Unpublished doctoral residency project, The University of Memphis).
- Wright, S. L., Jenkins-Guarnieri, M. A., & Murdock, J. L. (2012). Career development among first-year college students: College self-efficacy, student persistence, and academic success. *Journal of Career Development, 00(0)* doi: 10.1177/0894845312455509
- Zafar, B. (2013). College major choice and the gender gap. *Journal of Human Resources, 48(3)*, 545-595. doi: 10.3368/jhr.48.3.545
- Zajacova, A., Lynch, S. M., & Epenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education, 46*, 677-706. doi: 10.1007/s11162-004-4139-z

Appendix

ACAD Career Unit Learning Assessment

1. Please list your name, U of M email address, and phone number in the spaces provided.

Name:

Email Address:

Phone Number:

2. Instructor/Section Number

Dropdown Menu

Please use the menu at the right.

3. Hispanic or Latino culture or origin

- Yes
- No

4. Race Identification

- Alaskan Native
- American Indian/Native American
- Asian or Asian American
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White
- Other

5. Gender

- Female
- Male

6. Age Range

- 19 or younger
- 20-23

- 24-30
- 31-45
- 46 or older

7. Residential Status

- Commuter Student
- Residential Student

8. Which of the following campus resources are helpful in the career planning process? (Please mark all that apply.)

- Academic Advisor
- Career Services
- CCLT-Career and Psychological Counseling Unit
- Faculty Members within your Academic Major
- FOCUS II Online Career Guidance System
- Online Research
- Staff Members/Administrators
- Student Employment Office
- Student/Professional Organizations
- University Library

9. Which of the following statements best reflects the factors necessary for gaining desired employment after graduation?

- A. A bachelor's degree is all I need.
- B. A bachelor's degree with a GPA of 3.0 or higher is all I need.
- C. A bachelor's degree and involvement in co-curricular activities is needed.
- D. A bachelor's degree, a GPA of 3.0 or higher, involvement in co-curricular activities and internship experience are all needed.

10. Name five important factors to consider when choosing a major and career path.

- 1.
- 2.
- 3.
-

4.

5.

11. On a scale of 1 to 5, how confident are you that you could identify the SKILLS needed for a job/career in which you are interested?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 = Extensive Confidence

*

12. On a scale of 1 to 5, how confident are you that you could identify the QUALIFICATIONS/TRAINING (education, certifications, licensure, etc.) for a job/career in which you are interested?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 Extensive Confidence

13. On a scale of 1 to 5, how confident are you that you could identify the DUTIES/RESPONSIBILITIES for a job/career in which you are interested?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 = Extensive Confidence

14. Have you determined a major?

- Yes
- No

15. Are you able to identify a job or career path associated with your specific major?

- Yes
- No
- Undecided on Major

16. On a scale of 1 to 5, how confident are you that you selected the BEST MAJOR based on your personality, interests, values, skills, and academic abilities?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 = Extensive Confidence

*

17. On a scale of 1 to 5, how confident are you that your major leads to a SPECIFIC JOB OR CAREER PATH based on your personality, interests, values, skills, and academic abilities?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 = Extensive Confidence

18. On a scale of 1 to 5, how confident are you in your ability to SELECT ANOTHER MAJOR that fits your personality, interests, values, skills, and academic abilities if your current major does not work out?

- 1 = No Confidence
- 2 = Below Average Confidence
- 3 = Average Confidence
- 4 = Above Average Confidence
- 5 = Extensive Confidence

Institutional Review Board Approval

Hello,

The University of Memphis Institutional Review Board, FWA00006815, has reviewed and approved your submission in accordance with all applicable statutes and regulations as well as ethical principles.

PI NAME: Clay Woemmel

CO-PI:

PROJECT TITLE: The effect of a career intervention in a first year experience course on student retention

FACULTY ADVISOR NAME (if applicable): Richard James

IRB ID: #3555

APPROVAL DATE: 11/20/2015

EXPIRATION DATE: 11/20/2016

LEVEL OF REVIEW: Expedited

Please Note: Modifications do not extend the expiration of the original approval

Approval of this project is given with the following obligations:

- 1. If this IRB approval has an expiration date, an approved renewal must be in effect to continue the project prior to that date. If approval is not obtained, the human consent form(s) and recruiting material(s) are no longer valid and any research activities involving human subjects must stop.**
- 2. When the project is finished or terminated, a completion form must be completed and sent to the board.**
- 3. No change may be made in the approved protocol without prior board approval, whether the approved protocol was reviewed at the Exempt, Expedited or Full Board level.**
- 4. Exempt approval are considered to have no expiration date and no further review is necessary unless the protocol needs modification.**

Approval of this project is given with the following special obligations:

Note: Review outcomes will be communicated to the email address on file. This email should be considered an official communication from the UM IRB. Consent Forms are no longer being stamped as well. Please contact the IRB if a letter on IRB letterhead is required.