THE EFFECTIVENESS OF A CAREER COURSE ON PROGRAM OF STUDY SELECTION

AND CAREER MATURITY OF HIGH SCHOOL FRESHMEN

by

Susan West Roach

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Supporting career development in adolescents is a perplexing issue for educators. In response, educators are implementing various interventions assisting students in the exploration process. The purpose of this causal comparative study was to determine the effect of the career education course employed by a rural high school in Tennessee on student selection of a program of study and career maturity. Upon completion of the semester, a convenient sample of 79 ninth grade students completed the Career Maturity Inventory-form C along with a program of study selection inquiry. Data analysis did not determine a statistical difference in high school career maturity and selection of a program of study based on completion of a career exploration course. A chi square test of independence was conducted to analyze the association between the 2 categorical variables of a career management success course and selection of a program-of-study. A one-way multivariate analysis of variance (MANOVA) was conducted to analyze the effect of the career course on the linear combination of the subscale scores of the career maturity inventory. Analysis did not provide evidence to reject the 7 null hypotheses. The study did illustrate that students at Nosre Academy were on average gaining the knowledge to select a program of study and had on average developed career maturity at a higher average than norms established for the instrument. Recommendations for further research include additional constructs being considered along with further examination of the impact of the Appalachian culture.

Keywords: career development, high school freshmen, career maturity, program of study

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List of Abbreviations

Advanced Placement (AP)

American School Counselor Association (ASCA)

Career Maturity Inventory-Form C (CMI-form C)

Career and Technical Education (CTE)

Exploring Career College and Options (ECCO)

Future in Iowa Career Education (FICE)

Institutional Review Board (IRB)

International Baccalaureate (IB)

Junior Reserve Officer Training Corp (JROTC)

Multivariate Analysis of Variance (MANOVA)

National Career Development Association (NCDA)

Partnership for the Assessment of Readiness for College and Career (PARCC)

Personal, Academic, and Career Excellence (PACE)

Program of Study (POS)

Science, Technology, Engineering, and Math (STEM)

Southern Regional Education Board (SREB)

Tennessee Career Information Delivery System (TCIDS)

Tennessee College and Career Planning System (TCCPS)

Tennessee Department of Education (TDOE)

United States Department of Education (USDOE)

CHAPTER ONE: INTRODUCTION

Background

Due to increased graduation requirements, high school freshmen are often faced with selecting a program of study while having little or no support in career exploration (Rowan-Kenyon, Perna, & Swan, 2011; Salter, 2008; Visher, Altuna, & Safran, 2013). Secondary schools have heeded the call to implement career education programs but have not provided proper guidance to students on the selection process (Stipanovic, Lewis, & Stringfield, 2012). With little career development research conducted in the United States, much of the literature on adolescent career development has been published internationally (Broadbent, Cacciatollo, & Papadopoulos, 2012; Hirschi, 2011; Shimomura, & Muroyama, 2010). According to Wallace and Perry (2012), "Given the magnitude of the silent epidemic and the complex challenges young people face in the global economy, it would be misleading to suggest that career programming in the schools can function as a panacea" (p.43). Since no single solution to career education existed numerous approaches have been developed at various educational levels. Hirschi (2008) noted several shortcomings in current career intervention research: Most studies focused on college students; most studies did not follow-up; most outcomes did not evaluate for possible cultural differences.

This study investigated (1) the effectiveness of a career education course designed to assist rural Appalachian adolescents in exploring career interests related to selecting a high school program of study, and (2) its effectiveness on career maturity. From 2006 to 2010, the unemployment rate for the United States averaged 6.4%, while the Appalachian region of Tennessee had a 7.0% rate (Pollard & Jackson, 2012). During the recession, the nation on average saw a 1.7% job loss; whereas, the Appalachian region saw a 2.0% loss (Appalachian Regional Commission, 2011). In 2009, the county in which the study occurred peaked at 12.5%

unemployment followed by a 12% unemployment rate in 2010. A continuously higher unemployment rate in the Appalachian region provided the emphasis for delivering career exploration and planning for adolescents in the area.

Over the last century, education's role in career development evolved from training for an industrialized society to preparing for a globalized economy. Various themes of career development emerged regarding secondary education's role (Schneck, Anctil, Smith, & Dahir, 2012). The 20th century focus of high schools producing graduates for the workforce or military (Herr, 2001) progressed into a 21st century focus of producing graduates who are college and career ready for a global workforce (Erford & Crockett, 2012). Following the turmoil of the 1960s surrounding the Vietnam War and Dr. Martin Luther King's assassination, President Richard Nixon looked for a way to restore order to the nation by establishing a focus on career development (Herschbach, 2001).

During the early 1970s, the career education movement emphasized the importance of learning about careers as a part of the instructional process (Super & Hall, 1978). Following an emphasis by President Nixon, career education in high schools sought to provide students with the skills to access quality employment and to build a career. The typical career path changed from working for one organization until retirement to individuals having multiple jobs or contract work over a course of a lifetime (Hoekstra, 2011). The social contract of an employer caring for employees no longer existed, which created a level of anxiety for adolescents entering the world of work (Shallcross, 2013). According to a Harvard Graduate School of Education report, *Pathways to Prosperity* (Symonds, Schwartz, & Ferguson, 2011), employers reported a deficit in high school students' skills needed for the world of work. The report further documented student frustration with "weak or non-existent career counseling" (p.13). In an

annual review of career counseling and development, Creager (2011) found that career theory

and interventions were headed in multiple directions. This array of approaches and theory left

high school administrators scrambling for an answer concerning which career approach to select

for career education.

One such solution that had been developed in the 1950s, Donald Super's Life-Span, Life-

Space theory continued to be researched and applied in the school setting (Greer, 2011; McInnes

& Chen, 2011; Sterner, 2012). Life-Span, Life-Space theory has been regarded as a

developmental career theory (Scholl & Cascone, 2010). Super (1975) developed stages of growth

that took place over a lifetime (i.e. life span) and that adapted based on what the individual was

doing (i.e. life space). During the exploration phase, which spans adolescence through young

adulthood(age 14-24), individuals cultivated interests about a course of study and pursue training

to gain employment (Super, 1975). An individual's ability to progress through the exploration

phase and fulfill each of the identified tasks augmented the development of the career maturity

construct.

The application of the Life-Span, Life-Space theory provided a basis for working with

adolescents in career development skills. Super's research advocated for career education in the

school system (Super, 1975). The Life-Span, Life-Space theory applied to the current study

because "adolescence has long been pointed out as the period in which exploratory behavior is

most common of the observed career behaviors" (Super & Hall, 1978, p. 336). This study aimed

to examine the effects of a career exploration course, not just the application. By focusing on

career exploration outcomes, the construct of career maturity can be assessed. This study focused

on growth towards a career rather than the acquisition of a single career path. Career maturity

development assessed the effect of the course and provided information on student progress in college and career readiness.

In *A Blueprint for Reform* (2010), the U.S. Department of Education emphasized the initiative for all high school students to graduate college and career ready regardless of circumstances or environment. To help their students compete in a global economy and meet the career ready needs, thirty-five states adopted the American Diploma Project standards for graduation, which increased rigor and the number of credits required for graduation (Achieve, 2011). The new graduation requirements articulated new common core standards along with an elective focus area (Achieve, 2011). Recognizing the daunting task, editors of the 2012 special issue of the *International Journal of Educational Reform* stated:

> [The issue] is focused on one of the largest, and least studied, change efforts currently under way in American secondary and postsecondary education: the movement toward creating coherent educational and career pathways for the more than two-thirds of America's young people who are not likely to graduate from a 4-year college. This effort has become known as Programs of Study (POS). (Stipanovic, et al., 2012, p.80)

Beginning with the graduating class of 2013, Tennessee high school students are required to select a program of study, also known as an elective focus, for graduation in accordance with the Tennessee Diploma Project (Tennessee Department of Education, n.d.). Although administrators, teachers, students, and parents were keenly aware of the academic core courses that students had to complete for graduation, the program of study, with its three-course career link, presented new requirements. The Career and Technical Education division of the Tennessee Department of Education developed the *Student Guidance Handbook* (2010), aligning the career clusters with the various career and technical education programs of study available. The

handbook provided students a program-of-study linkage to postsecondary training options so the connection to future goals can motivate students to take more rigorous courses (Tennessee Department of Education, 2010).

Educators searched for ways to integrate career exploration into the curriculum to meet the demand of preparing students to be college and career ready. As a result, "the call to infuse college and career readiness across secondary education curricula is gaining momentum" (Schaefer & Rivera, 2012, p. 51). With the thrust for college and career readiness, students require exposure to career exploration programs to develop more realistic plans.

Due to a focus on a global economy and workforce, many countries have evaluated career development programs within the secondary school setting (Broadbent, et al., 2012; Ferreira, Santos, Fonseca, & Haase, 2007; Germeijs & Verschueren, 2007; Hirschi, 2011; Shimomura, H. & Muroyama, H., 2010). In a Portuguese 10 year longitudinal study based on Super's Life-Span, Life-Space framework, results confirmed the developmental processes outlined from age seven to 17 years of age and the person-environmental impacts upon career development (Ferreira, et al., 2007). The authors found that many students dropped out of school, choosing work after the compulsory grade 9, due to lack of career goals. Findings also confirmed the need to ensure effective career decision-making skills. In a Japanese study, Shimomura and Muroyama (2010) found that career education in the school system created a disconnect with the world of work. The US Department of Education's *College and Career Ready* section of the *Blueprint for Reform (2010)* echoed the disconnects, saying that states' standards "do not reflect the knowledge and skills needed for success after high school, either in further education or in a job" (p.1).

In East Tennessee, the absence of college and career ready preparedness has been prevalent in the lack of career education research being conducted in rural high schools (Ali & Saunders, 2009). Creager's (2011) annual review found that a large number of research studies have been conducted with college-aged students and that the methods for career education ranged from mentoring to college courses and classroom interventions. Creager also pointed out that although the number of young adults participating in 4-year colleges increased, many young people were not attending.

Turner and Conkel (2010) analyzed three career development interventions with inner city adolescents. Interventions consisted of (a) two 1-hour classroom sessions, (b) four 1-hour classroom sessions, and (c) a control group. Results showed that the longer sessions were most beneficial in enhancing student career development. In another study students in three Iowa high schools were presented the Future in Iowa Career Education (FICE) program in three different formats: (a) 1 hour per week for 9 weeks, (b) 75 minutes every 2 weeks for a semester, and (c) a 3 day workshop (Ali, Yang, Button, & McCoy, 2011). Evaluation of the effectiveness of the interventions showed educators and participants alike a need for additional sessions and additional follow-up to the program (Ali et al., 2011). Extensive empirical research and the determination of adequate program duration were needed to support educators as career development facilitators for high school students. Funding and resource allocation has long been a priority in education. In Tennessee overall funding "compares poorly to national averages and most other states" (Tennessee Advisory Commission on Intergovernmental Relations, 2008, ii). Manpower resources primarily focused on achievement based programs. Positions outside state testing areas needed research based data for justification. Demographic and economic conditions in rural areas demanded a "more comprehensive approach to providing career information to

rural high school students" (Griffin, Hutchins, & Meece, 2011). The combination of the Appalachian region's population and frugal resource allocation established the practicality of the current research.

One local education agency, the research site, designed and implemented a career education course aimed at enabling all freshmen to graduate high school, college and career ready. The school district purchased curriculum for 3 years but stopped the program in spring 2013. With budget shortfalls, the program expenditure could not be justified. In the fall of 2013, the district implemented curriculum established in part by CollegeforTN.org website developers and by local educators. The curriculum was based upon the state standards established for student success in academic, personal, and career life. Six modules included in the course cover topics of computer applications, business basics, defining oneself, personal finance, and program of study (see Appendix E). To insure consistency the district collected lesson plans from the eighteen week course and compared them for horizontal alignment among the three teachers of the course.

Problem Statement

Blueprint for Reform stated the goal for America's educational system as enabling every student to graduate from high school ready for college or a career (USDOE, 2010). Educators encounter concerns about which career interventions to implement in meeting the goal for every student graduating high school to be ready for college and career. Further issues such as career indecision, lack of information, and lack of identity development are present in career research regarding high school freshmen (Ali et al., 2011; Creager, 2011; Deemer & Ostrowski, 2010). This is compounded by the fact that the decisions students make as freshmen in selecting a program of study impacts course scheduling for the next 3 years without regard to individual

career maturity. Since schools cannot change state mandated graduation requirements, which impose an elective focus area, educators must provide resources for career education (TDOE, 2008). High schools often lack assessment tools, career activities, and job shadowing programs which are essential for career development (Holland, 2011). In order to build provisions for freshmen, educators need an understanding of career development and the effectiveness of career interventions on student career maturity (Crews, 2006). Rural high school students account for over 30% of all high school students in the nation but are the least examined in career development (Hardré, Sullivan, & Crowson, 2009). Although the career management course has been implemented for the past 3 years, the effectiveness of the course to increase a student's program of study selection skills and a student's career maturity has not been studied. The problem is that since the first class in the new Tennessee diploma project graduated in 2013, no research has been conducted on the program-of-study selection process.

Purpose Statement

The purpose of this causal comparative study focused on the Life-Span, Life-Space theory that related the career development course to high school freshman student career maturity and selection of a program of study in high school freshmen in rural Tennessee. Adolescence is the prime time for career education (Super & Hall, 1978). The foundation of Super's career theory centered on career development being an ongoing, orderly process (Super, 1963). As applied within this study, the theory held that exposure to career exploration (one level of the independent variable) influences the dependent variables: career choice readiness, career concern, career curiosity, career confidence, career consultation, and ability to select a program of study. The independent variable of interest-- the career development course-- was defined as the career management success curriculum. The treatment course was deemed advantageous

because rural students have a greater need for career interventions due to lack of role models, economic disadvantages, and geographic isolation (Ali et al., 2011). The independent variable consisted of students participating in the course and students taking the course the in following semester (the waitlisted group). The students in the waitlisted group participated in alternative courses that did not include an intensive career component such as lifetime wellness, studio art, junior reserve officer training corps, or other career technical education courses. The students were assigned to the alternative course by the onsite counselor based upon availability of course offerings.

Career maturity was defined as "the degree to which individuals are prepared to make good educational or vocational decisions" (Goodman, 2008, p. 1491). The dependent variables-- career choice readiness, career concern, career curiosity, career confidence, and career consultation-- all served as constructs of career maturity and were measured utilizing the Career Maturity Inventory- form C (Savickas & Porfeli, 2011). The Career Maturity Inventory-form C subscale definitions are based upon the work of Savickas (2005): Career concern means an importance in preparing for tomorrow. Career curiosity refers to seeking information about the fit between self and work. Career confidence refers to an individual's ability to make his or her career choice plans a reality. Career consultation refers to an individual's willingness to seek assistance from others. The overall career choice readiness is the "ripeness" of a student's ability to make occupational choices (Savickas & Porfeli, 2011, p.355). The last dependent variable, selection of a program of study, was ascertained with a single close-ended question: "Can you identify a program of study that matches your career skills and interests?" This form of questioning was utilized by McComb-Beverage (2012) when analyzing the impact of a career intervention on middle school students.

Significance of the Study

This study informs educators how students are developing career awareness in a mandatory career exploration course, and how students are using the awareness to select a program of study. Adolescent career education establishes a connection between current activities and future possibilities (Shallcross, 2013). Understanding the exploration phase of career development and the reciprocal impact of career maturity provides empirical evidence supporting the Life-Span, Life-Space theory. The study further solidifies the value of the theory in career development research with adolescents through current activities of high school freshman development of career decision-making skills. The study occurred in rural Appalachia where little career development research has taken place (Ali & Saunders, 2009). The study explores the influence of a specific career education curriculum instead of a haphazard approach. This approach is consistent with the findings Broadbent, Cacciatollo, and Papadopoulos (2012) that, with use of such a curriculum students felt more engaged in pursuing career aspirations. Additionally, the study findings can assist other districts in defining best practices of career development for high school students since "the literature is far from united on the presence of differences in the scores of career maturity" (Capuzzi & Stauffer, 2012, p. 352). The central focus of the study is an exploration of the effectiveness of a career development course as a structured curriculum for ninth grade students and the influence of the course on career maturity and selection of a program of study.

Research Questions

RQ1: Is there a difference between high school freshmen's ability to select a program of study based on whether they participate in and complete a career exploration course or do not participate and complete a career exploration course?

RQ2: Is there a difference in high school freshmen's career maturity based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course?

Null Hypotheses

The Null hypotheses for this study are as follows:

$H_0 1$: There is no association between the categorical variables of a career management success course and selection of a program of study.

$H_0 2$: There is no statistically significant difference in high school freshmen's *career choice readiness* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

$H_0 3$: There is no statistically significant difference in high school freshmen's *career concern* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

$H_0 4$: There is no statistically significant difference in high school freshmen's *career curiosity* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

$H_0 5$: There is no statistically significant difference in high school freshmen's *career confidence* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H$_0$6: There is no statistically significant difference in high school freshmen's *career consultation* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H$_0$7: There is no statistically significant difference in high school freshmen's *career maturity* combined subscale scores when participating in and completing a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

Definitions

1. *Career development*- According to a 2009 white paper from the United States Department of Labor, Wills and Mack defined career development as

   a life-long process with age and stage appropriate strategies that should be employed by the professionals engaged in each particular stage of development. All of the definitions recognize that the development process must include the following: a) the provision of basic knowledge; b) exposure to careers; c) the development of work values; and d) the discovery of specific vocational pathways that meet the person's interests, aptitudes, and opportunities (p. 17).

2. *Career management success curriculum*-The curriculum meets standards presented for the Tennessee Department of Education's competencies for the course. Career management success course is used interchangeably with career exploration course.

3. *Career clusters*-As defined by the National Association of State Directors of Career and Technical Education Consortium (n.d.), there are 16 career clusters, each with "distinct groupings of occupations and industries." The 16 clusters include (a) agriculture, food,

and natural resources, (b) architecture and construction, (c) arts, audio-visual, technology and communications, (d) business management and administration, (e) education and training, (f) finance, (g) government and public administration, (h) health science, (i) hospitality and tourism, (j) human services, (k) information technology, (l) law, public safety, corrections, and security, (m) manufacturing, (n) marketing, (o) science, technology, engineering and mathematics, and (p) transportation, distribution and logistics.

4. *Elective focus*-Starting with the 2013 graduating class, the Tennessee Department of Education diploma project required students to complete three credits in an elective focus area. An elective focus area may be obtained in math and science, career and technical education, fine arts, humanities, Advanced Placement (AP), International Baccalaureate (IB), or dual enrollment (TDOE, 2008). The terms elective focus and program of study are employed interchangeably.

5. *College and career ready*-Mastery in four key dimensions of knowledge, cognitive strategies, transition knowledge and skills, and learning skills and techniques defines college and career ready (Conley, 2012). Mastery allows students to enter and succeed in credit-bearing course which lead to a certificate or a degree. The skills needed for success in college are recognized as essential for success in a career.

CHAPTER TWO: LITERATURE REVIEW

Introduction

Although a plethora of research existed on the topic of career development, only minimal research exists on the effects of career education interventions on selection of a program of study and career maturity. The need to understand the process of adolescent career development was indicated by the multitude of approaches that have been attempted over the last century. Across the country state departments of education have been increasing the rigor of graduation requirements in order for student to compete in a global economy (Achieve, 2011). Adolescents are being asked to commit to a career path with little consideration of how to arrive at such a commitment (Stipanovic et al., 2012). Likewise, as the Tennessee Department of Education (2008) continued to implement the program-of-study graduation requirement finding, the need for an avenue for supporting adolescent decision making has reached a crucial juncture.

Chapter 2 begins with an overview of the theoretical framework guiding the study along with an overview of career development for adolescents. The review of literature contains education reform movement influences on secondary education including the mandate of a program of study for graduation. A comprehensive review of adolescent career development around the globe and various career interventions has been assembled. The review incorporates the bearing that the freshman year in high school has upon career decision making. The review establishes the need for additional research on adolescent career development programs in the United States, specifically the process by which students are maturing and committing to career fields.

Theoretical Framework

The nature of career decision-making displays itself in the complexity of the process. Adolescents encounter personal and situational elements while making decisions about a career path (Super, 1980). Super proposed the Life-Span, Life-Space theory to explain planning and making career projections (1980). The theory consists of five life stages: growth, exploration, establishment, maintenance, and decline (Super, 1980). The growth stage focuses on interactions between the child and the environmental factors of home, neighborhood and school (Super, 1975). Children develop work values by identifying or disregarding various beliefs. The next phase, exploration, encompasses the adolescent years. During the exploration phase individual's try a variety of activities to further develop aptitudes and interests. The establishment stage, ages 25-45, is the period when most individuals tend to find employment, which does not necessarily mean a single job. Within the maintenance phase of career development, individuals maintain employment and move ahead in their field. In the declining stage, a change in perspective leads to decreased vocational interests.

Adolescents in the exploration stage of Super's model developed interests into specific career notions (Scholl & Cascone, 2010). The current study fit the model based on the focus of developing career interests rather than the outcome. Super (1975) suggested that "career education should teach about career development and help students to control the unfolding of their careers as changing sequences and combinations of roles in education, home, community, occupations, and leisure as they go through life" (p. 27). During the exploration stage, adolescents make initial career decisions, and with Super's model are not locked in a career path but learn skills to adapt to changes. As the student establishes a career emphasis, the desire to develop knowledge and skills in a vocational area increases. Programs of study in high school allow students to pursue interest-specific skill development before proceeding to more

formalized post-secondary training. Students exposed to career development options developed interests in occupational areas (Super & Nevill, 1984). The readiness process of developing and pursuing interests is known as career maturity (Super, 1975). The concept of career maturity in the exploration stage framed the study at hand investigating freshman readiness to make career decisions.

Career maturity comprises the phases an individual encounters over a life span along with the impact of the environment. The construct of career maturity could specifically ascertain how an individual progresses through the Life-Span, Life-Space stages (Phillips, 2011). As an example, Phillips (2011) laid out a counseling approach which assesses the development process of the student and the next steps for further career exploration. In this method a counselor looks at the development of career goals throughout the life stages and the roles the student plays throughout life (life-spaces.) Career maturity encompasses the stages of career in one's life and the roles of the individual as a child, student, and an employee (Phillips, 2011). Career maturity can no longer be viewed as a ladder approach but as a lifelong evolution in a precarious work environment (Rottinghaus & Van Esbroeck, 2011, p.45). The inclusion of the person-environment fit in career development incorporated the impact of culture, and in this study specifically, Appalachian culture.

Additionally, the present study focused on a specific career education program. Super (1975) proposed six general objectives for career education that are specific to the nature of career development but that can also support a core education program:

1. To provide students with an understanding of the nature and sequence of life stages and of career stages, of the developmental tasks that characterize these stages, and of the

changing major roles that people play (in sequence and simultaneously) in the various

theatres or spheres of activity in the several stages;

2. To help students develop realistic self-concepts, with esteem for themselves and others,

   as a basis for career decision;

3. To develop in students a realistic and appreciative understanding of the world of work,

   with a broad perspective on opportunities and a specific focus on one or more clusters of

   occupations, together with knowledge of the educational and occupational pathways that

   lead to them and of the work and ways of life that they involve;

4. To help students know and appreciate the many avocational, domestic, and civic outlets

   for developed interests and abilities, outlets which in an automated society often

   supplement, complement, or even supplant paid work in making a satisfying life;

5. To provide a basis for the making of sequential and increasingly specific career decisions

   in which self and occupational knowledge are synthesized for self-realization in work, in

   homemaking, in civic life, and in leisure, in ways that meet social as well as individual

   needs;

6. To make these experiences available in ways appropriate to all students at each stage of

   their formal education. (Super, 1975, pp. 34-35).

Super supported the infusion of career guidance throughout education and reported difficulty

accomplishing the incorporation of guidance at the secondary level. A separate career

exploration curriculum allowed for individually directed exploration, synthesis, and application

of information (Super, 1975). Kosine and Lewis (2008) acknowledged Super's theory and the

direct application to the issue of the current study: "The choice of a POS intensifies the dilemma

of all secondary level occupational programs in that decisions about future occupational goals are made when virtually all students are at the exploratory stage of career development" (p. 236).

Education Reform

A key element in education reform surrounded college and career readiness. In 2009, U.S. high schools were graduating just 69% of their students (Alliance for Excellent Education, 2009). Research determined that students' eighth grade academic achievement impacted their readiness for college and career, and in turn the graduation rate (ACT, 2008). The Southern Regional Education Board (SREB) provided 10 principles effective in closing the gap. Three key points in the SREB report were: to support transition into high school; to recognize that one path to graduation does not work for all, and; to include career and technical education courses (Lenard & Lord, 2009).

To coincide with an outcry for reform, the federal government continued to revamp education policy. In 2009, the American Recovery and Reinvestment Act provided funds for state education agencies in the form of the Race to the Top fund (USDOE, 2009). The Race to the Top program required implementation of reform in four key areas: preparing students to be college and career ready; utilizing data systems to measure student growth; recruiting and developing effective educators; and improving low-achieving schools. Tennessee received first round funding for the First to the Top program, establishing an emphasis on college and career readiness (Tennessee Department of Education, n.d., *First to the Top*). Tennessee passed two legislative acts to coincide with the federal funding: Tennessee First to the Top Act 2010 and the Complete College Tennessee Act 2010. Both acts focused on academic readiness and higher college attendance rates for Tennesseans.

In conjunction with the First to the Top funding, Tennessee joined two national initiatives, implementation of common core standards and the use of the readiness for college and careers assessment. The Common Core State Standards identified knowledge and skills needed for success in college (Klotz, 2012). The Common Core Standards are grounded upon English and math readiness and the consistency of rigor in state standards. The standards are an attempt at a consensus among states as to the key standards needed to compete in a global economy. The Partnership for the Assessment of Readiness for College and Careers (PARCC) consortium of states committed to creating common assessments for college and career readiness as justification for the federal funding received (PARCC, 2013). The vision of the states involved in the PARCC program included the following:

- Build pathways to college and career readiness

- Create assessments to measure Common Core State Standards

- Support classroom educators

- Use technology in assessments

- Increase accountability at all levels (PARCC, 2013).

PARCC assessments correspond to the Common Core standards and have allowed for uniformity across the states of the consortium. Tennessee addressed the federal requirement for college and career readiness and a national approach to assessment through involvement with the two programs. Common Core implementation began at the elementary level in the 2012-2013 academic year and PARCC assessments are to be undertaken in the 2014-2015 academic year.

Additional reauthorizations of federal funding have impacted career readiness. The Carl D. Perkins Career and Technical Education Improvement Act of 2006 (P.L. 109-270, Perkins IV) addressed transition planning for secondary students. The act specified these elements of a

successful transition: aligning high school and college instruction, supporting high standards, and cross-walking of academic core and career education courses. Included in the act, programs of study provided a unified approach to course-taking patterns by considering academic core and career and technical courses that coincided. Lewis and Overman (2008) examined the state plans submitted to the U.S. Department of Education for delivery model of the Perkins IV. Three-fourths of the plans delineated the using of career clusters as a basis for state and local development of programs of study. Tennessee's Department of Education plan included aligning programs of study with the career clusters, providing a structure for local education agencies to implement.

Tennessee high schools assimilated career and technical education courses with the incorporation of the program-of-study requirement in compliance with reform. Supporting the Carl Perkins Act, the Southern Regional Education Board also provided an outline for raising graduation rates in relation to inclusion of a program of study (Bottoms, Spence, & Young, 2009). The Tennessee Career and Technical Education Handbook (Tennessee Department of Education, 2010) defined a program of study as,

> A sequence of instruction (based on recommended standards and knowledge and
> skills) consisting of coursework, co-curricular activities, work-site learning,
> service learning and other learning experiences. This sequence of instruction
> provides preparation for a career (p. 2).

Tennessee incorporated the program of study into graduation requirements by requiring three courses in a sequence be taken. Some examples of the career and technical programs of study course sequences are listed below (See Table 1).

Table 1

Career and Technical Education Program-of-Study Examples

Carpentry	Marketing Communications
Business Principles	Explorations of Marketing
Construction Core	Marketing I
Carpentry I	Marketing II
Carpentry II	Advertising and Public Relations

Students had to complete three of the courses but had access to pursue additional courses in many cases. Courses that were relevant to the student's career goals kept them engaged in school. The Tennessee Department of Education authorized the provision of the programs of study but no direction in executing the selection process for students. Rowan-Kenyon, Perna, and Swan (2011) suggested the need for more career programming in combination with educational planning.

Advisement for career decisions often fell upon the school counselor. In a study of school counselor practices, Schenck, Anctil, Smith, and Dahir (2012) explored the trend within education reform of state-mandated career exploration. The study surveyed school counselors' career guidance practices. Results showed that most counselors followed a national, state, or district school counseling model (92% of the 833 participants.) Comprehensive school counseling models included academic, personal-social, and career domains. Additional findings of the study included the low priority and time spent on career exploration and the need for career-related continuing education for school counselors. A Texas study noted a need for improved college and career readiness activities by school counselors (Solmonson, Roaten, Jones, & Albrecht, 2014). The disparity between the reported importance of career guidance and its position as a low priority established a gap in practice.

While education policy directed educators to prepare students for college and career readiness, criteria of what that entailed varied. The PARCC assessments and Common Core standards attempted to assess college and career readiness but did not define the concept (Lombardi, Seburn, & Conley, 2011). Often the measures of college and career readiness have been defined as college admissions and placement scores (Lombardi, et. al, 2011). Organizations and states established measures for determining college and career readiness; for example, Texas established the Texas Assessment of Knowledge and Skills; Montgomery County Maryland created an index based on reading and math skills along with college placement scores; SREB developed 24 student needs, and the New England Board of Higher Education released policies, procedures, and goals for college and career readiness (Wiley, Wyatt, & Camera, 2010).

Conley (2010) contended that "many students who are eligible for college are not ready for college" (p.18). Being ready for college went beyond being accepted to college. Many adolescents completed high school graduation requirements, applied for admission and financial aid, yet needed to complete remedial coursework upon entering college. Conley and colleagues at the Educational Policy Improvement Center expounded a conceptual model for determining a high school's ability to prepare students for college and career. The model delineated four strategic dimensions for readiness of postsecondary pursuits. Conley described key cognitive strategies as problem-solving, and analyzing, interpreting and evaluating information. The second dimension, key content knowledge, required students' to access fundamental knowledge in core academic and career-oriented areas in high school (Conley, 2012). Student ownership of learning and specific learning techniques combined for the third dimension. Self-efficacy elements of goal setting, persistence, and motivation outlined ownership, while time management, study skills, and memorization rounded out specific learning techniques. The

fourth dimension detailed the importance of college level knowledge, which was indispensable for navigating the transition after high school graduation. Conley outlined seven principles for secondary educators to cultivate more students for college and career readiness:

1. Creating and maintaining a college-going culture in the school;

2. Creating a core academic program aligned with and leading to college readiness by the end of 12th grade;

3. Teaching key self-management skills and expecting students to use them;

4. Making college real by preparing students for the complexity of applying to college and making the transition successfully;

5. Creating assignments and grading policies in high school that closely approximated college expectations;

6. Making the senior year meaningful and challenging.

7. Building partnerships with and connections to postsecondary programs and institutions (pp. 19-20).

In order to become more engaged in college and career readiness, more than 20 states required individual learning plans for high school students (Solberg, Phelps, Haakenson, Durham, & Timmons, 2012). Developing the individual learning plans provided a "process that helps students engage in the self-exploration of one's career interests, skills and values, career exploration to identify career aspirations, and career planning and management opportunities to identify postsecondary education and training opportunities and develop employment seeking-skills" (Solberg, et.al, 2012, p. 501). Individual learning plans connected career aspirations with high school course planning so that students could self-manage career exploration.

Career Development

Career development spans a lifetime but high schools focus on initial decision-making. Broadbent et al. (2010) proposed that the responsibility for informing students of resources for obtaining meaningful employment fell upon high schools. Educators must decide what information to provide the student, deliver career knowledge to the student, consider all of the factors impacting the career decision-making process, and determine which career interventions to implement in meeting the needs of adolescent career development.

For 35 years Gysbers (2005) advocated career guidance throughout elementary and secondary school through integration of comprehensive school guidance curriculum. Gysbers promoted individualized student planning known as "life career planning" (2005, p. 209). In a 1998 study by Whiston, Sexton, and Lasoff, results supported individual counseling as the most effective avenue for career counseling above groups, workshops, and classes. A 2002, Ferris State University study asked students about career guidance in high school. The results concluded that students felt a lack of career guidance in school and a push towards earning a 4-year college degree. The report also concluded that students needed formal career guidance. To meet student career development needs, the American School Counselor Association (ASCA) recommended a student to counselor ratio of 250:1; Tennessee's average stood at 342:1 (ASCA, 2011). Tennessee has been unable to meet the national recommendation.

A 2012 Switzerland-based study evaluated the long-term effects of individual career counseling (Pedrix, Stauffer, Masdonati, Massoudi, & Rossier). The study tracked 199 clients of a career counseling program for 1 year following services to ascertain effectiveness of the decisions made through exploration of interests and skills. The counseling results were categorized in four paths: implementation, change, partial implementation, and no professional evolution. Results showed that career decision roadblocks diminished following the counseling

program and continued to decrease over the following year. Researchers from the study suggested further research on the impact specific intervention had on the difficulty with career decisions.

Findings based on group interventions have produced the most literature for rural high school students. Datu (2013) developed a manual to be utilized with six to eight group members in addressing thoughts and circumstances preventing adolescents from making a career decision. The manual supported the group intervention, lasting six sessions, with pre- and post- career decision assessments being administered. A Finnish study of ninth grade students used a group intervention to address career choice preparedness through the use of social network ties (Jokisaari & Vuori, 2011). In Finland students participated in comprehensive schooling until grade 9, at which time students selected either comprehensive high school in anticipation of university studies or vocational training in anticipation of specific vocations. The Towards Working Live career intervention aimed at student selection of careers through group interactions with a trained facilitator. The groups consisted of 20 members who completed the sessions in 4 to 5 days. The researchers reported that the group sessions helped students to narrow down influences and allowed for more concrete career decisions to be made. Although the study revealed a positive impact on student career decision-making, the feasibility of schools implementing multiple groups to ascertain social network impacts with 4 to 5 day sessions on an ongoing basis has not been confirmed.

Rowan-Kenyon et al. (2011) conducted a multi-state, multi-school study evaluating the structure for career exploration. The 15 high schools included in the study were purposely selected, based on resource availability. Career information was provided through a combination of sources, including college and career centers, courses with a career focus, units in the

curriculum, career tracks or academies, career days, career-related clubs, computerized career inventories, job-shadowing programs, career portfolios, graduate projects, and Odyssey programs (Rowan-Kenyon et al., 2011, p.338). Across the variety of resources offered in the study, some schools reported having eliminated career programming to focus on state-mandated testing. The study found that students attending higher resource schools maintained a focus on attending college but had a higher percentage of students that were unsure of a career path. Students who revealed a career goal had a solid idea of the steps needed to obtain the career. Implications from the study reported a need for linking a career goal to educational planning in order to "energize and engage students regarding subject areas of interest" (Rowan-Kenyon, et al., 2011, p. 341). The study called for state level policy and district level administrators to provide career interventions that reached all school levels and specifically incorporated all 4 years of high school.

Career interventions also consisted of brief programs not viewed as individualized or group approaches. A Hirschi and Läge (2008) study utilized a 5.5-hour career workshop to assess career choice readiness in Portuguese adolescents. The results maintained the effectiveness of the intervention, showing a difference in career choice readiness for participants attending the workshop. In a Baker and Taylor (1998) meta-analysis, treatment programs that were reviewed included from a 16 minute videotape, a 3-day camp, a 7-week summer program, and a career course. The meta-analysis findings indicated modest effects for the interventions supporting the effectiveness of the programs but not providing a superior approach to career education. Ali, Yang, Button, and McCoy (2011) administered a career education program in three high schools, each in a different manner. School 1 incorporated the intervention over a 9-week period through an English class. School 2 conveyed the intervention over an 18-week period in a history class,

and School 3 introduced the career program through a 3-day workshop. Results from all three delivery types indicated a significant improvement in self-efficacy, career decision outcome expectations, and career aspirations. Feedback from school personnel in the study recommended that a semester or yearlong program would provide a more consistent experience for students. In a Canadian study of 371 tenth graders, Cassie and Chen (2012) examined gender differences in a 55-hour career exploration course. Study results indicated gender differences for career maturity; girls were affected differently by the course, compared to their male counterparts.

Porfeli and Lee (2012) proposed that career interventions enable the development of a vocational identity. With an ever-changing and unstable workforce in the modern economy, interventions need to focus on developing adaptability skills for ongoing career development skills. Career interventions must programmatically service students in the exploration, commitment, and reconsideration process of vocational identity (Porfeli & Lee, 2012). The student's environment must be taken into consideration when defining a vocational identity; such as, connecting strengths and weaknesses to job fields, and involving community workforce development organizations.

Most of the published literature supports the particular interventions utilized in the study; otherwise that study is not likely to be published except in the case of dissertations. In a 2014 dissertation study, Riley found that at-risk adults did not show a significant increase in career maturity following a career intervention. The 3-week career intervention consisted of a computerized interest inventory with an explanation of the results. Two instruments were utilized to gain results in the Riley study. The study found no significant difference in career maturity or self-efficacy following the career intervention for at-risk adults in the study.

Career academies emerged in the late 1960s in Philadelphia as programs for preparing youth for college and career (Mekinda, 2012). The intent of career academies was to concentrate on integration of academic and occupational curriculum in preparation for postsecondary training. Although academies varied, three features were common: (a) smaller learning communities, (b) integration of college preparatory curriculum, and (c) business partnership (Mekinda, 2012). Career academies targeted specific vocational fields, such as health sciences or science, technology, engineering, and math (STEM). Students who completed career academies reported greater opportunities for career awareness.

In 2007 a Florida law was passed requiring every school district to implement at least one career academy. Dixon, Cotner, Wilson and Borman (2011) conducted a study of the advantages and difficulties of three academies in one Florida district. Advantages documented in the study consisted of a strong sense of belonging and real-world applicability of the work (Dixon, et al., 2011). Complications in the career academies arose from enrollment and scheduling issues due to school design within the district, and from transportation issues. As an unexpected benefit of low enrollment, the school employed an introductory career course for students, which resulted in higher levels of student satisfaction. The initial course offered students the opportunity to explore options within the career academy and, in turn, allowed students to seek alternative academy courses the next semester; in other words, to establish an interest in that career field or move on. One conclusion drawn from the study was that districts must consider competing programs and population characteristics when implementing career development programs (Dixon, et al., 2011). Career academies have been recognized as providing hands-on training, preparing students for postsecondary training, and helping students explore careers in areas of interest (Fletcher & Cox, 2012). Students in career academies were

exposed to various careers within the field of the academy; for example, a health science academy exposed students to a spectrum of medically related careers. In a February 2013 report from the Policy Institute for Family Impact Seminars, Kemple reported short- and long-term benefits from student participation in a career academy, including career awareness, increased earning potential, and family independence. Career academy drawbacks included nearly one-third of the students not completing the program; a lack of academic- and career-related curriculum integration; and, a lack of impact on standardized test scores (Kemple, 2013).

After researching career academies for 3 decades, MDRC determined that career academies were as much involved in preparing students for college as they were in preparing them for jobs (Visher et al., 2013). MDRC launched a 3-year study in 2009 supporting 18 academies in implementing Exploring Career and College Options (ECCO). The ECCO program redirected academies to the importance of work-based learning activities and career exploration. During the 3-year ECCO program, students accessed up to 44 hours of career exploration and college visit activities. Some of the schools in the study withdrew, citing "lack of time to carry out activities and lessons as well as scheduling conflicts for their students" (Visher et al., 2013, p.50). Although students and educators supported the ECCO program, an alarming 161 of the 438 students withdrew from the academies. The largest percentage (45%) of students leaving the academy also dropped out of high school, trailed by another 29% who left the academy but remained in the high school (Visher et al., 2013). No explanation was provided for the attrition of students from the academies.

Consideration must be given to student readiness in receiving career interventions. Sampson, McClain, Musch, and Reardon (2013) recognized individual characteristics contributing to a readiness to benefit from career education. Personal characteristics concerning

negative thoughts or feelings or limitations with language or computer literacy could interfere with intervention effectiveness. Other limitations included previous access to career knowledge, knowledge of self, external barriers, unrealistic expectations of career choice, and limited life experiences (Sampson et. al, 2013). Bertoch, Lenz, Reardon, and Pearson (2013) conducted a study assessing career thoughts and decision-making in a college-level career course. Results suggested that instability in goals was influenced by negative career thoughts and the pressure of selecting a career. Educator awareness of obstructive factors could be taken into account during career interventions: Student disengagement from the process due to a roadblock; perceived failure in interests or skill attainment before trying; rash choice by student based upon inadequate information; student dependency upon others to decide for him or her; and unrealistic expectations in or the never-ending search for the perfect match hindered the career intervention. Educator sensitivity to the limitations along with adjustments to the course needed to be incorporated into career education programs.

Attention needed to be given to the avenues by which students gained their knowledge of career development. Watson and McMahon (2005) identified eight factors influencing the process of career development in children through age 13. The development of critical thinking skills and the move from the self-centered to objective view of professions is owed to age in conjunction with grade level. The home environment, including family dynamics, socioeconomic status, and ethnicity, were documented influences impacting childhood career development. Additionally, society and media were implied as having an impact on career development with little research having been conducted (Watson & McMahon, 2005). Strom, Strom, Whitten, and Kraska (2014) conducted a career exploration poll that revealed 51% of students preferred job shadowing and 38% of students wanted training on searching the web for career information.

School and career education rounded out the final two influences on career development. The review pointed out that many influences were implied and the empirical evidence was scarce. In a study surveying 8,754 rural youth, the majority of students reported seeking knowledge for postsecondary plans from a variety of sources but primarily from their parent or guardian (Griffin et al., 2011). The impact of the parent lessened as the student progressed through to the senior year. Findings supported the need for providing a broad range of career information early in secondary education to reduce erroneous decisions.

In a 15-year longitudinal study, Helwig (2008) tracked students' career aspirations and influences from second grade until 5 years after high school. The study supported the work by Watson and McMahon (2005) reporting that the top influences upon career development described by young adults were parents (mother with the majority then father) and high school teacher. Interestingly, at 5 years post high school, participants reported being less prepared based on the information gained in high school in regards to career development. Both the research review (Watson & McMahon, 2005) and the longitudinal study (Helwig, 2008) supported the powerful bearing that parents and teachers had on student career development but did not stress any single superior influence.

An Australian study of secondary school career programs studied five components of a comprehensive program for effectiveness from the freshman through senior year of school (Broadbent et al., 2012.) One element consisted of a community service learning component begun in the freshman year. In the junior or senior year, students participated in a1- week work placement program. The senior year experience involved a vocational training program resulting in a nationally recognized certification. A personalized element of the plan provided ninth grade students with learning styles training. Sophomore and junior career planning elements consisted

of attendance at career fairs. The last element included attendance at a college information session open to junior and senior students. Students reported the perceived value of the five interventions as it related to developing new skills and its relevance to the student's career goal. Results of the study revealed the program elements with the greatest impact upon motivation to be community service, work experience, and college information sessions. Community service, work experience, and the career fair provided the highest perceived value of confidence. Work experience, community service and career fairs had the greatest impact on sense of purpose in pursuing career goals. Teachers reported the need for diverse occupationally informed teachers in secondary programs. The study concluded that students perceived specific curricular activities as an avenue for feeling greater engagement in connecting their interests to career goals.

The National Career Development Association (2004) proposed a framework encompassing three domains for career professionals to follow. The three domains of personal social development, educational achievement and lifelong learning, and career management were comprised of 11 career development goals. Each goal in the framework consisted of indicators relaying knowledge acquisition (K), application (A), and reflection (R).

For example, the second indicator under the first goal of the Personal Social

Development domain including the following K, A, and R indicators:

· PS1.K2 Identify your abilities, strengths, skills, and talents.

· PS1.A2 Demonstrate use of your abilities, strengths, skills, and talents.

· PS1.R2 Assess the impact of your abilities, strengths, skills, and talents on your

career development (NCDA, 2004, p.2).

The National Career Development Association offered training and certification as a career development facilitator in order to ensure professionalism in the field. Davis (2013) highlighted

legislative action in South Carolina that recognized the need for certification for personnel in K-12 education. Since 2003 South Carolina has utilized the certification program to enhance career services in an effort to impact economic development.

As a complement to a 1999 meta-analysis, Brown et al., (2003) identified five critical components of career intervention regardless of the format of the presentation. The five components identified the following:

- The use of workbooks and individual journals that allowed for individual journaling of vocational goal comparisons and planning;

- The opportunity for individual feedback on activities and assessment results;

- Activities that allowed for individualized exploration of specific career options outside of specific sessions conducted;

- Modeling of career exploration options, noting the most effective being past participant disclosure; and

- Activities that allowed individuals to build support for career decisions. (Brown et al., 2003)

The researchers concluded that although five critical components were recognized, there were a total of 19 components acknowledged in the meta-analysis that provided empirical evidence in career interventions.

Dedmond (1996) took the implementation of secondary school career planning one step further by evaluating the programs that were in place for best practices and providing guidelines for career interventions. Dedmond (2008) served as director of the Freshman Transition Initiative at George Washington University, which promoted freshman participating in a career exploration

course. The initiative supported a comprehensive curriculum based on seven standards of transition:

1. Learning to project into the future and understanding the consequences of today's choices and actions;

2. Understanding how to match academic and educational effort to lifestyle expectations;

3. Becoming identity-achieved through contemplation and self-discovery;

4. Learning and practicing communication and interpersonal and self-management skills necessary to succeed in today's educational and workforce setting;

5. Identifying and planning for the challenges and stumbling blocks that are inevitable in today's fast-paced, competitive world;

6. Analyzing quantitatively, what economic self-sufficiency equals for them;

7. Becoming proactive, rather than reactive, in managing the change situations in their lives. (Freshman Transition Initiative Approved Curriculum, n. d.)

The Tennessee Department of Education supported career development by offering KUDER, the Source, TCIDS, CollegeforTN.org, and *American Career Magazines* as resources meeting Perkins communication requirements (Tennessee State Board of Education, 2008). The system powered by Kuder, the Tennessee College and Career Planning System (TCCPS), began in 2003 funded by EdSouth financial organization. In May 2013, TCCPS celebrated a 1.2 million user milestone (Kuder, 2013). The TCCPS website has offered career assessments, virtual college tours, and financial aid resources for students from sixth grade through college. The University of Tennessee instituted and manned the Tennessee Career Information Delivery System (TCIDS) from 1971-2006 when the Tennessee Board of Regents adopted the program. TCIDS offered career exploration with inventories that coincided with the Tennessee Pathways.

The site contained video clips of various individuals in professions as examples for students of the daily activities. The TCIDS database linked results to over 900 occupations. In conjunction with the Tennessee Department of Labor and Career Centers, the Jobs4TNOnline website was established to provide resources and labor market information specifically for Tennessee job seekers (Source Labor Market Information, n.d.). The *American Career Magazines* delivered a planning tool that eighth grade students could begin to use for high school and postsecondary planning. The CollegeforTN.org website, sponsored by the Tennessee Higher Education Commission, provided college and career planning with various resources for students. The website delivered career resources for students beginning in kindergarten with an interactive program called PAWS in Jobland.

The Career and Technical Education division of the Tennessee Department of Education endorsed two courses for career planning. The career management success course is described as follows:

[A] core course for career clusters. The course provides students with tools for achieving success in their academic, work, and personal lives. Course content emphasizes the basic skills and knowledge needed for employment success, as identified by industry and supported by relevant national standards. All course content is presented in a real-world context, providing concrete opportunities for developing personal and career goals, effective communication skills, teamwork abilities, and successful work attitudes (TDOE, n.d., *Course Description-Career Management Success,* p.1).

A second course, Personal Academic and Career Excellence (PACE), was revised from the Freshmen Transition Initiative at George Washington University.

Personal Academic and Career Excellence (PACE) is a life planning course designed for

ninth grade students. This transition course will help students develop a sense of

relevance and ownership in their learning. *PACE* will empower them to become

responsible, contributing and productive members of an ever-changing global society.

Students will envision and "pace" their lives through the development of a personalized

ten year life plan. They will be motivated to strive toward excellence in navigating their

personal, academic and career lives. (TDOE, n.d., *PACE*, p.1).

The Tennessee Department of Education partnered with various entities in establishing resources

for career education, but no empirical data existed focusing on the effectiveness of any of the

programs offered. As noted by the TCCPS milestone, website "hits" were tracked as data. No

known research has been conducted on website effectiveness for adolescents.

The local education agency in the study implemented a career education course for all

freshmen utilizing the Academic Innovations curriculum Career Choices® from 2011-2013. The

curriculum promoted career exploration and incorporated a 10-year career planning process with

a focus on ninth and 10th grade students. The program was evaluated by a Denver-based

organization as part of a summer training program for adolescents and found to be valuable to

the participants with the additional recommendation of making the program available to more

students during the regular academic year (LeTerneau, 1996). The U. S. Department of

Education classified the Career Choice program as an exemplary and promising program in a

2000 gender equity panel report. The panel rated the program better or significantly better than

other programs with the purpose of students making "deliberate career choices" (USDOE, 2000,

p.4). Although the program evaluations provided an overview of the curriculum's intent to

provide the specifications it presents, no published empirically based research has been

conducted on the effectiveness of the program as a career education course with its impact on student career development. With the opening of a new facility, budget revisions forced an alternative course selection. This study aimed to fill the gap in research involving the career management success course in conjunction with the CollegeforTN.org planning system.

Freshman Year in High School

In reviewing factors impacting high school reform and career development, the inclusion of the freshman year influence becomes paramount. The American Diploma Project and No Child Left Behind established more demanding criteria for adequate yearly progress for the American education system, and high school reform topped the administrative agenda. Graduation rates, failures, and dropout rates have been systematically monitored as predictors for future outcomes. The National Center for Education Statistics (NCES) reported the average freshman graduation rate among public school students in the United States in 2007-2008 was 74.9 % (Chapman, Laird & Kewal- Ramani, 2010). Based on students entering as freshman, graduating in 4 years, this startling 25% of students lost between freshman year and graduation raised much alarm. In a Philadelphia study of high school freshman transition, Neild, Stoner-Eby, and Furstenberg (2008) established that "there are specific points in students' educational careers where degree completion hangs in the balance and educational trajectories are reshaped" (p. 559). Research determined one key problem area: the transition to the freshman year in high school.

Numerous aspects of the freshman transition posed complications for students. Increased graduation requirements and difficult transitions to high school accounted for a majority of the reasons for dropping out (McCallumore, Kyle, and Sparapani, 2010). Typically freshmen are taught by the least experienced teachers (Dedmond, 2005). Some students changed from a

smaller middle school or K-8 environment. Peer pressure and discipline issues plague this transitional phase of development (Perry & Wallace, 2015). Often freshman year is the first time students are required to earn passing grades in core courses (Fulk, 2003). As a part of the increased graduation requirements, passing of standardized tests is integrated into the freshman year. Further worries include more rigorous classes, more homework, and social concerns. Because of these additional complications, the National High School Center reported that more students fail ninth grade than any other high school grade (Williams & Richmond, 2007).

In response to the ninth grade failures, research was conducted looking at successful transitioning into the freshman year of high school. Possible simple interventions included distributing school maps, and copies of bell schedules, meet the teacher nights, and parent meetings (McCallumore et al., 2010). More multifaceted explanations involved programs for developing a positive sense of self and identity (Brown, Dedmond, & LaFauci, 2006). Specific curriculum in survival skills that included decision-making skills, study skills, test-taking skills, and career development could be implemented (McCallumore, et. al, 2010).

McKenzie (2009) reviewed transition practices for 183 high schools of various sizes across Missouri. The percentage of high schools reporting transition practices increased with student enrollment. Fewer than 3% of schools having less than 130 students had transition programs in place, whereas only 4% of schools with enrollment larger than 1,200 did not have a program in place (McKenzie, 2009). Three key features were evaluated in the Missouri study including what transition format was practiced; what topics were covered in the program; and what level of participation was expected in the program. Results revealed six common formats for the transition programs with 64% of the schools indicating multiple practices: (a) freshman advisory, (b) evening orientation, (c) half-day session, (d) 1 to 2 day boot camp, (e) freshman

course, and (f) summer school program. The top five topics, agreed upon by schools, to be

covered in transition programs were (a) rules and regulations of the school, (b) requirements for

graduation, (c) study skills, (d) goal setting, and (e) extracurricular activities. Career exploration

ranked 11 in importance with 48% of the schools presenting the topic (McKenzie, 2009). Last,

the study reviewed student access to the transition program. Of the participating schools, 37%

employed student choice models, 55% required student participation, and 8% employed a target

population model. McKenzie deduced that freshman transition initiatives can eliminate anxiety

for students, and that the implementation of professional learning communities was the most

widely used improvement model for schools recognizing the need for freshman transition.

Legum and Hoare (2004) and Turner (2007) highlighted the need for middle school

students to have career interventions in preparation for transition into ninth grade. Turner

identified barriers to transition as the lack of academic readiness, parental assistance, career

awareness and the presence of environmental barriers. In addition to overcoming the barriers

Turner (2007) and Brown (2010) recommended forging relationships between the students and

school faculty as an important link to freshman year. One faculty connection often overlooked is

the use of the school counselor. Whiston, Lindeman, Rahardja, and Reed (2005) analyzed career

counseling cases of 12 psychologists identifying seven themes in career counseling. One of the

prevalent themes was helping-skills that establish a relationship between the student and

counselor. The counselor-student relationship can aid in the freshman transition. In the article

"Saving the Freshman," Brown (2010) emphasized the importance of relationships and the

linkage to building an educational plan. The counselor builds a relationship while assisting

students in developing a solid educational plan that includes a program of study. Additionally,

faculty connections were often fostered in professional learning communities. Many high schools

across the country have answered these dilemmas by launching freshman academies (Cook, Fowler, & Harris, 2008).

Various approaches to freshman academies have emerged over the last 2 decades in secondary education, ranging from the structure of the academy to the impact of the program. In a qualitative study, Ratliff and Wilson-Jones (2010) found student performance; dropout rates, absenteeism, and low parental involvement were all factors impacting the freshman student. Several freshmen academy research studies over the last decade concentrated on attendance, discipline, and achievement (Murray, 2011; Parker, 2011; Sewell, 2009, Srofe, 2009) Parker (2011) observed an increase in attendance and academic achievement when researching a freshman academy in Illinois. Sewell (2009) analyzed data comparing two types of freshman academies, traditional academy and stand-alone academy. A traditional freshman academy was defined as a "school within a school" having a team of core subject teachers (Sewell, 2009, p.8). The stand-alone freshman academy was located in a separate building. Students from the stand-alone academy reported feeling relieved that upperclassmen were not present, and enjoyed the attention from the teachers in the smaller environment (Sewell, 2009). Additional study results found a significant positive difference in academic achievement in science and English for students in the stand-alone academy, but not for math (Sewell, 2009).

The State Board of Education in North Carolina catalogued data relating to the use of academies in high schools. North Carolina schools implementing freshman academies increased their promotion rates to sophomore year, reduced dropout rates, and increased proficiency scores on testing when compared to eighth grade scores (Cook et al., 2008). The freshman academies delivered unique yearlong programs that provided student resources. Four strategies were used in all of the North Carolina freshman academies: real-life learning experiences, smaller classes,

relevant instruction, and collaboration among teachers (Cook, et al., 2008). The real-life learning experiences gave students access to career information through job shadowing and collective jobsite field trips.

Hartley (2012) concentrated on the teaming model of freshman academies as an effective tool in promoting freshmen to the sophomore year. Results showed the social aspect of transition into the freshman year and beyond as being most important to students. Students were teamed with the same set of students and core teachers, who in turn had a common planning time. The academy teaming model allowed for increased opportunity to personalize the experience for each student; which in turn, allowed for increased student engagement (Hartley, 2012). Teachers reported that teaming within a freshman academy promoted continuous program improvement and effective communication between students and staff.

Freshman-year career development removes the burden of immediate career commitment and provides more time for development (Porfeli & Lee, 2012). In a Portuguese study Janeiro (2010) analyzed career development attitudes for ninth and 12th grade students. Students exiting secondary school focused on postsecondary planning or entering the workforce. Results confirmed that ninth grade students "must cope with the requirement of choosing the curriculum to proceed with their studies, and for the first time they need to reconcile their life goals with school subjects" (Janeiro, 2010, p. 176). Portuguese students understood the role differences and importance between ninth grade career exploration and 12th grade career planning. In a Korean cross-sectional study for grades 4 through 12, results revealed a nonlinear career maturity pattern. Student career maturity peaked during freshman year when schooling decisions were made (Yon, Choi, & Goh, 2013). Troutman (2008) found that career interventions delivered in the freshman and sophomore years for U.S. high school students instead of the senior year had

the greatest impact on decision making. Resources assured freshmen successful transition with a lifelong impact on career development (Troutman, 2008). The freshman year in high school presented a perilous time with its transition and necessity for career development.

Summary

The literature indicated that there was a greater abundance of research around the globe than in the United States on the concept of career development (Stipanovic et al., 2012). Career development was needed as education reform fueled the drive for students to be college and career ready upon completion of high school. Defining college and career readiness varied by the measure an organization or education agency adopted. Regardless of the measures an entity embraced for college and career readiness, the individual controlled success in reaching the end goal of obtaining postsecondary training and ultimately a career. Researchers agreed that adolescence provided a critical juncture for career exploration, although the delivery method for career education is unclear. Research analyzed which interventions offered the most significant influence, but little empirical evidence supported any one approach. Researchers implored state departments of education to establish policies and guidelines to require career development at all schools in each state (Rowan-Kenyon, et al., 2011). Research also shows that educators wanted to learn best practices in career development for adolescents. When to implement career education was not significantly supported in the literature. The adolescent transition from eighth to ninth grade was widely recognized as important because of student vulnerability to dropping out and disengagement (Perry & Wallace, 2012). Along with the question of when to implement came another question: how long an intervention to offer. The review of literature provided little evidence of empirically based results for a career course for high school freshmen.

Many research studies provided implications concerning the influence of career interventions. The current study aimed to build upon sound empirical evidence. Concerning the career development of adolescents, the literature review has shown an extensive amount of research directed toward career development; only nominal research, however, has been conducted with Appalachian students, and even less has produced conclusive empirical results (Ali & Saunders, 2009). A gap exists in the literature in that no research relating to the program-of-study selection process for Tennessee graduation requirements exists.

CHAPTER THREE: METHODS

Design

A causal comparative study was implemented to determine if student career maturity and selection of a program of study differed based on students' participation in the career management success course as compared with waitlist students participating in the course the following semester. Not manipulating the independent variable and not having random sampling justified the practice of a causal comparative design (Johnson, 2004). Lent, Paixao, da Silva, and Leitao (2009) studied career choice in Portuguese high school students and Rogers, Creed, and Glendon (2008) studied Australian high school students utilizing a causal comparative study. Because of the block schedule format, one-half the students had the career exploration class in the fall semester and one-half in the spring semester of the freshman year. When one is ethically unable to manipulate the independent variable, a causal comparative study can examine the differences between non-randomized groups (Schenker & Rumrill, 2004). Because the study took place in the field--a school--rather than a laboratory setting, random assignment to the course was not feasible (Warner, 2008). For the current study, the two groups consisted of those taking the career management success course in the fall semester and those not taking the course in the fall semester. Kazdin (2003) contended that there was a distinct advantage to using a waiting list group over no treatment since with the waiting list all clients would receive treatment; the only difference would be when students received treatment. The students in the study participated in the course in either the fall semester or the spring semester; no student was without treatment.

The independent variable is participation in or lack of participation in the career exploration course. The dependent variables construct of career maturity consisted of the

subscales of career choice readiness, career concern, career curiosity, career confidence and career consultation. Career maturity measures an individual's "readiness for career decision-making" (McInness & Chen, 2011, p. 87). Career maturity assessment as it relates to adolescent development in high school freshmen occurs with the Career Maturity Inventory- form C (Savickas & Porfeli, 2011). Career maturity stands operationally defined in this study as the overall score and subscale scores on the Career Maturity Inventory-form C. The subscales of the Career Maturity Inventory-form C are career concern, career curiosity, career confidence, and career consultation. The Career Maturity Inventory-form C subscale definitions will be based upon the work of Savickas (2005): Career concern means the importance of preparing for tomorrow. Career curiosity refers to seeking information about the fit between self and work. Career confidence refers to an individual's ability to make career choice plans a reality. Career consultation refers to an individual's willingness to seek assistance from others. The overall career choice readiness is the "ripeness" of a student's ability to make occupational choices (Savickas & Porfeli, 2011, p.355).

Career management success course: For the purpose of this study, career exploration course refers to the semester-long, 1 1/2 hour per day course, which facilitates exploration of interests, career planning, and selection of a program of study. Similar definitions were utilized by Bollman (2009) to delineate the specific intervention being utilized for the study. Super's Life-Span, Life-Space theory purports that adolescents aged 14-25 provide the optimal introduction to career exploration. The independent variable is operationally defined as participating in the current semester-long career management success course or participating in the course during a later semester.

Program of study: A sequence of three career -elated courses required for high school graduation (Tennessee Department of Education*,* 2010). For example, a student interested in becoming a nurse could select the therapeutic services program of study for graduation by taking Health Science Education, Anatomy and Physiology, and Nursing Education courses. The program-of-study variable remains operationally defined as the ability of a student to make a yes or no selection, regardless of which program.

Research Questions

RQ1: Is there a difference between high school freshmen's ability to select a program of study based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course?

RQ2: Is there a difference in high school freshmen's career maturity based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course?

Null Hypotheses

$H_0 1$: There is no association between the categorical variables of a career management success course and selection of a program of study.

$H_0 2$: There is no statistically significant difference in high school freshmen's *career choice readiness* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

$H_0 3$: There is no statistically significant difference in high school freshmen's *career concern* when participating in a career exploration course as compared to students who do not

participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_04: There is no statistically significant difference in high school freshmen's *career curiosity* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_05: There is no statistically significant difference in high school freshmen's *career confidence* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_06: There is no statistically significant difference in high school freshmen's *career consultation* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_07: There is no statistically significant difference in high school freshmen's *career maturity* combined subscale scores when participating in and completing a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

Participants and Setting

Participants were selected from Nosre Academy (pseudonym) freshman cohort. Convenience sampling of over 550 freshmen students was applied since the site suited the study at hand and the district employed the researcher, thus providing easy access to the population. Gall, Gall, and Borg (2007) provided an operational definition of convenience sampling as "a

group of cases that are selected simply because they are available and easy to access" (p. 636). A total of 79 students provided parental consent forms to participate in the study. The 79 students represented each of the four feeder middle schools, and were male and female students all ranging from 14 to 17 years of age. Once matching was applied and students deleted due to insufficient data, the participant pool was narrowed to 60. The students participating in the career course in the fall consisted of 16 male and 14 female students. The students not participating in the course consisted of 14 male and 16 female students. The study sample consisted of 58 Caucasian students and two Hispanic. Additional demographics of the student sample included ethnicity, male to female ratio, and percentage of students at each age. Following matching and elimination of participants due to lack of data, the two groups each had 30 students.

Students were scheduled in the career management success course or an alternative non-core class by the freshman counselor based upon student registration requests. The researcher was not a member of the counseling staff at the freshman academy, but served as a member of the counseling staff at the senior high school. The non-core courses for group selection were lifetime wellness, visual art, family and consumer science, junior reserve officer training corps (JROTC), and health science education. The treatment course was a mandatory course that students completed in either the fall semester or the spring semester. Course selection practice did not affect the groupings since no student was being withheld access to the course due to the study. Group formation was based upon the already assigned student schedules in the school setting, so there was no manipulation for the study (Kazdin, 2003). Additional comparative school sites were not utilized due to the course being an optional elective or not offered at all in other districts.

Cassie and Chen (2012) utilized the student course assignment as the sampling method in a study, examining gender differences in a career development program. In order to strengthen the validity of the study, matching between the two groups was conducted based on eighth grade ACT Explore scores, gender, and ethnicity. In a study of rural high school students, Griffin, Hutchins, and Meece (2011) found that gender and ethnicity impacted student career aspirations. The study examined gender, ethnicity, grade level, and locale as factors impacting career decisions. This study did not need to control for grade level or locale because the students were all in the ninth grade and were from a single rural Appalachian county. Cobb (2008) reported that intellectually gifted middle school students displayed higher levels of career maturity as compared with their peer group; thus controlling for aptitude through ACT Explore scores reduced the selection threat to validity for the current study. In order to control for differences in the groups, matching using the 8th grade ACT Explore® score, gender, and ethnicity was applied. Matching strengthened the sample for causal comparative studies (Brewer & Kuhn, 2010). Explore data delivered "insight into a student's level of preparedness for college and career by high school graduation." (ACT, n.d.). Since the study examined career maturity and a student's ability to select a program of study related to career interests, the Explore afforded a fitting measure of performance (Gall, Gall, & Borg, 2007). The Explore composite score range was 0-25. The students from each of the groups were matched based upon a low score range (0-17) and a high score range (18-25).

The research took place at Nosre Academy (pseudonym). Nosre Academy was a newly constructed school in the Appalachian region in its first year of operation. The demographics of the freshman class historically consisted of 95% Caucasian students, 2% Hispanic, 2% African-American, and 1% all other. Students with disabilities accounted for 14% of the population. The

free and reduced lunch proportion was 51%. The site followed the state graduation requirements, which were newly implemented with the graduating class of 2013. The school offered a comprehensive curriculum including academic core courses, career and technical education courses, honors courses, advanced placement courses, and special education courses. The district implemented a mandatory career management course for freshmen 2 years prior to moving into the stand-alone academy. The site was the only school in the region to require the course, which was an optional course offering approved by the state department of education.

The career management success course progressed through an 18 week, daily course centering on the six major units of defining oneself, personal finance, career research, college research, program of study, and workplace readiness (see Appendix E). The course used a multimodal presentation method including classroom lecture, class discussion, computer based projects, and written assignments. The three teachers of the career management success course planned the weekly lessons jointly for the semester without a dedicated textbook. The course was horizontally aligned among the three teachers. Lesson plans were collected and compared ensuring the initial curriculum outline was followed. Email contact with teachers was conducted as a practice to ensure alignment among the three teachers. In order to access computer-based curriculum, each classroom was equipped with computers and the teacher workstation included a promethean board for projection of curriculum. The career planning portion of the College for Tennessee website includes an interest profiler, basic skills survey, work values sorter, career cluster survey, transferrable skills checklist, and the career key. The online activities range from 10 to 30 minutes in duration. A portion of the personal finance section of the course is described in Table 2 describing the class activity, the unit topic covered, and the correlation to the Life-Span, Life-Space theory. Activity one objective and lesson details are provided in appendix F.

Table 2

Description of Activity, Topics, and Theory Correlation

Activity	Topic covered	Theory correlation
Class discussion about allowances; students earning their own money; budgeting for wants and needs; expectation of parents providing financially for student (Appendix F)	Student financial responsibility and extra money from parents	Adolescence provides the initial stage of developing one's own beliefs. In this activity, the student views himself in the child role and can view and discuss the adult role as a financial provider (Super, 1980). Career concern, a subscale of the career maturity inventory, measures the extent an individual is oriented and involved in the process (Savickas & Porfeli, 2011).
Students complete a family profile projection for the age of 30.	Renting verses owning a house in relationship to lifestyle.	Individuals play a variety of roles in a lifetime. Planning for a projected expectation assists in defining any life

Students will read an article about one family's plan for purchasing a home. Group discussion of renting verses owning.	Realities of renting versus owning-monthly payments.	role discrepancies (Super, 1980). Career curiosity explains the extent the student explores and seeks career-related information (Savickas & Porfeli, 2011). The more adequate the student understanding of adult roles, the more likely the student is to succeed through the transition from student to citizen worker (Super, 1980). Career confidence measures the extent an individual makes wise career-related decisions (Savickas & Porfeli, 2011).

Instrumentation

Career maturity was measured utilizing the Career Maturity Inventory (CMI), originally developed by Crites in the 1960s. Administered as the first paper and pencil career measure, the CMI has been utilized in hundreds of research projects. There have been two substantial

revisions and an adult version of the Inventory constructed. The Inventory was most recently revised, producing form C, in 2011 by Savickas and Porfeli (see Appendix C for instrument). The revised CMI provides scores for career choice readiness, career concern, curiosity, confidence, and consultation and has been normed for grades 9-12. The purpose of the latest revision to the instrument was to "reestablish its usefulness as a succinct, reliable, and valid measure of career choice readiness" (Savickas & Porfeli, 2011, p.356). Furthermore, the revision included the creation of a screening, which could be used for program planning. In measuring the validity of the CMI-form C, Savickas and Porfeli (2011) tested the relationship with the Vocational Identity Scale, which established that the inventory measures what it sets out to measure. In the Savickas and Porfeli study, the coefficient alpha for the CMI-form C was .86. The revision also correlated to the two previous versions of the inventory.

The Career Maturity Inventory- form C provides respondents with five scores relating to the degree of ability in career decision-making skills and readiness; it does not provide a vocational direction. The first score offers an overall career choice readiness. A concern score measures an individual's focus on the process. The curiosity score gauges individual interest in seeking information. The confidence score provides information on the individual's belief in his or her ability to explore career options. The consultation score details the amount of assistance an individual seeks in career-decision making. The instrument was used in numerous studies (Dipeolu, Hargrave, & Storlie, 2015; Dipeolu, Hargrave, Sniatecki, & Donaldson, 2012).To assess construct validity, a hierarchical confirmatory factor analysis was conducted on the four constructs based on the 10 items that were originally proposed; "six (6) of the 10 items demonstrated sufficient loadings (e.g.,>.3) on each factor" (Savickas & Porfeli, 2011, p. 359). After conducting a goodness-of-fit index, the six items for each scale were incorporated to

become the 24-question inventory. Coefficient alphas for the scales were concern = .62, control = .69, curiosity = .74, and confidence = .78 (Savickas & Porfeli, 2012, p.359). The current study will use a Cronbach alpha reliability coefficient to assess the correlation between the 24 items on the inventory. "The Cronbach alpha has become the most popular form of reliability assessment for multiple item scales" (Warner, 2008, p.854). The Inventory and scoring key appear in Appendix C. The Inventory's 24 questions are formatted as agree or disagree responses with each of the questions fitting one of the four subscales. Each subscale ranges from 1 to 6. A higher score suggests an individual's readiness to make career decisions. The instrument was scored using Statistical Package for the Social Sciences. The CMI-form C was a freely available instrument, so no additional permission was needed.

A single question measure will quantify a student's selection of a program of study: "Can you identify a program of study that matches your skills and interests?" Students will answer "yes" or "no." This two-level categorical variable ascertains selecting a program of study without focusing on which program of study.

Procedures

Following Liberty University Institutional Review Board approval and local education agency agreement, research was conducted (see Appendix B for IRB approval). Confirmation of teacher participation was obtained. The researcher met with the teachers explaining the inventory directions and the single question program-of-study measure. The teacher handed out the form, asking students to read the directions and complete the form. Informed consent and assent forms, along with a cover letter were provided to teachers for dissemination to the students approximately two to three weeks before the end of the semester. Teachers emphasized to students that participation in the study would not impact their grade in the course. Teachers

shared a predetermined script emphasizing to students the importance of participating in the study to benefit future students and the administration. Students were asked to return the form within 1 week in order to participate. Teachers offered reminders to students prior to the 1 week return deadline to bring back the signed consent and assent forms. The paper-and-pencil Career Maturity Inventory-form C was administered in the commons. Participant instructions were included on the top of the instrument (see Appendix C). Students were simply handed the paper instrument and instructed to read the directions carefully. The answers were transcribed into the statistical system, then locked in a storage unit. Additionally the single question selection of a program of study accompanied the inventory. Matching of participants took place between the groups.

Data Analysis

Null Hypothesis 1

A chi square test for independence was conducted to analyze the first null hypothesis that the variables of interest, participating in a career exploration course and selection of a program of study, were independent. The chi square for independence was deemed most appropriate because the nonparametric categorical data, simply a yes or no, would be obtained from the single question measure in conjunction with the variable of being in the career course or not being in the career course (Howell, 2008). The chi square for independence determined if there was an association between participating in or not participating in the career management course and the selection of a program of study; or if the variables were independent of each other--no association. The chi square was a nonparametric test with limited assumptions. The data must have independent observations (Howell, 2008). The sample size must be relatively large; for a two by two contingency table sample size needed to be at least five or greater per cell (Green &

Salkind, 2011). The degrees of freedom ($df= k$-1) would be number of levels (two) minus one

would equal 1. In this study, with an alpha level of .05 and df 1, $X^2 \geq 3.84$ was used in order to

reject the null hypothesis (Howell, 2008, p.591).

Null Hypotheses 2-7

Research Question 2 consisted of six null hypotheses; one hypothesis tested the overall

score of career choice readiness; and one each tested the subscale scores of career concern,

career curiosity, career confidence, career consultation, and the last for the career maturity

combined subscale scores. A multivariate analysis of variance (MANOVA) determined the

difference between the groups on the subscales and the overall score combined. Prior to analysis,

assumption testing was completed for assumptions of normality, linearity, and equal variances.

Data screening for tenability of normality and multivariate normality was tested by creating

histograms for both the students completing the career management course and the waitlist group

(students taking the course the following semester). Furthermore, a Kolmogorov-Smirnov test

was conducted for normality since the sample size is larger than 50. Multivariate outliers were

observed using Mahalanobis d (Warner, 2008). The assumption of linearity was assessed by

conducting a scatterplot to determine if the relationship between the variables was linear. The

assumption was met if upon inspection a line exists between variables in the data. Since the

subscales of the Career Maturity Inventory were highly correlated, multicollinearity was assessed

with a matrix of scatterplots. Levene's test and Box's M statistic for homogeneity of variance

and covariance were conducted to assess if the variances between the populations were equal

since mean scores between the two groups were compared (Green & Salking, 2011, Warner,

2008). Both assumptions were tested utilizing a significance level of $p < .05$. A power analysis

seeking a power of .80 and a Cohen's d of .50, revealed a sample size of 64 for alpha, $p < .05$

(Cohen, 1988). In order to perform the MANOVA, the assumption of equality of group dispersions must be attained. A nonsignificant F regulated tenability of the assumption (Gall et al., 2007).

A Type I error can occur because of the six separate hypotheses related to the career maturity variable so a Bonferroni procedure was conducted (Howell, 2008). The Bonferonni procedure runs a familywise error rate. In order to yield an acceptable familywise error rate of .05, the alpha was corrected to .008 since there were six hypothesis tests (Howell, 2008).

CHAPTER FOUR: FINDINGS

Research Questions

RQ1: Is there a difference between high school freshmen's ability to select a program of study based on whether they participate in and complete a career exploration course or do not participate and complete a career exploration course?

RQ2: Is there a difference in high school freshmen's career maturity based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course?

Null Hypotheses

The Null hypotheses for this study are as follows:

H$_0$1: There is no association between the categorical variables of a career management success course and selection of a program of study.

H$_0$2: There is no statistically significant difference in high school freshmen's *career choice readiness* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H$_0$3: There is no statistically significant difference in high school freshmen's *career concern* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H$_0$4: There is no statistically significant difference in high school freshmen's *career curiosity* when participating in a career exploration course as compared to students who do not

participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_05: There is no statistically significant difference in high school freshmen's *career confidence* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_06: There is no statistically significant difference in high school freshmen's *career consultation* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

H_07: There is no statistically significant difference in high school freshmen's *career maturity* combined subscale scores when participating in and completing a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C.

Descriptive Statistics

Original matching parameters consisted of gender, age, ethnicity, and ACT Explore scores which are displayed in Table 3. Of the 79 students, 10 students were without an ACT Explore score, which eliminated the student data from the research. Of the 10 students without ACT scores, two were males and eight were females. The two males eliminated from the study were age 15 and there were four females age 14, three females age 15, and one female age 16 eliminated from the study. In order to maintain the most participants in the study, matching for age was conducted with a plus or minus one rule (age range 14 to 17). Nine additional female students were eliminated from the study in order to match the number of boys and girls. Of the

nine additional girls eliminated, seven were 14 years of age, and two were 15 years of age. Table 3 below shows the distribution by age of the 60 participant responses utilized in the study based on whether the students participated in the course in the fall or were waitlisted to the spring course. The mean age for males in the study was 14.77. The mean age for females in the study was 14.53.

Table 3

Student Age Matching by Group

Age	Fall		Spring	
	Male	Female	Male	Female
14	6	8	5	8
15	9	6	7	6
16	0	0	2	2
17	1	0	0	0

Ethnicity of the participants consisted of 58 Caucasian and two Hispanic students. Groups were matched equally male to female (30 each) and course section fall to spring (30 each). Figure 1 shows the group frequency for matching based upon ACT Explore scores. For the fall group 12 males and 11 females scored in the low range of the ACT Explore (range 0 to 17); and four males and three females scored in the high range of the ACT Explore (range 18-25). For the spring group 11 males and 11 females scored in the low range of the ACT Explore; and three males and five females scored in the high range of the ACT Explore.
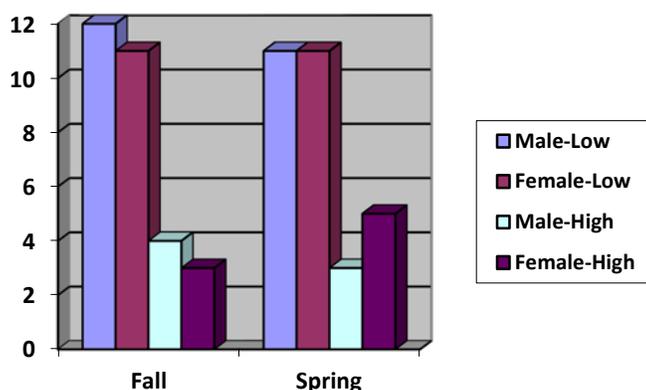
Figure 1. ACT Explore matching frequency.

Table 4 below provides the mean and standard deviation for the four Career Maturity Inventory-Revised subscales and the overall career choice readiness scale. The table depicts the mean and standard deviation for students who took the course in the fall and the students who took the course in the spring. The concern and consultation scores were higher for the students that participated in the fall course. The curiosity, confidence, and career choice readiness scores were higher for the waitlisted spring group (Spring curiosity score .566 higher than fall, Spring confidence .60 higher than fall, Spring career choice readiness score 1.133 higher than fall).

Table 4

Descriptive Statistics for Career Maturity by Nulls

Dependent variables	Fall ($n = 30$)		Spring ($n = 30$)	
	M	*SD*	*M*	*SD*
Concern	4.900	1.094	4.80	1.03
Curiosity	3.467	1.697	4.033	1.426
Confidence	2.833	1.984	3.433	1.977
Consultation	3.833	1.642	3.467	1.456
Career Choice Readiness	11.200	3.718	12.333	3.427

Results

Null Hypothesis 1

The first null hypothesis examined whether the association between participation in a

career exploration course and the ability to select a program of study were independent. A single

yes or no question gauged whether a student identified a program of study that matched career

interests. A Pearson's Chi Square analysis was used to assess the difference in student selection

of a program-of-study ability based on whether a student participated in the career exploration

course. Table 5 shows the cross tabulation for program-of-study identification for all

participants, $N = 60$.

Table 5

Cross Tabulation for Student Program-of-Study Selection Based on Group Assignment

Can you identify a program of study that matches your career skills and interests?	Yes	No	Total
Course participation group	23	7	30
Waitlist group	25	5	30
Total	48	12	60

Assumption of independent observations was satisfied since each student response could

not appear in multiple categories and was only counted once (Pallant, 2013). The assumption of

adequate cell size was met with each cell having at least five expected frequencies (Pallant,

2013).Yate's Continuity Correction was reported for the Chi Square two by two table (Pallant,

2013). The Chi-Square analysis failed to reject the null hypothesis for Research Question 1,

Pearson χ^2 (1, $n = 60$) = .104, $p = .75$, Cramer's $V = .186$, $p = .52$.

Null Hypotheses 2-7

The second research question consisted of six null hypotheses analyzed utilizing a one-way multivariate analysis of variance (MANOVA). A MANOVA was conducted to identify if there was a significant difference between the two groups' career maturity on the four subscales, overall career choice readiness along with the combination of the scales. The mean and standard deviations are represented for each group in Table 6.

Assumption testing for the six null hypotheses was completed for tenability of sample size, normality, multivariate outliers, linearity, multicolinearity, and homogeneity of variance. The sample size consisted of 60 participants, which exceeds the career maturity dependent variable subscales of five. A Kilmogorov-Smirnov statistic was reviewed for normality of distribution of scores. Normality was tenable with a non-significant value of more than .05 (Pallant, 2013). None of the four subscales were normally distributed. Additionally, histograms, boxplots, and Q-Q Plots were examined for normality. The visual review of the boxplot in Figure 2 did not display any outliers.
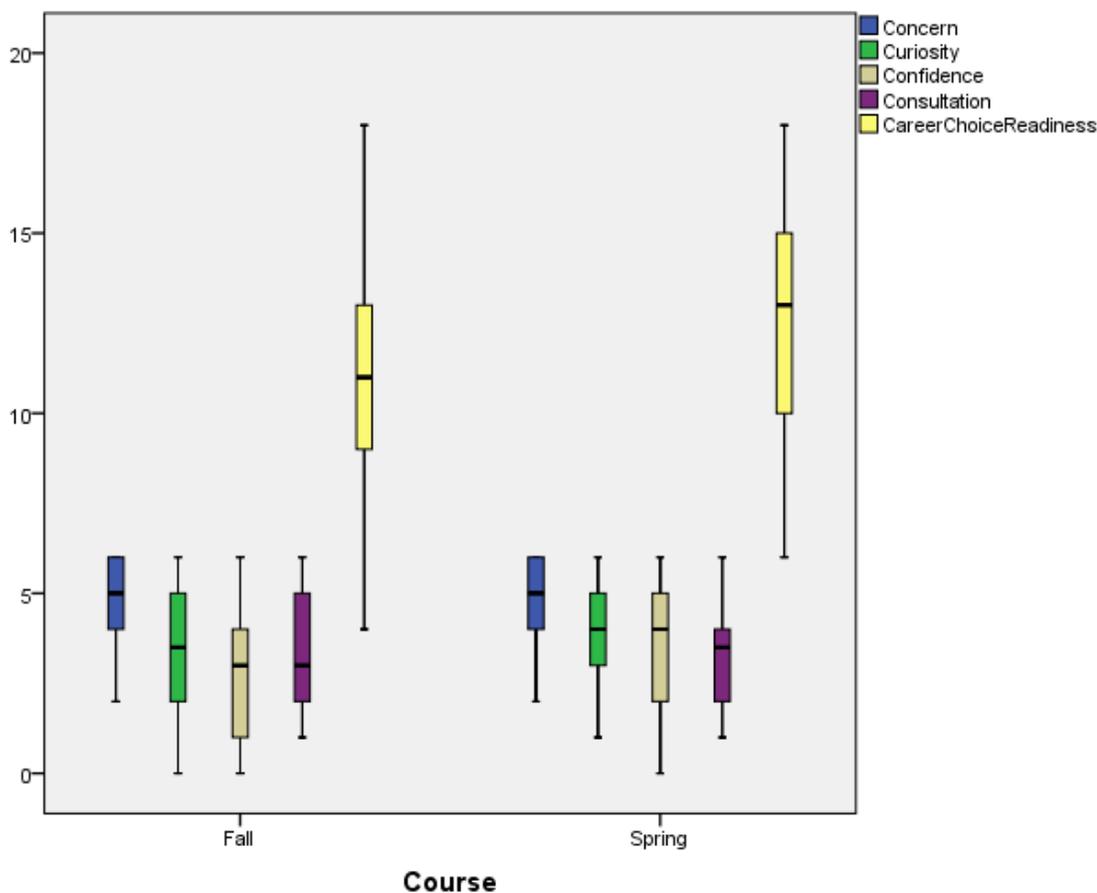
Figure 2. Boxplot for Distribution of Scores for Groups.

A Maholanobis distance statistic was conducted for multivariate outliers as referenced in Figure 1. The critical value for the Maholanbis distance was 20.52, based on five degrees of freedom and an alpha value of *p* = .001 (Warner, 2008). There were no violations of this assumption because none of the values were larger than the critical value, which would have indicated multivariate outliers. A matrix of scatterplots between variables was generated for linearity, which did not show any obvious non-linearity. Multicollinearity was not present between individual subscales. Higher correlations between curiosity (green in Figure 2), confidence (tan in Figure 2), and career choice readiness (yellow in Figure 2) occurred but were expected since the career choice readiness overall scale was calculated using the combination of

concern, curiosity, and confidence. The last assumption, homogeneity of variance, was not necessary since the sample sizes were equal and "robustness of significance tests is expected" (Tabachnick & Fidell, 2007, p.252).

A one-way MANOVA was conducted to determine the effect of the career management success course on freshmen career maturity (see Table 6 for individual dependent variable results). The test is believed to be robust even when assumptions are violated (Pallant, 2013). The independent variable was the course. The dependent variable, career maturity, was assessed using the subscales and the career choice readiness score from the Career Maturity Inventory-form C. Pillai's Trace statistic was conducted since violations occurred in assumptions and the statistic was viewed as a more robust test (Tabachnick & Fidell, 2007). The results of the MANOVA failed to reject the null hypothesis with a statistically significant difference between the students participating in the course and those not participating in the course for all subscales, total career choice readiness, and the combination of the subscales, Pillai's Trace = .041, $F(4, 55)$ = .587, p = .67.

Table 6

Independent Subscale Group Comparisons

Dependent variables	Results
Concern	$t(58) = .121, p = .90$
Curiosity	$t(58) = -1.40, p = .167$
Confidence	$t(58) = -1.05, p = .298$
Consultation	$t(58) = .399, p = .69$
Career choice readiness	$t(58) = -1.159, p = .25$

No follow-up analyses were conducted since there was no significance in the results of the MANOVA. Although the results did not yield a significant difference in the groups, internal test reliability was conducted with Cronbach's alpha for each scale and the overall career choice readiness shown in Table 7.

Table 7

Internal Reliability of Current Study

Dependent variables	Cronbach's alpha
Concern	.875
Curiosity	.819
Confidence	.875
Consultation	.767
Career choice readiness	.934

Savickas and Porfeli (2011) established high school norms for each of the scales with the revision of the inventory (see Table 8). Both groups scored above the high school norm in all areas except consultation where both groups scored below (present study means for fall were 3.83 and spring 3.46). Savickas and Profeli suggested the consultation score be interpreted within a cultural context. A lower score suggests a family tightness where the family chooses together and there is less adolescent independence in choosing (Savickas & Porfeli, 2011).

Table 8

High School Norms for Career Maturity Inventory-Revised Form C

Dependent variables	High school norm
Concern	4.6

Curiosity	2.72
Confidence	2.56
Consultation	4.94
Career choice readiness	9.88

Summary

The results of the chi square and MANOVA analyses showed no significant differences between the students who participated in the career management success course and students waitlisted for the course documented by alpha levels ($p = .52$). Based on the results of the chi square, the researcher was not able to reject Null Hypothesis 1, that there is no association between high school freshmen's ability to select a program of study based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course. For Research Question 1, the two-by-two table (shown in Table 4) met the expected cell count minimum of five along with independent responses assumptions. The chi square score for the study was .104, which was below the significant association score of 3.84 that was needed (Howell, 2008, Warner, 2008). A chi-square test for independence did not indicate a statistically significant association between groups and student identification of a program of study.

Research Question 2, stated that there is no difference in high school freshmen's career maturity based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course. A one way between groups multivariate analysis of variance was performed to assess group differences in student career maturity. The overall career choice readiness score and the four subscales of concern, curiosity, confidence,

and consultation were used to measure the career maturity dependent variable. The independent

variable was the career management success course. Assumption testing was conducted checking

for sample size, normality, multivariate outliers, linearity, multi-colinearity, and homogeneity of

variance. MANOVA results shown in Table 6 did not produce a significant difference between

the two groups for career maturity since the alpha score was .67, substantially above the $p < .05$

significance level. To have rejected the null hypothesis with four degrees of freedom for the

numerator and 55 for the denominator, the F statistic would have been between 2.61 and 2.52

(Warner 2008, Howell 2008). The current study yielded an F (4, 55) = .587, p = .67.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

The purpose of the research study was to investigate the effectiveness of the career management success course on high school freshmen's selection of a program of study and their career maturity. The course design assisted educators in providing career development curriculum for high school students. This study investigated two research questions: 1) Is there a difference between high school freshmen's ability to select a program of study based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course? 2) Is there a difference in high school freshmen's career maturity based on whether they participate in and complete a career exploration course or do not participate in and complete a career exploration course?

The first research question, addressed whether there was a difference between high school freshmen's ability to select a program of study based on whether they participated in and completed a career exploration course or did not participate and complete a career exploration course. The first null hypothesis stated that there is no association between the categorical variables of a career management success course and selection of a program of study. The results of the chi square analysis did not reveal an association between completing the course and ability to select a program of study, Pearson χ^2 (1, $n = 60$) $= .104$, $p = .75$, Cramer's $V = .186$, $p = .52$. Due to the small sample size results need be interpreted with caution. The results of the first null hypothesis align with Super's Life-Span, Life-Space theory which looked at the role of the student in terms of both expectation and performance (Super, 1980). As students enter high school the expectation to graduate has been well established, but how the students perform the exploration behavior determines progress. Research linking career and educational plans

energizes the students in career-related course selection (Rowan-Kenyon et al., 2011). Students in the current study were able to select a program of study that related to a future career interest. Identifying a program of study was relatively new in Tennessee, in conjunction with the 2008 inclusion of a program of study for graduation. There have only been two graduating classes under the new requirement (2013 and 2014). Although identifying a program of study as a part of graduation requirements seemed new, the expectation of pursuing a high school diploma was well established. The American Recovery and Reinvestment Act 2009, the Tennessee First to the Top Act 2010 and the Complete College Tennessee Act 2010 all had the expectation that students graduate from high school, college and career ready.

The second research question and six corresponding null hypotheses addressed whether there was a difference in high school freshmen's career maturity based on whether they participated in and completed a career exploration course or did not participate in and complete a career exploration course. Due to the small sample size in the current study, results need to be interpreted with caution. Null Hypothesis 2 stated that there is no statistically significant difference in high school freshmen's *career choice readiness* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course, as shown by the Career Maturity Inventory-form C. The results of the MANOVA showed no significant difference between high school freshmen's career choice readiness, whether they participated in the career exploration course or not. Results are contrary to research in that Hirschi (2011) found that career choice readiness increased after a short nine-session career intervention for Swiss students. However, the study supports the framework of career choice readiness being a developmental process (Super & Hall, 1978).

The third hypothesis looked at the difference in high school freshmen's *career concern* when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C. . Results of the study did not support other studies that analyzed the effectiveness of a career intervention (McComb-Beverage, 2012; Jokisaari, & Vuori, 2011.)

The next three hypotheses looked at career curiosity, career confidence and career consultation.

The fourth hypothesis considered high school freshmen's career curiosity when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C. The results of the hypothesis did not support the literature that a career intervention increases curiosity toward careers (Jokisaari & Vuori, 2011).

The fifth hypothesis looked at high school freshmen's career confidence when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C. Ali et al. (2011) found that career interventions administered in three different avenues still yielded positive results for impacting career development of adolescents. Null Hypothesis 6 explored high school freshmen's career consultation when participating in a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C. Parks, Rich, and Getch (2012) found that career consultation embedded in a career course helped students determine career related goals. Super and Hall (1978) pointed out that part of the problem with assessing career maturity is the lack of

inclusion of self-initiated efforts which may account for the lack of a significant difference in the current results.

The final hypothesis viewed the high school freshmen's career maturity combined subscale scores when participating in and completing a career exploration course as compared to students who do not participate in and complete the career exploration course as shown by the Career Maturity Inventory-form C. As with the individual hypotheses, the results for the combined subscales did not yield results supporting current research (Hirschi & Lage, 2008; Rowan-Kenyon et al., 2011).

Although hypotheses 2-6 do not support the trend in research, there was one dissertation in the literature utilizing the CMI-form C which did not find significant results for career maturity (Riley, 2014). The current study aligns with results from the at-risk adult college student population who participated in a career intervention. Riley contended that the adult students did not need the intervention because the career expectation for the at-risk adult learner already existed. The concept coincides with the expectation of meeting graduation requirements placed upon the freshman students.

Findings in the literature provided various activities to include in the course ranging from job shadowing to work-based learning components. The 3-year Exploring Career and College Options study conveyed the importance of work-based learning activities as a part of career exploration programs (Visher, et al., 2013). One key goal of the course in the current study was linking career interests to educational planning through selection of a program of study.

Previous research studies found multiple influences on career development including parents, home environment, school, access to career education, socioeconomic status, and teachers (Griffin et al., 2011, Helwig, 2008 Watson & McMahon, 2005). The current study

examined career course effectiveness controlling for multiple factors through group matching. The researcher was unable to reject the null hypotheses, students in the current study did not demonstrate an association between selecting a program of study and the career exploration course; nor did the career exploration course solely affect student career decision making. The current study was not able to rule out other career development influences based upon participation in the course.

Conclusions

Although a plethora of research exists on career development, there has been no research since Tennessee implemented the new graduation requirement including a program of study. Additionally, the review of literature found little evidence of research conducted in the Appalachian region of the country (Ali & McWhirter, 2006). With an abundance of options to choose from in career interventions, educators seek evidence based practices to implement in high schools. The necessity exists to expand the literature to address career development concerns in high school freshmen's requirement to select a program of study to pursue in the remaining years of high school and to provide educators with sound evidence of the effectiveness of a career exploration course that was in place in a local school district.

Although the results of the current study did not significantly support the career exploration course as solely impacting career maturity or the ability to select a program of study, the majority of the participants reported they could select a program of study that matched their career skills and interests. All of the results must be interpreted with caution due to the small sample size in the current study. The freshman year in a Tennessee high school marks the beginning of the selection of a program of study. The results do support career development as an important topic of discussion at home and in school (Hirschi & Lage, 2008). The structured

curriculum of the course and the school counseling program insure that all students are provided formal access to career information. The days of vicariously learning about the world of work while sitting around the dinner table are dwindling. In 1981, Hacket and Betz referenced vicarious learning as one of four-sources of career related self-efficacy. In 2010, Williams referred to vicarious learning as underperforming in predicting expectations and outcomes of career development. Young adults need career development education to compete in the global workforce and the school counseling curriculum can support that need. School counseling emerged from the economic need of the industrialized 19th century, and the need is still prevalent in the globalized 21st century. The results of the current study further emphasize the need for school counselors and educators in the Appalachian region to be more practical in designing and establishing more comprehensive career education practices. The results of the study provide for a major opportunity for expanding school-to-work and school-to-higher education training in preparing students for career autonomy.

The findings correspond to a recent dissertation by Riley (2014) that found participants had developed necessary skills for career choice readiness because of the expectation of the impending decision. Riley's research with at-risk adult learners assessing a single career intervention and the Career Maturity Inventory-form C as one of the instruments yielded similar results. The expectation that a decision must be made regarding a program of study provided the catalyst for students to pursue career development options even when having not yet participated in the course. The results support the Life-Span, Life-Space theory which reaches beyond the practices of one career exploration course as the sole determinant of career development but relies on the adolescent development (span) of high school freshmen.

Ultimately the study is not about whether a single career course impacts career maturity, but whether the students are developing the necessary skills for career choice readiness and independence. Organizations in a global economy are seeking efficiency a practice that leads to mass layoffs and job insecurity (Sharabe & Harpaz, 2013). Self-sufficiency in career development provides the key in a competitive labor market. In addition to exploring career course effectiveness, the results of the study support research on the importance of adolescence as a critical phase in career development (Rowan-Kenyon et al., 2011; Super & Hall, 1978; Visher et al., 2013).

Implications

The results of the study added to the existing body of career development knowledge by supporting Super's Life-Span, Life-Space theory for adolescent career development. Super (1975) contended that the exploratory phase began in adolescence as a process that an individual goes through developing interests based on various life events. The majority of participating students at Nosre Academy reported necessary skills for selecting a program of study (80% of the 60 participants). Even though career development for the students in the current study could not be explained exclusively by the course, the study did support Super's (1980) concept that during the critical exploration life-stage, adolescents developed career interests through participation in various activities. The study supports the idea that the comprehensive curriculum provided by the school system, including the school counseling program and the expectation of graduation, is an effective tool given the career maturity of all students in the study.

The study added to the career development body of knowledge by focusing on the construct of career maturity measuring student's ability to select a program of study for graduation, something that had not been researched since the 2008 implementation. The two

research questions focused on the impact of a freshmen level course offered by the district. With the absence of statistically significant results, the district may consider refining the course and seeking what other factors are influencing student career decision making. Based upon results of the current study, the district may consider various options for career development. Restructuring the course and including career counseling interventions, career fairs, job shadowing, or a computerized career inventory are options to be considered (Rowan-Kenyon et al., 2011). Although the course in its third year had been horizontally aligned, internal instructor and student evaluation had not been conducted.

Incorporating the school counselor with planned integrated sessions throughout the course links the course, the program of study as it relates to graduation, and postsecondary options. Graduation from high school and the process a student progresses through are all aspects of the three counselor domains: academic, personal/social, and career. Counselor-led career development sessions have supported the career development of adolescents (McComb-Beverage, 2012). Inclusion of the counselor sessions at strategic pacing points in the curriculum adds real life application to career exploration.

Since the freshman students are taught in a stand-alone facility, that reduces access to the main campus and the courses offered in most programs of study. A brief video from teachers at the main campus introducing courses and course sequences in a program of study would assist students in understanding the selection of a program of study. Administration may consider having small group tours on the main campus where students could monitor the career and technical education course selections. Students at the campus are assigned to teaching teams which offers a unique opportunity for incorporation of career information into subject areas. Also this provides the opportunity for counselors to work with teams to address specific needs of the

student population in terms of decision-making and choices in skills that are required in daily academic settings to achieve success that correlate with skills required in career settings. Counselors can coordinate job shadowing, speakers, and further organization of a comprehensive program supporting the American School Counselor Association standards.

Limitations

One limitation resulted from researching a single rural high school with a constant ethnic composition of students. The results may not be generalized to suburban or inner-city students. Internal threats were addressed by matching students in both the groups which will aid in generalizability of the results. Implementing a new curriculum required professional development (Penuel, Fishman, Yamaguchi, & Gallagher, 2007). Having three different teachers elevated the concern for treatment fidelity. To address the concern, lesson plans were compared for consistency in the curriculum standards, along with monitoring teachers. Last, because of the lack of random sampling, unknown influences by extraneous variables existed (Brewer & Kuhn, 2010). Additionally, since the study took place over the course of a semester, student maturation raised a concern (Campbell & Stanley, 1963). Matching of the groups based on three variables of interest (ACT Explore score, ethnicity, and gender) controls for potential extraneous variables and maturation that have been correlated with the construct of career maturity (Super, 1980). In addressing construct validity, experimenter expectancies and demand characteristics were controlled because the primary investigator did not conduct the intervention nor have contact with the participants (Kazdin, 2003).

This causal comparative study made all efforts to limit the internal and external threats to validity. In an effort to avoid external threats to validity, the researcher accounted for participant selection through matching and researcher influence by selecting students at another location

(Kazdin, 2003). Matching students on age, gender, ethnicity, and ACT Explore score attempted to control for confounding variables. In order to satisfy the matching strategy for the study, the sample size was fairly small (N=60) which lowers the generalizability of the results and provides caution for readers when interpreting results. Participants were drawn from a rural community with relatively homogeneous ethnicity, which limits generalizability of the study to broader populations. The Career Maturity Inventory-form C was a self-report measure, and participant responses were assumed to be an honest representation of career maturity. The researcher cannot guarantee that the responses were free from influence since adolescence is a prime time for peer pressure (Campbell & Stanley, 1963).

Despite potential limitations, the study intended to examine the effectiveness of the career management course on student selection of a program of study and career maturity. The research procedures were followed and considered to be a reliable measure of student career maturity. Internal reliability measures were consistent with previous research utilizing the Career Maturity Inventory-form C.

Recommendations for Future Research

During development of the study, one key aspect continued to be prevalent: the complexity of the career development process. The study examined one course offered in one semester to one group of students. Student populations change, as do federal and state mandates. Ongoing research seeking effective tools for career development needs to be conducted by analyzing and evaluating existing practices and sharing the best practices across schools. Expanding the study over a broader area to include a more diverse population and a larger sample would account for one of the current study's limitations. Comparing high schools within a district or region would provide accessible career development information for administrators.

Committees within larger school districts could assess and evaluate career development programs within schools. Strom et al (2014) recommended that a faculty committee compile a list of occupational websites as resources for students to explore various careers.

Career development is a process influenced by many constructs and needs to be offered in such a manner. Career programming is not a one-shot deal, but a series of complex challenges that youth face in a global economy. School counseling programs are charged with offering career services to students from kindergarten through 12th grade. The process effectiveness of school counseling program implementation of the career domain needs further investigation.

Research needs to be conducted evaluating further aspects of adolescent career development. Consideration needs to be given to the inclusion of additional constructs affecting career maturity along with in-depth evaluation of the course for improvement. A follow-up study utilizing different instrumentation can be conducted to compare results. A longitudinal study could observe student understanding of the program-of-study concept through to graduation.

Expanding the types of research studies analyzing the same construct provides greater insight into alternative forms of data collection, which allows for comparison of a variety of results. Qualitative research needs to be conducted relating to teachers' views of effectiveness of the course offering and which standards of the curriculum may need revamping. Qualitative research needs to be conducted on the culture of high schools as it relates to expectation of graduation. A phenomological study would explore student culture and overall meaning of what the students are experiencing when selecting a program of study. The insight for career development planning would be gained from open ended questions and patterns about the career development process from teachers, students, parents and other stakeholders. Identified themes could cast vision for educators directing programs for student career development.

A qualitative study investigating resilience factors of students in urban and rural settings may provide educators insight into which resources students are relying on for decision-making. External factors, such as adult mentors, and individual student strength patterns would provide educators insight into how students overcome risk factors in development (Zimmerman, Stoddard, Eisman, Caldwell, Aiyer & Miller, 2013). Comparing external factors in rural verses urban communities could provide information to educators regarding customized programs to initiate. A qualitative study could provide understanding into building adolescent supports and assets for career development. Exploring a thematic approach to impacting factors would also expand resilience research. Researchers could seek information on which resilience factors students rely on most: self, family, peer, school, community or others.

The study investigated career maturity in rural Appalachian students. The students scored above the established norms in all subscales except consultation (students participating in the course = 3.833, waitlist group = 3.467, and norm = 4.94). Savickas and Profeli (2011) suggested that the consultation score be interpreted within a cultural context. A lower score suggests a family tightness where the family selects together with less adolescent independence in the career decision-making process (Savickas & Porfeli, 2011). Further research needs to be conducted examining the Appalachian cultural context as it relates to career maturity consultation. Educators and students along the Appalachian Trail can benefit from additional insight into the impact of consultation upon career development. Cultural sensitivity can be incorporated into career development education to better meet the needs of the students of Appalachia. Cultural sensitivity in career development is increasingly important for first generation higher education students.

      Study design and methodology could strengthen future research. An experimental design for random placement of students in courses could support sounder findings. The study received permission from 79 participants out of a potential population of over 500 students. In order to increase the sample size, an incentive for students may be considered. Expanding the design including additional constructs such as self-efficacy or other influential factors would broaden the body of career development knowledge.

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APPENDICES

APPENDIX A

CONSENT FORM
The Effectiveness of A Career Course on Program-Of-Study Selection
And Career Maturity of High School Freshman
Susan W. Roach, principal investigator
Liberty University
School of Education

Dear Parents/Guardian:

My name is Susan W. Roach and I am a counselor for Jefferson County Schools and a doctoral student for Liberty University. I am conducting a study at the XX (name redacted). Your student is being invited to be in a research study to assess the effectiveness of the Freshman Experience course. Your student was selected as a possible participant because of his/her attendance at the academy. I ask that you read this form and ask any questions you may have before agreeing to let your student be in the study.

Background Information:

As you know all students are asked to select a program of study (also known as an elective). The study aims to help school administrators assess the usefulness of the Freshman Experience course in assisting students to select a program of study and individual career maturity.

Procedures:

If you agree to let your student be in this study, I would ask your student to do the following: All students at the Academy are being asked to participate and are being identified as the experimental group (students enrolled in the Freshman Experience course in the Fall 2013) or the control group (students enrolled in the Freshman Experience course in the Spring 2014). Your student will be asked to complete the Career Maturity Inventory-Revised. The Inventory consists of 24 career-related statements, which participants respond to, using either agree or disagree. Students in the Freshmen Experience course from Fall 2013 will also be asked to respond "yes" or "no" to indicate whether the course aided in their selection of a program of study. The Inventory takes approximately 20 minutes to complete. No additional time is asked of your student.

Risks and Benefits of Being in the Study:

The risks involved in the study are no more than your student would encounter in everyday life. There are no direct benefits to participants, but you make it possible for others in society to benefit from the results of the study. Students will not be compensated for participation in the study. Participation is voluntary and your decision will not affect your student's grade in the course nor any future relationship with Liberty University. If you decide to allow your student to participate, your student is free to withdraw at any time without affecting those relationships.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. The Inventory answers will be stored in a locked file and destroyed after the three year federal holding period.

Contacts and Questions:

Again, my name is Susan W. Roach, and I am the researcher conducting the study. If you have questions, you may contact me at (redacted) or sroach5@liberty.edu. You may also contact my faculty advisor, Dr. David Nelson at (redacted.)

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24502 or email at irb@liberty.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Student Name (printed):_____

Signature of student: _____ Date: _____

Signature of parent or guardian: _____ Date: _____

Signature of Investigator:_____ Date: _____

IRB Code Numbers: 1758.011714

IRB Expiration Date: 1/17/15

APPENDIX B

Name redacted

October 9, 2013

Dear IRB Committee:

I have reviewed the research proposal for Susan West Roach and am providing approval for the study to be conducted at the XX redacted name s. I understand the research is quantitative in nature and involves collecting data from approximately 500 freshmen students. I understand data is being obtained utilizing the Career Maturity Inventory-form C. Additionally, I have approved a letter of consent to be distributed to all freshmen students and parents who are being asked to participate in the study.

Sincerely,

XX redacted signature

Principal: Dr. Scott Walker • Assistant Principals: John B. Cagle, Nancy Ann France, Tami Morelock, Randy Rogers, F. Montgomery Sharp

APPENDIX C

Career Maturity Inventory — Form C

http://jca.sagepub.com.ezproxy.liberty.edu:2048/content/19/4/355.full.pdf+html

APPENDIX D

Assessment of Program-of-Study Selection

Can you identify a program of study that matches your career skills and interests?

YES   NO

APPENDIX E

Career Management Success Course Sequencing

Week 1:	**Computer Applications** Time Management, Note Taking, and Study Skills Class Introduction Leadership	Week 10:	**Career Research** Career Portfolio Occupational Outlook Handbook Employment Outlook Career Clusters
Week 2:	**Computer Applications** Computer Systems Business and Technology	Week 11:	**Career Research** Career Clusters Entrepreneurship
Week 3:	**Computer Applications**	Week 12:	**College Research** Collegefortn.org
Week 4:	**Defining Yourself** Career Choices Chapter 1 Career Choices Chapter 2 Satisfying Need and Wants Economic Choices	Week 13:	**Program of Study** Graduation Requirements High School Curriculum High School Summary 15 year plan
Week 5:	**Defining Yourself** Career Choices Chapter 3- Maslow Human Resources Basics-Intro to Working	Week 14:	**Program of Study** Graduation Requirements High School Curriculum High School Summary 15 year plan
Week 6:	**Personal Finance** Money Management Personal Banking Savings Insurance	Week 15:	**Workplace Readiness** Resume Cover Letter Thank You Note
Week 7:	**Personal Finance** Personal Budget Profile Hard Times Budget Investment in Education	Week 16:	**Workplace Readiness** Job Applications College Applications Scholarship and Financial Aid
Week 8:	**Personal Finance** Budget Profile	Week 17:	Undecided
Week 9:	**Career Research** Career Opportunities Planning Your Career	Week 18:	**Career Project** Career and College Culmination Project

APPENDIX F

Objective: Students will begin to understand how financial responsibility applies to their own life.

Task:

1. Open with having students answers a poll on edmodo.com.
    a. Do you expect your parents to give you money? Yes/No
2. After viewing the poll answers, have class discussion with students on the following topics:
    a. Do you get an allowance from your parents?
    b. If so how much money do you receive? How often?
    c. What do you spend it on?
    d. How do you differentiate between wants and needs when choosing where to spend your money?
    e. Do you ever need more money? Why?
    f. What is your family's policy, in general, concerning giving out money?
    g. Do you think you are learning money management skills? Why or why not?
3. Have students read the following article. http://parenting.blogs.nytimes.com/2011/03/31/are-you-your-childs-atm/ from the New York Times.
4. After reading the article have students get into pairs and discuss whether they believe that due to parents giving "extra money" whenever asked, kids are no longer learning how to budget their money effectively? Students are to come up with three reasons why they agree and three reasons they disagree with that statement.
5. Students will then join another group and discuss their reasons with each other.
6. After group discussion, students will be given thirty minutes to write a 5 paragraph essay answering the question "*A survey by the Northwestern Mutual Foundation has revealed that parents today give their children "extra money" so often that, as the foundation warns, they aren't learning how to budget. Do you agree?*"