

AN EXPERIMENTAL DESIGN: EXAMINING THE EFFECTIVENESS OF THE VIRGINIA
CAREER VIEW PROGRAM ON CREATING 7TH GRADE STUDENT CAREER SELF-
EFFICACY

by

Shanna Kaye McComb-Beverage

Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree of Doctor of Education

Liberty University

July 2012

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ABSTRACT

Across the country students are graduating from high school without the career knowledge and skills they need to be successful in today's global economy. In response, school officials are considering career development as an essential component for adolescent education. In the state of Virginia, the Virginia Career View program has been designed to assist school personnel with the career education of middle school students. This quantitative research study measured the effectiveness of the Virginia Career View program on 7th grade students' career pathway identification and career self-efficacy. Upon completion of the program, students in the experimental group and control group completed the Career Decision Self-Efficacy Scale – Short Form. This study included 148 randomly assigned 7th grade students from Alpha Middle School. A multivariate analysis of variance (MANOVA) was used to analyze the association between the dependent variable, career self-efficacy, based on the independent variable, Virginia Career View. A Pearson's chi-square analysis was used to analyze the relationship between the experimental group's and the control group's ability to identify a career pathway that matched their career interests and skills. Results showed statistically significant differences between groups, and the null hypotheses for both research questions were rejected.

Descriptors: Virginia Career View, career development, adolescent students, career self-efficacy, career pathway.

DEDICATION

Halki, my friend, I miss you and think about you every day. Although we never really needed a reason to celebrate, I wish I could have finished this 9 months earlier. Time and time again you taught me that life itself is worth celebrating. Yours is one I will never forget.

ACKNOWLEDGEMENTS

My Mom once told me “God only gives you what he knows you can handle”. My parent’s confidence in me has given me strength to keep moving forward and faith in the belief that things, good or bad, always happen for a reason.

The biggest “thank you” goes out to my husband, Brian. Without his support and constant patience I would have never been able to reach my goals. Brian, the thought of regaining my weekends to spend more time with you is the only reason I finished so quickly. I love you and appreciate you every single day.

A great deal of gratitude goes to my dissertation chair, Dr. Szapkiw and my committee members, Dr. Hibbert and Dr. Hinegardner. Your extensive knowledge, constructive feedback, and meticulous attention to detail have made this process invaluable to me as a person and a professional. I am truly blessed to have the support of such strong individuals.

I would also like to thank Kristene Wellings, Joy Carpenter, Linda Hull, Gina Stetter, and Adam Hockman. Our endless conversations about work, the future, life, and at times absolutely nothing at all were my saving grace. Without your encouragement, humor, and voice of reason, this challenge would not have been nearly as enjoyable and my sanity would have surely taken a hit for the worst. You have all had a hand in keeping me grounded and for that I cannot thank you enough.

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CHAPTER 1: INTRODUCTION

Career counseling for early adolescent students is in the primary stages of development (Watson & McMahon, 2008). Much of the literature surrounding career education has targeted high school and college level students (Bardick, Bernes, Magnussen, & Witco, 2008; Hiebert, Kemeny, & Kurchak, 1998). Not until recently has attention been given to middle school level students as appropriate recipients of career development (Rivera & Schaefer, 2009; Super, 1990). Research has shown that the most effective life-stage to begin career development is in early adolescence (Hartung, Porfeli & Vondracek, 2005; Super, 1990). Students as young as 11 can engage in active career development and are capable of exploring their own interests, values, and perceptions concerning career options and occupational roles (Bardick, Bernes, Magnussen, & Witco, 2008). Furthermore, as the nation's economy continues to expand into a more complex working world, it becomes imperative that school counselors begin implementing quality career development programs and devoting more time and resources toward providing career and college counseling for students at a much earlier age (Rivera & Schaefer, 2009). This study examined a career education program designed to target the learning and developmental needs of adolescent students as they begin exploring their career interests and developing career goals.

This chapter provides an overview of the research conducted on career development for early adolescent students. The gap in the literature, the problem statement, research plan, study limitations, and the independent and dependent variables are identified.

Background

Theory on Career Development in Adolescents.

Middle school is the most critical time in career development regardless of the type of education, training, or job that a student plans to pursue (Gibbons & Borders, 2010; Super,

1990). Over the past 20 years, studies have emphasized the importance and positive effects of career development programs in education (Creed, Prideaux, & Patton, 2005; Gibbons & Borders, 2010; Hirschi & Lage, 2008; Kalchik & Oerthle, 2010; Mittendorff, den Brok, & Beijaard, 2010; Seifert, 1993; Super, 1990; Watts & Sultana, 2004).

Experts in the field of education agree that career development is a process rather than a single event in a person's life (Hirschi, Niles, & Akos, 2011; McMahon & Watson, 2008; Super, Savickas, Super, 1996). Super's life-span, life-space theory, originating in the 1950's, introduced career development as a life-span process taking place throughout multiple transition periods and beginning in adolescence (Herr, 1997). The adolescent years cover two of the four life stages in Super's theory. The life stage of growth and the life stage of exploration cover a twenty year period from age 4 to age 24. It is during this time when personal and occupational interests and self-concepts emerge to create a foundation for exploration of career and future plans (Bardick, Bernes, Magnussen, & Witco, 2008; Super, 1990). Without question, researchers agree that choosing a career pathway is one of most important and challenging developmental tasks in adolescence (Hartung, Porfeli, & Vondracek, 2005; Rivera & Schaefer, 2009; Super, 1990).

Self- efficacy.

Adolescence is undoubtedly a critical time for students to develop new ideas and discover personal interests and skills. It is also a fragile time when students form their self-image and learn about their strengths, weaknesses, and abilities (Bandura, 1986). Adolescent self-efficacy associated with career development has been heavily researched over the past 20 years (Betz & Hackertt, 2006; Bozegeyikli & Dogan, 2010, Hampton, 2006; Hirschi, Niles, & Akos, 2011; Luzzo, 1996; Miller, Roy, Brown, Thomas & McDaniel, 2009). Self-efficacy can be defined as

a person's belief that he or she can accomplish the tasks associated with making career decisions and performing skills associated with their occupation of choice (Bozegeyikli & Dogan, 2010; Hampton, 2006; Taylor & Betz, 1983). Career self-efficacy is commonly traced back to Albert Bandura's self-efficacy theory of 1977. (Bacanli, 2006; Bozegeyikli, Banali, Dogan, 2009; Bozegeyikli & Dogan, 2010). According to Bandura (1977), the four sources of self-efficacy (performance accomplishments, vicarious learning, physiological and affective states, and verbal persuasion) are combined to influence a person's performance and behaviors. When related to career decision making, it goes without question that nearly all people have experienced a lack of confidence or questioned their ability to do certain tasks related to their occupations (Betz & Hackett, 2006; Turner & Conkel, 2009). This flux in self-efficacy indicates a feeling of inadequacy that can sometimes limit a person's career options or decrease one's chance for career success (Betz & Hackett, 2006). In adolescence, self-efficacy plays a major role in student career choice. Career development is not only about finding careers that match a student's abilities and interests, but also finding a career that the student feel's confident in pursuing (Bozegeyikli & Dogan, 2010).

College and Career Readiness.

The lack of exposure to career options can affect a student's confidence associated with making career decisions when choosing an occupation and entering the global economy. If career development programs are not in place throughout adolescence, school personnel should be cautious when expecting students to make career decisions upon graduation from high school. It is unrealistic to assume that students are ready to commit to a career pathway without first exploring the occupational choices available in the global economy. With adequate support throughout the career development process, students tend to be more successful, have higher

levels of self-confidence, and are better prepared as they enter postsecondary education (Chaplin, Bleeker, & Booker, 2010; Gibbons & Borders, 2010; Gibbons, Borders, Wiles, Stephens & Davis, 2006). Consequently, to be successful in today's economy, a postsecondary education or extensive training program is necessary (Blustein, 2006). School systems and especially school counselors have been challenged to implement career development programs that will better prepare students for transition into higher education programs and to meet the demands of a highly competitive workforce.

Adolescent Career Development Programs.

Internationally, career development programs have recently become a staple to academics within the grade school and technical education environments (Hirschi & Lage, 2008; Khan, Khan, Siraj, & Hijazi, 2011; Mittendorff, Jochems, Meijers, & den Brok, 2008; Tien, Wang, & Liu, 2009; Ting, 2009; Yuen, Gysbers, Chan, Lau, & Shea, 2010). Hirschi and Lage (2008) explored the Swiss education system and found that by the end of eighth grade, two-thirds of all students are required to apply for one of over 200 available vocational education options. Training for these placements begins immediately, continues throughout the next two to four years, and combines intensive on-the-job experience with vocational education classroom instruction. (Hirschi & Lage, 2008). In the Netherlands and Switzerland, more students are placed on the vocational and technical education track than on the college prep track (Hirschi & Lage, 2008; Mittendorff, den Brok, & Beijaard, 2010; Mittendorff, Jochems, Meijers, & den Brok, 2008). International countries are finding value in early adolescent career planning and vocational development programs that help prepare students for their occupational careers beyond academics. Unfortunately, over the past half-decade the United States has not kept up with international counterparts in terms of career development planning for early adolescents

(Porfeli, Hartung & Vondracek, 2008; Schulthesis, Palma, & Manzi, 2005). The majority of career planning research conducted in the United States has focused on the perceptions and needs of high school and postsecondary students (Bardick, Bernes, Magnussen, & Witco, 2008; Khasawneh, 2011; Koivisto, Vinokur, & Vuori, 2011; Tang, Pan, & Newmeyer, 2008; Walsh & Tucker, 2011). The empirical literature surrounding the topic of career development for early adolescents in the United States is sparse (Porfeli, Hartung & Vondracek, 2008; Schulthesis, Palma, & Manzi, 2005; Watson & McMahon, 2008) and disheartening (Hirschi, Niles, & Akos, 2011).

Adolescent Career Development in Virginia.

In response to the demands of the global economy and the need for more effective career development planning for adolescents, the Virginia Department of Education (2011b) has mandated all Virginia public schools to implement a career development planning program beginning in the 2012-2013 school year (Virginia Department of Education, 2011b). The new academic career plans are “designed to be a working document that maximizes student achievement by having the student accomplish career preparation goals in middle and high school that lead to postsecondary and career readiness” (Virginia Department of Education, 2009). The statewide Academic Career Plans (ACP) will be created beginning in student’s 7th grade year. The main objective of the ACP is for all students to identify at least one career pathway they plan to pursue after high school. Using an effective career development program that will help build student’s career confidence and identify a realistic career pathway is important. For this study, the Virginia Career View program was used. Virginia Career View is a free career development program accessible via the World Wide Web designed to assist educators in the career development of K-12 students. According to Snipes & McDaniels (1984),

the Virginia Career View system serves “as an impetus for generating excitement and new activities in local guidance programs” (p. 641). The Virginia Career View program includes adolescent age appropriate activities, career interest inventories, and research data bases for career exploration. This program was developed to help students build their career awareness, gain knowledge of occupational skills, and research the different types of careers that fit their values, interests, and abilities. Consequently, these are all things that can help build student career self-efficacy and help make them more college and career ready upon exiting secondary education (Bozgeyikli & Dogan, 2010).

In research, the Virginia Career View system has been the subject of very limited publications. From 1984 – 1988, there have been only five articles published. Of these five articles, four were non-empirical overviews of the program as submitted by Virginia school board officials, and one was a study conducted by Opitz (1987) examining the usage of the Virginia View program with rural adults. There are no identified studies conducted on Virginia Career View as a career development tool for middle school students and there have been no published research articles after 1988 validating the effectiveness of the program as a career development tool.

Problem Statement

Empirical research targeting career development in the United States during early adolescents is limited (Bozgeyikli, Bacanli, & Dogan, 2009; Porfeli, Hartung & Vondracek, 2008; Super, 1990). To help justify the need for adolescent career development programs within the middle school setting, more empirical research is necessary. As each state within the US begins to implement school based career development programs, an effective curriculum designed to prepare our youth for the challenges of the competitive global economy is needed.

The research validating the Virginia Career View system as an effective tool for adolescent career development and career pathway identification is extremely limited. As a result, the Virginia public school System currently has a statewide mandated Academic Career Plan requirement without the identification and support of any specified research based career development programs (Virginia, 2011b).

Purpose Statement

The purpose of this experimental study was to investigate the effectiveness of the Virginia Career View program on Alpha Middle School 7th grade students' career self-efficacy and career pathway identification. Career self-efficacy is generally defined as "a person's belief that he or she can successfully accomplish the tasks and behaviors associated with making career decisions" (Bozegeyikli, Banali, & Dogan, 2009, p. 125). Career self-efficacy and career pathway identification was measured using the Virginia Career View system which is an online database supported program containing career interest and skills inventories as well as interactive career development lessons targeting adolescent students. This study sought to fill the existing gaps in literature surrounding the lack of adolescent career development in the United States.

Significance of the Study

This study focused on the importance of adolescent student's career development self-efficacy, the Virginia Career View program as a resource for adolescent career development, and the need for career development programs within the middle school setting. This study provided data used to evaluate the effectiveness of the Virginia Career View program on student career pathway identification and student career self-efficacy. In compliance with the recently approved Virginia Public School Systems Academic Career Plan initiative, this study served as a reference for those Virginia middle schools that have not yet identified a career development

program or method for delivering the career development curriculum.

Students who complete a career development program similar to the one utilized in this study will ideally have a better understanding of the challenges of the global economy and will obtain knowledge of the education and training needed to obtain the occupation of their choice (Bozgeyikli, Bacanli, & Dogan, 2009; Super, 1990). If school systems want their students to be able to compete for jobs upon completion of high school or college, career development programs will need to be continuously examined for their effectiveness (Brown, 2003).

Research Questions

1. What is the effect of participation in the Virginia Career View program on 7th grade student's career pathway identification?
2. What is the effect of participation in the Virginia Career View program on 7th grade student's career self-efficacy?

Research Hypotheses

H1: Students who participate in the Virginia Career View program will show statistically significant differences in their level of career pathway identification when compared to those students in the control group.

H₀1: Conversely, the null hypothesis states that there will be no significant difference between the experimental group and the control group in the level of student career pathway identification.

H2: Students who participate in the Virginia Career View program will show statistically significant differences in their level of overall career self-efficacy towards their chosen career pathway compared to those students in the control group.

H₀2: Contrariwise, the null hypothesis states that there will be no significant difference between the experimental group and the control group in the level of self-efficacy towards student's career pathway.

H3: Students who participated in the Virginia Career View program will show statistically significant differences in their level of efficacy related to the self-appraisal associated with their career choice as reported by the CDSE-SF compared to those students in the control group.

H₀3: The null hypothesis states there will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the self-appraisal associated with their career choice.

H4: Students who participated in the Virginia Career View program will show statistically significant differences in their level of efficacy related to the occupational information associated with their career choice as reported by the CDSE-SF compared to those students in the control group.

H₀4: The null hypothesis states that there will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the occupational information associated with their career choice.

H5: Students who participated in the Virginia Career View program will show statistically significant differences in their level of efficacy related to goal selection associated with their career choice as reported by the CDSE-SF compared to those students in the control group.

H₀5: The null hypothesis states that there will be no significant difference between the experimental group and the control group in the participant's level efficacy related to goal selection associated with their career choice.

H₆: Students who participated in the Virginia Career View program will show statistically significant differences in their level of efficacy related to the planning associated with their career choice as reported by the CDSE-SF compared to those students in the control group.

H₀6: The null hypothesis states that there will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the planning associated with their career choice.

H₇: Students who participated in the Virginia Career View program will show statistically significant differences in their level of efficacy related to the problem solving associated with their career choice as reported by the CDSE-SF compared to those students in the control group.

H₀7: The null hypothesis states that there will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the problem solving associated with their career choice.

Identification of Variables

The data collected throughout this study reports student's career cluster identification and career self-efficacy. Career cluster identification and career self-efficacy levels served as the dependent variables for my study and were measured by the Career Decision Making Self-Efficacy Scale-Short Form. The independent variable for this study consisted of the activities

and curriculum provided by the Virginia Career View Program. Detailed explanations of each variable are as follows:

1. Career Cluster Identification – “A career cluster is a grouping of occupations and broad industries based on commonalties. Career clusters help students investigate careers and design their courses of study to advance their career goals” (Virginia Department of Education, 2011).
2. Career self-efficacy – “a person’s belief that he or she can successfully accomplish the tasks and behaviors associated with making career decisions” (Bozegeyikli, Banali, & Dogan, 2009, p. 125). Career decision-making self-efficacy was measured using the Career Decision Self-Efficacy Scale. The statistical values derived from the total scale were used to evaluate student’s career self-efficacy.
3. Self-appraisal–The student’s confidence in evaluating of his/her own career skills, knowledge, goals, and abilities.
4. Occupational information –The student’s confidence level associated with understanding of the skills and responsibilities related to his/her principal business in life.
5. Goal selection –The student’s confidence level associated with his/her ability to select a career and/or career pathway.
6. Career planning –The student’s confidence in his/her understanding of the proper steps required to reach his/her career goals.
7. Problem Solving –The student’s level of confidence in his/her ability to determine the steps necessary to choose a college major and to evaluate his/her interests and skills associated with choosing an appropriate career.

8. Virginia Career View (independent variable) – a career information delivery system comprised by a combination of “independent research, engaging activities, in addition to hands-on statewide training and outreaches with the most current data presented using the latest technology” (Virginia Career View, 2011, n.p.).

Assumptions

For this research study, the distribution of all data collected was presumed to be normal. This normal distribution of data assists the researcher in limiting the possibility of arriving at the results due to accidental happenstance (Lumley, Diehr, Emerson & Chen, 2002). Instead, the normal distribution ensures a valid test and reassures that the population for this study had similar variability between the control group and the experimental group (Lumley, Diehr, Emerson & Chen, 2002). The control group and experimental group were assigned randomly. Furthermore, the researcher took appropriate steps to ensure that all program activities were implemented according to the guidelines set by the Virginia Career View program, Alpha Middle School administration, and IRB guidelines. The Virginia Career View program curriculum is said to be bias free and acceptable across diverse backgrounds (Virginia Career View, 2011). Additionally, it is assumed that the student population will respond honestly to the survey questions to prevent unwanted errors within the data. All students were monitored by the researcher or the research assistant during the data collection process to help prevent peer and environmental influences from affecting the answers being reported. All data collected is assumed to be valid for the sample population of students participating in this study.

CHAPTER 2: LITERATURE REVIEW

Introduction

The purpose of this experimental, post-test only design study was to determine the effectiveness of the Virginia Career View program on 7th grade student career pathway identification and student career decision making self-efficacy. Career development programs are becoming a common addition to regular education curriculums across the country. As a result, there arrives a need to evaluate the effectiveness of available career development programs and their ability towards meeting the needs of adolescent students. Some researchers believe middle childhood to be the dawn of vocational development (Howard & Walsh, 2010; Janeiro, 2010; Watson & McMahon, 2005). However, there has been very little empirical research published on the effects of career development planning within the adolescent population (Howard & Walsh, 2010; Porfeli, Hartung, & Vondracek, 2008; Schultheiss, 2008; Watson & McMahon, 2004; Watson & McMahon, 2005; Watson & McMahon, 2008). Therefore, the need to understand the influences that effect adolescent career development, as well as the process of career development learning in children is supported by the consistent lack of focus in these areas. Furthermore, as Virginia public schools become mandated to provide career development to all students, there is an urgent need to find a program that can address the emotional and practical career planning needs of adolescent students.

Chapter two will review the theoretical framework, history, and growth of adolescent career development programs. Additionally, a thorough review of the literature and case studies surrounding adolescent career development programs in the educational setting will be compiled. The justification for more research focusing on career development programs in education will be completed and specific studies addressing adolescent career development self-efficacy will be

discussed. Finally, the literature surrounding the use of the Virginia View Program as a career development tool will be presented.

Conceptual and Theoretical Framework

Career and future planning has been a component of human growth development theory for decades (Betz, 2007; Betz & Hackett, 2006; Bozgeyikli, Bacanli, & Dogan, 2009). Some believe choosing a career, being internally driven towards a specific occupational field, or discovering ones occupational skill set is a simple process that every person naturally completes throughout their adolescent and pre-adult years. On the contrary, career development is much more complex and far more challenging than most people tend to believe. Choosing a career can be a very stressful and daunting task, especially for those who have never been exposed to career options and have little knowledge of what occupational choices are available to them. The uncertainty of choosing a career that satisfies the emotional and psychological needs of an individual while also fulfilling financial requirements can be very overwhelming. By providing adolescent career development programs throughout adolescence, educators can help ensure that all students are able to explore their career interests prior to making those important future decisions.

Super's Life-Span, Life Space Theory.

As students leave high school and enter into an economic world filled with challenges and important decisions, educators and parents have to wonder if they are fully prepared for what they will encounter. Do students have the knowledge and skills they need to make important career choices? Have the events in their lives been significant to influence their future choices? Donald E. Super's Life-Span, Life Space approach to career development answers these questions. In 1957, D.E. Super developed a Model of Career Development that has greatly

influence the understanding of career choice and future planning. Super (1990) viewed career development as a dynamic process that starts in childhood and continues throughout life. Super described careers as a “sequence of positions occupied by a person during the course of a lifetime” (1980, p. 283). Throughout a person’s lifetime, multiple roles are played at various levels of maturity: child, student, leisurite, citizen, worker, spouse, homemaker, parent, and pensioner. According to Super (1957, 1980), not everyone plays each role, nor do the roles fall in the same order for every person. Furthermore, these roles can be played in a variety of theaters or settings: the home, the community, the school, or the workplace (Super, 1980). As a person moves through the roles, their performance is often judged and their future roles are assigned by their ability to satisfy the set criteria or expectations associated with those roles (Super, 1980). Consequently, each role and the expectations or experiences gained from that role is considered a precursor for the next role that an individual takes in life. This is true for adolescents as they begin planning and preparing for their future role as a “worker” or “student”.

For all roles, there includes a “life-stage” or learning sequence that assists in the skill development associated with that role. These stages include: growth, exploration, establishment, maintenance, and decline (Super, 1980). With each role, a person must move through the stages before he/she can advance to the next role in life. For example, the role of “child” is a time when exploration, environmental factors, and relationships are used to influence ones career goals (Super, 1980). It is during this growth and exploration stage that children begin developing their own ideas and participating in hobbies leisure activities (i.e. leisurite). The participation in these events help children choose their interests and skills that they soon carry forth into their career and occupational choices. Thus, childhood and early adolescence has been deemed an important time for career exploration and development (Crites, 1978; Betz, 2000; Betz, 2007; Super, 1980).

Super (1980) felt that students who fail to progress through the stages of career development in the right way may find themselves circling back in order to gain those experiences and knowledge later in life. For example, Super believed that there are “decision points” that occur before an individual can transition into a new “role” in life (1980, p. 291). It is at these times when people must choose to give up an old role or make significant changes in the nature of an existing role. Students who choose to enter a post-secondary education program or join the labor market are at a critical “decision point” in their life. According to Super (1980), individuals who are not fully prepared to make those transitions will find themselves repeating a previous stage before they can successfully advance to their next role. We see this happen often when children become parents at an early age before they have had the opportunity to complete their “student” role, become a “worker”, “spouse”, or contributing “citizen” (Super, 1980). Before these individuals can be successful in that “parenting” or “homemaker” role, they find themselves going back to complete their education and their role as a “student”. Preparing students for these important transition periods can help prevent students from skipping stages and essentially interrupting life’s natural sequence of events.

Career researchers throughout history have studied Super’s theory and considered it a foundational tool for career development (Fouad & Arbona, 1994; Giannantonio & Hurley-Hanson, 2006; Tang, Pan, & Newmeyer, 2008; Whiston & Brecheisen, 2002). The American School Counselor Association (ASCA) requires student competency development in career decision making throughout the K-12 setting with the most emphasis placed throughout the adolescent years (ASCA, 1997). According to Super (1980), children begin exploring career options and developing occupational perceptions around the age of 12 years old. Some of the most acute information regarding career choices and occupational knowledge is explored during

adolescence (Super, 1980). Despite Super's theory that clearly outlines the most appropriate time in a young person's life to begin exploring careers, very few studies focus on adolescents as recipients of career development programs (Rogers & Creed, 2011). Super's theory suggests that providing extensive career development during the adolescent years may help provide students with the knowledge and awareness they need to make good career and life decisions; however, more research is needed.

Bandura's Self-efficacy Theory.

Along with Super's Life-Space, Life-Span theory, research has also pointed towards Bandura's (1986) self-efficacy theory to assist in the creation of career programs geared towards adolescents and their feelings and perceptions associated with occupational choices. Bandura (1986) proclaimed career self-efficacy to be an important motivational variable as it influences the focus, initiation and persistence of behaviors, including career behaviors. Along with Super (1990), Bandura believed an individual's readiness and capacity to deal with the age related tasks associated with making career decisions to be central in the developmental understanding of career behaviors and one of the most widely researched aspects of career development (Bandura, 1986; Creed, Patton, & Prideaux, 2007; Powell & Luzzo, 1998).

In 1977, Albert Bandura published a report explaining self-efficacy and its impact of human behavior. Bandura (2001) believed that humans shape and choose their future paths by using forethought and perceptions from the events and experiences that occur throughout a lifespan. The feeling of confidence or self-efficacy towards specific skills and tasks are created by the successes/failures and by the environments that individuals interact in throughout childhood (Bandura, 2001). Self-efficacy is the belief that one has the ability to achieve one's goals (Chen, 2006). There are four sources of self-efficacy: performance accomplishments,

vicarious learning, physiological and affective states, and verbal persuasion (Bandura, 1997). To put it another way, an individual develops his/her sense of confidence based on their mastery of experience, watching model behaviors, emotional arousal, and encouragement. These sources of self-efficacy lead to the initial development and continue to shape our feelings, perceptions, and performances (Bandura, 1997). Self-efficacy as Bandura (1997) explains it can be positive or negative. We develop our dislikes and feelings of inadequacy as a result of negative experiences/feelings and we develop our interests and confidences in response to the positive feedback we receive. Today, Bandura's theory of career efficacy is widely used in career programs as a source of reference or knowledge base to explain the process of career development (Betz & Hackett, 2006; Bozegeyikli & Dogan, 2010; Chen, 2006; Tang, Pan, & Newmeyer, 2008).

Self-efficacy is one of the main components that influence career planning in adolescents (Lent, Brown, & Hackett, 1994). Adolescence is a time for exploration of one's interests and skills and can also be a critical time for developing occupational aspirations and plans. From a very early age students develop a sense of confidence towards certain activities and skills. Bandura (1997) believed that self-efficacy acts as a mediator between setting goals and organizing the required activities to reach them. Bandura (1986) also believed that students who display the same level of competence can obtain different achievements as a result of their confidence level. Student's ability to do certain things well and other things not so well ultimately forms their desire to pursue one career or specialty over another. In the past 30 years, Bandura's theory of self-efficacy has been explored through hundreds of research studies (Betz, 2007; Betz & Hackett, 2006; Bozgeyikli, Bacanli, & Dogan, 2009; Brown et al, 2003; Gainor, 2006; Lent, Brown, & Hackett, 2000). Although majority of the research has been conducted on

college students and adults, there is still a clear link between career self-efficacy and adolescence (Bozgeyikli, Bacanli, & Dogan, 2009; Gainor, 2006; Lent, Brown, & Hackett, 2000).

Without argument, the diversity of methodologies on children's career development, coupled with the limited research to date, makes forming a cohesive, comprehensive understanding of children's career development learning difficult to achieve (Watson & McMahon, 2005). However, researchers have found a consistent belief that the earlier an individual begins planning for their future careers, the more successful they become as adults (Rogers & Creed, 2011). Furthermore, a great deal of research has been largely focused on what children already know about the world-of-work rather than how they learn this information or the process of teaching career development skills to adolescents (Hartung, Porfeli, & Vondracek, 2005; Watson & McMahon, 2008). This research study attempts to combine the developmental aspects and time frame provided by Super's Life-Span, Life-Space theory with a career development program that supports the emotional factors presented in Bandura's career self-efficacy theory.

Career Self-Efficacy.

A common definition used to describe self-efficacy is one's belief in the ability to complete the tasks required for achieving a particular goal (Bandura, 1997; Bozgeyikli & Dogan, 2010; Gibbons & Borders, 2010; Hirischi, 2010; Hirischi, Niles, & Akos, 2011; Turner & Conkel, 2010; Yuen, Gysbers, Chan, Lau & Shea, 2010). Furthermore, the definition used most often to describe career decision making self-efficacy is "an individual's belief about her or his capability to perform tasks related to the career decision making process" (Taylor & Betz, 1983). Recently, boosting self-efficacy beliefs related to career preparation has become a frequently used proximal goal in career development interventions (Betz, 2007; Gainor, 2006; Koivisto,

Vinokur, & Vuori, 2011). Student's career decision making self-efficacy can have implications for the success they have in the career development process (Bullock-Yowell, Andrews, & Buzzetta, 2011). It is vital for educators to understand how to address career decision making self-efficacy in career counseling. Also, identifying those students who hold a lower level of career self-efficacy and providing them with extra attention towards developing their career related self-confidence is important (Bullock-Yowell, Andrews, & Buzzetta, 2011).

Being mindful of those individuals who are challenged to develop higher levels of career self-efficacy can help prevent dysfunctional career thoughts and ineffective decisions during the career development process. Career choice as it relates to self-efficacy beliefs has been positively associated with vocational intentions (Fouad & Smith, 1996). In Australia a group of 819 adolescents completed career surveys indicating the most important factor in successful career planning and exploration was self-efficacy (Rogers & Creed, 2011). In addition, a study was conducted in Turkey where 756 middle school students were administered the Career Decision Making Self Efficacy Scale (CDSE). Results indicated a statistically significant relationship between student career self-efficacy and successful career development planning for adolescent students. Adolescence is a critical time to help students learn about themselves and their likes and dislikes. Much time needs to be devoted to assisting students in understanding their personal preferences and teaching them how to make confident, realistic career choices. Self-efficacy seems to be a personal characteristic that never ceases to develop completely throughout a person's life. Confidence is needed in every aspect of life, but especially in the career world.

When researching self-efficacy, a common scale found in most career focused cases is the Career Decision Making Self-Efficacy Scale (CDSE). The CDSE was developed by Taylor

& Betz (1983) and was originally tested on college students. Based on Bandura's (1977) social cognitive theory, measures an individual's belief that he or she can successfully complete tasks necessary for making career decisions (Bullock-Yowell, Andrews, & Buzzetta, 2011). Betz believed that self-efficacy as it stands alone, cannot possibly be measured (2000). As a result, Betz incorporated the five subscales that currently make up the CDSE (self-appraisal, occupational information, goal selection, planning, and problem solving). These five subscales are based on Crites's (1976) theory of career maturity (Betz, 2000). John Crites (1961, 1965, 1976, 1978), one of Super's students, identified several "choice competencies and attitudes" associated with career maturity (Patton & Lokan, 2001). Crites' (1978) model of career maturity provided Taylor & Betz (1983) with a framework for deciding how to define and operationalize the skills required in career decision-making. Crites believed that "good" career decisions are formulated by mature versus immature attitudes regarding five career choice processes (1978). These five career choice processes make up the subscales of the CDSE and are a measurement of career decision self-efficacy involving the "integration of two major theories, one originally stemming from clinical/social psychology and the other having its origins in counseling/vocational psychology" (Taylor & Betz, 2006). The combination of these scale items strongly support the idea that good career decision making depends on the availability of options and suggests that a crucial part of occupational information gathering is the generation of educational and/or career options (Betz & Taylor, 2006). Betz & Taylor (2006) suggest retaining the five-subscale structure primarily because it is "derived from a well-respected theory and has important implications for the design of interventions, that is, designing components to teach each of the five career choice competencies" (p. 18). While initially applied to career psychology and counseling by Hackett and Betz (1981), the concept of career self-efficacy is

now widely used and validated on various populations.

When used on a group of 8th grade Turkish students, the CDSE showed statistically significant relationships between adolescents and realistic planning, occupational knowledge, and personal and occupational features (Bozgeyikli, Bacanli, & Dogan, 2009). In 2010, Bozgeyikli and Dogan used the CDSE again to measure the effectiveness of a computer assisted career group guidance program. Results of this study showed that the computers assisted career group guidance program helped students develop realistic self-concepts and created positive confidence related to occupational tasks (Bozgeyikli & Dogan, 2010).

In recent years, the CDSE has been altered and a short form (CDSE-SF) of the original scale was developed (Betz, Hammond, & Multon, 2005). Hampton (2006) tested the reliability and validity of the CDSE-SF on a group of Chinese adolescents. Results from this study showed that when used on Chinese students the CDSE-SF had high internal consistency (.93) compared to an American study (.94) conducted by Betz, Klein and Taylor (1996). In 2011, Nawaz and Gilani used the CDSE-SF to measure career self-efficacy of 550 adolescents. Results showed a statistically significant relationship between student's self-efficacy and parental and peer attachment. As the level of peer and parental attachment increased, the higher the student rated his/her career self-efficacy (Nawaz & Gilani, 2011). In this study, the CDSE-SF had a .81 measure of reliability.

As schools begin to incorporate career development programs, it is important to keep student self-efficacy in the forefront of their agenda. Creating a program that caters to the developmental needs of the students is important for individual and program success. Furthermore, having complete understanding of Bandura's theory of self-efficacy in relation to Super's life span, life-space theory can assist in the proper creation of appropriate career

development activities. Career development during adolescent years has been researched repeatedly throughout history and has consistently revealed a need for career education focusing on student self-efficacy (Bozgeyikli, Bacanli, & Dogan, 2009). Career research has consistently demonstrated that stronger perceptions of career decision self-efficacy are related to lower levels of career indecision, as measured by Osipow, Carney, and Barak (1976). In this study, the self-efficacy related to career decision making related to the Virginia Career View program will be measured. Creating opportunities for students to build their confidence and create positive experiences related to their occupational goals is an important developmental step during adolescence and one that this study will pay particular attention to. Betz and Taylor (2006) present the Career Decision Self-Efficacy Scale as a high quality instrument for use in research and as the basis for designing and evaluating counseling interventions.

Review of the Literature

Adolescent Career Development.

Today's economic conditions and future labor market projections make it clear that career development matters more today than ever before, and it matters in new and unprecedented ways (Engels & Harris, 1999). The challenges imposed by the global economy require students to develop even more self-control over their vocational behaviors (Janeiro, 2010). Self-control, in terms of career maturity, is achieved in part by exposure to career situations, career planning, and by investing ones time and effort into creating career plans that will help guide ones path toward their future goals. Wiles and Bondi (1981) believed that "exploring the world of work and increasing occupational awareness can provide students with a base of information to make future educational and career decisions" (p. 105). Gibbons and Lohnes (1982) were adamant that "career guidance in our schools should begin in the elementary years with curriculum units

designed to teach understanding and the value of careers” (p. 128). Manning (1993) stated “effective academic counseling provides young adolescents with timely access to critical information about the school curriculum and its personal implications for career choices” (p. 64). Early adolescence has shown to be a time of active vocational development, when young people contemplate educational and career paths. They make decisions about their future careers (Creed, Patton & Prideaux, 2007; Hartung, Porfeli, & Vondracek, 2005). Waiting until high school to explore different careers is too late (Arrington, 2000). Educators across the United States feel that school systems should begin preparing students for the world of work as early as the third grade. By middle school, students should be subjected to development activities that include career exploration, career pathway planning, and career inventory assessments as key components (Black, 1995; Schoelkopf, 1995).

Throughout the last three decades, researchers have consistently defended a need for adolescent career development. Some claim it is crucial to consider career education as a key curriculum addition to adolescent’s schooling, as well as adding work related experiences as an intentional component of all young people’s adolescent experience (Creed, Patton, & Prideaux, 2007). Much attention has been paid to this adolescent time as a critical point on the career and future planning continuum. Consequently, some are lead to believe that such experiences not only increase student’s career focus and awareness, but also contribute to fostering higher levels of maturity in general (Creed, Patton, & Prideaux, 2007).

Criticism of Career Development in Adolescents.

It is important to recognize that there are still skeptics that feel adolescence is not the most appropriate time to begin planning for the future (Cook, Church, Ajanaku, Shadish, Kim & Cohen, 1996; Ginzberg, 1952; Gottfredson, 1981; Trice, Hughes, Odom & Woods, 1995; Trice

& King, 1991). Some researchers believe that adolescent students are not confident enough, or willing to take career development programs seriously (Akos, Konold & Niles, 2004). Middle school students with disabilities, behavioral issues and inconsistent attendance in school have reported to be less enthusiastic about career development and tend to make poor and often detrimental career choices (Akos, Konold, & Niles, 2004). Furthermore, research has shown that some adolescent students may be too attached to their parental figures to fully explore their own career interests and skills without the influence of their mother and father (Middleton & Loughhead, 1993; Rainey & Borders, 1997; Young, 1997). In an attempt to make career development a beneficial experience for adolescent students, a healthy separation from one's parents may be an important addition to the career development curriculum (Witko, Bernes, Magnusson, & Bardick, 2005). Aside from parental barriers, Perlstein (2003) believes that the surge of physical and emotional growth seen in middle school students makes students have contradictory thoughts, actions, and self-identifications, making career exploration a less than productive event for these middle aged students. Additionally, Johnson (2000) found that adolescent students struggled to develop good career competencies. From this study, most students were left with shallow understandings of how school related to work and had limited awareness of their career aspirations, work responsibilities (Johnson, 2000). Additionally, in a study of 399 Canadian adolescent students, researchers found a significant number of students believed too many barriers were in place during secondary school that made career development "too difficult" (Julien, 1999, p. 42). The views on adolescence as an appropriate time for career counseling seem to go both ways. However, research studies supporting the need for career development programs at the middle school level appear to be significantly more abundant, not to mention more quantitative in nature and far more recent than those who are against it.

Support for Career Development in Adolescents.

Educators can become key players in helping adolescents develop realistic career goals and a solid career foundation (Arrington, 2000). Programs that focus on career exploration helps students discover their individual interests, abilities, career values, and needs by exploring jobs and they fit into the world of work (Arrington, 2000). When implemented effectively, career development programs can provide the opportunity for adolescent students to develop aspirations and motivation for opportunities beyond high school (Wheelock & Dorman, 1988). Career development programs can provide a bridge between career exploration and career preparation while also assisting students in planning for their chosen career pathway (Arrington, 2000; Black, 1995; Schoelkopf, 1995). In 2003, Jepsen and Dickson agreed with Super (1982) that the adolescent years were a major milestone in career development as a life-long, progressive process towards the establishment of a career. Additionally, Jepsen and Dickson found statistically significant relationships between adolescent career exploration and adult career stability and satisfaction. During this same timeframe, Moore (2002) found that career planning was a natural result of career exploration activities completed within the adolescent years, and are related to lifelong career goals. Educators now know that career planning and occupational choice are matters not exclusively associated with adolescence or adulthood, but rather deemed more appropriate and effective during childhood years when its contexts can become precursors for future vocational behaviors (Ferreira, Santos, Fonseca, & Haase, 2007).

Adolescence has proven to be a time of discovery, development, and self-actualization (Super, 1982). The importance of a career plan cannot be overemphasized and the consequences of not planning can be severe; such as limiting or eliminating future choices and missing opportunities to further education or training for high-skill, high-wage career options (Arrington,

2000). Career preparation is a major developmental task for adolescents, the successful performance of which improves personal development, social adjustment, and future well-being (Erikson, 1968; Koivisto, Vinokur, & Vuori, 2011; Super, 1990). In the middle school years, students are still trying to figure out who they really are, what their likes and dislikes are, and what areas of life they are the most interested and skilled at. It makes perfect sense to institute career development activities into the school curriculum at this important time in student's lives. The way in which adolescents develop and exercise personal efficacy in the domain of career choice during adolescence will directly affect their transition into adulthood and play a key role in setting the course of the career path (Bandura, 2006; Koivisto, Vinokur, & Vuori, 2011; Lent, Hackett & Brown, 1999; Taylor & Betz, 1983).

Unfortunately, the literature available addressing the need for adolescent career development is more subjective than empirical, especially in the United States (Schultheiss, 2008; Watson & McMahon, 2008). However, international research has provided some empirical support on career development with this age group. In countries such as Canada, the Netherlands, Switzerland, and China, studies have been conducted (Hirschi & Lage, 2008; Mittendorff, Jochems, Meijers, and den Brok, 2008; Yuen, Gysbers, Chan, Lau, & Shea, 2010). In Switzerland, by the end of their eighth grade year, students are required to identify a career pathway and enroll in extensive training courses focusing on that career for the remainder of their secondary education (Hirschi & Lage, 2008). This requirement prompted educators to implement a career development program designed to give students the career knowledge and skills they need to make those difficult career decisions. Results collected from 368 adolescents showed that students who participated in this career development program during their middle school years made significant gains in their career knowledge, career decidedness, and career

planning (Hirschi & Lage, 2008). Similarly, Mittendorff, Jochems, Meijers, and den Brok (2008) researched the use of portfolios and career development plans with adolescent students in the Netherlands. This study found that when used correctly, portfolios and career development plans were effective in helping students become better aware of their career goals, abilities, and occupational interests (Mittendorff, Jochems, Meijers, & den Brock, 2008). In the same way, Virginia public school systems will begin a similar routine in 2012 – 2013 with the mandatory student academic career plans (Virginia, 2011). By the end of 8th grade, all students will be required to have an academic career plan on file outlining his/her chosen career pathway, academic course projections, and post-secondary plans (Virginia, 2011). Unfortunately, there is an absence of empirical support for the career development program being implemented in this study. However, programs that contain similar activities and curriculum points have been used in other career development studies throughout research.

A study conducted in Hong Kong, China with 15,113 adolescents found that students between the ages of 12-15 years old felt they had enough confidence in their ability to complete career development activities, (Yuen, Gysbers, Chan, Lau, & Shea, 2010). Results from the same adolescent population also showed “having a growth plan with some long-term career or study goals is important for students and students without plans for university study later exhibited less confidence in career and talent development than those students’ with such plans” (Yuen, Gysbers, Chan, Lau, & Shea, 2010, p. 58). Additionally, in Canada 3,562 junior high students were surveyed about their career readiness and willingness to begin career planning for their futures (Bardick, Bernes, Magnusson, & Witko, 2008). The researchers found that students as young as age 11 felt they were ready and capable of participating in a career development program (Bardick, Bernes, Magnusson, & Witko, 2008).

International literature supports the need for adolescent career development programs and is beginning to demonstrate its effectiveness (Schultheiss, Palma, Manzi, 2005; Watson & McMahon, 2008). Furthermore, literature supports the willingness of adolescents to complete career development programs (Gysbers, 1997; Johnson, 2000; Magnuson & Starr, 2000; Tracey, 2002; Vondracek & Kirchner, 1974; Walsh, Galassi, Murphy & Park-Taylor, 2002). However, majority of this literature is based on studies conducted internationally. The number of career development studies carried out in the United States targeting adolescents is limited compared to those of other countries (Burtnett, 2003; Trusty & Niles, 2004; Westbrook, Sanford, Merwin & Fleenor, 1988). In the United States, majority of career development studies focus on students with disabilities (Herbert, Trusty, & Lorenz, 2009), at-risk or incarcerated youth (Abdullah & Salleh, 2010; Delicarpinni, 2010; Griffin, Hutchins, & Meece, 2011; Johnson & Perkins, 2009; Legume & Hoare, 2009; Moody, Kruse, Nagel, & Conlon, 2008; Rivera & Schaefer, 2009; Skorikov & Vondracek, 2007; Turner & Conkel, 2008; Weinger, 2000; Worthington & Juntunen, 1997), gender differences (Gushue & Whitson, 2006; Sellers, Satcher, & Comas, 1999; Turner, Conkel, Starkey, & Landgraf, 2010), or students above the age of 15 years old (Castellano, Stringfield, & Stone, 2003; Despres, 2008; Gibbons, Borders, Wiles, Stephan, & Davis, 2006; Lindahl, Long, & Arnett, 2002; Mittendorff, den Brok, & Beijaard, 2010; Rojewski, Asunda, & Kim, 2008; Stevens & Guest, 2001; Tang, Pan, & Newmeyer, 2008; Wessell, Christian, & Hoff, 2003; Zimmer & Mortimer, 2006). Very few studies over the past five years from the United States have been completed with middle school regular education students as the main subjects of participation (Trusty, Niles, & Carnie, 2005; Schulthesis, Palma & Manzi, 2005; Watson & McMahon, 2008). As a result, “it seems that education in career planning is woefully inadequate for a large portion of U.S. students” (Trusty, Niles, & Carnie, 2005, p. 136). The

Virginia public school systems recognizes this and will begin in 2012 – 2013 with the mandatory student academic career plans (Virginia, 2011). By the end 8th grade, all students will be required to have an academic career plan on file outlining his/her chosen career pathway, academic course projections, and post-secondary plans (Virginia, 2011). The methods and curriculum used to accomplish this goal needs to be examined for its effectiveness.

History of Career Education in Virginia.

Since the early 1960's the government and state public school systems have been testing out ways to incorporate career education into student's daily schedules. Due to high unemployment and increasing poverty rates resulting from WWII and a consistently unstable economy, the government began researching ways to educate and improve our nation's workforce (Herr, 1976). In 1974, Congress approved the Education Amendments to support career education activities in public schools. As a result, all state education systems were mandated to develop career education programs for all students, promote and encourage the adoption of career education suitable for the needs of children, and design programs to insure every child the opportunity to gain the knowledge and skills necessary for employment (Herr, 1976). Later, the Office of Career Education took career education one step farther and emphasized the need to infuse career concepts throughout all school curriculum (Hoyt, 1975).

Unfortunately, soon after the economy began to improve and as school counseling in public schools evolved, career education took a backseat to administrative tasks and other higher priority job duties (Paisley & Borders, 1995). However, in the past two decades, career education has begun to resurface as a big topic of conversation. In Virginia, the State Department of Education began publishing articles and reports outlining the importance of career education in middle schools (Virginia, 1985). In a publication titled *Restructuring Education in*

the Middle School Grades (1989), the Virginia Department of Education introduced a group of education programs identified as the Vanguard Schools (Virginia 1989). The Vanguard Schools were exemplary middle schools who met goals that included an emphasis on career assessment, work experience, career discovery and development, and lesson focused on identifying student interests, abilities, and future career choices (Virginia, 1989). Today, Vanguard Schools are not recognized as a result of the introduction of state wide career education programs being introduced as a baseline criterion for all schools. Such programs as Career Connections, Best Practices, Career and Technical Education, and Academic Career Planning have been introduced into the Virginia public school system over the past two decades in an effort to make sure all students are receiving adequate lessons in career and future development (Virginia, 1991, 1995, 1996). The Virginia Department of Education are also teaming up with the Virginia Community College System to assist in providing school counselors and career educators with helpful online resources to assist in the planning and implementation of these programs (Virginia, 2011). In the past five years, the Virginia Wizard and Virginia Career View programs have been adopted by many Virginia school systems and will become regularly utilized as the Academic Career Plan mandate goes into effect in 2012 – 2013 (Virginia, 2011b).

Virginia Career View.

Originally known as the Virginia Career Information Delivery System (CIDS), Virginia View was developed in 1979 by a team of researchers from Virginia Polytechnic Institute & State University (McDaniels, 1988). To date, there are approximately 30 articles written in review of the CIDS program, all of which are concentrated on College students and adults (McDaniels, 1988; Snipes & McDaniels, 1984). Not until recently has the Virginia View system been used to help educate children and adolescents on careers (Virginia Career View, 2011).

The team of developers at Virginia Tech teamed up with the National Occupational Information Coordinating Committee (NOICC) and the Virginia Occupational Information Coordinating Committee (VOICC) to create a career information and delivery system accessible through microfiche, telephone hotline, and paper copy (McDaniels, 1988). In 1980, the developers and funding agencies (NOICC & VOICC) decided, based on the state's economic need for accessible career information, that the Virginia CIDS (VIEW) program would be available free of charge (McDaniels, 1988).

As one of the first states to introduce such a large occupation database, free of charge, the Virginia View system immediately became a huge success with adults and college students (Snipes & McDaniels, 1984). The Virginia View quickly developed into a college and career search and contained user-friendly data files with accurate financial aid information (McDaniels, 1988). As college data began to pick up popularity, the user base for the Virginia View grew from adults and college students to school age children in grades 6-12 (McDaniels, 1988). As technology improved, the Virginia View became more easily accessible to the average household and business through microcomputer. By 1986, the Virginia View was located in nearly all public schools throughout the state and 100% of community and technical colleges (McDaniels, 1988).

Annual free workshops available to the public helped make the Virginia View a huge success as a career resource for students and adults. In 1985, the Virginia General Assembly agreed to fund the system at no-cost-to-the-users (McDaniels, 1988). In the past five years, the Virginia View developers changed the program dramatically from its original adult and college focused database to a more kid friendly and career education focused resource for schools (Virginia Career View, 2011). The recent push for career education in public schools has

reinforced the need for free programs like the Virginia View. School Counselors throughout Virginia are depending on the Virginia View to be a guide for the career development lessons that will be mandated for every student in 2012-2013. Currently, the empirical data focusing on the effectiveness of the Virginia Career View Program as a positive tool for adolescents is absent. This study is designed to fill the gap in research involving the Virginia View and adolescent users and to provide important information pertaining to the younger generation of users who will use this tool on an annual basis as a career exploration and planning guide for their futures.

Summary

Within the literature, there is an abundance of research focused on the career development needs of high school and college level students. However, while research consistently stresses the need for career development in adolescence, the empirical research supporting this need is lacking (Watson & McMahon, 2008). Additionally, the research conducted within the United States does not match the depth and volume of adolescent career development studies from international countries. Furthermore, the research related to the Virginia Career View Program is outdated and extremely limited with majority of its contents focusing on adults and college level students (McDaniels, 1988). This study will help fill the existing gaps in research related to adolescent career development and provide empirical research focused on the Virginia Career View program as a tool for adolescent career development.

CHAPTER 3: METHODOLOGY

Introduction

This research study examined the effectiveness of the Virginia Career View program on 7th grade students' career pathway identification and self-efficacy levels related to student's career choices. The purpose of this experimental study was to fill the current gaps in literature focusing on adolescent career development programs as well as provide statistical validation for the Virginia Career View program as an effective tool for adolescent career development. This chapter will describe the participants involved in the study, the setting where the study will take place, the instrumentation used to collect the data, the research design, and the analysis procedures.

Participants

A convenience sample of 161 students was enrolled as 7th grade students at Alpha Public Middle School at the start of the 2011-2012 school year. The volunteer rate was 91.9%. A total of 161 7th grade students were given the letter of consent and opportunity to participate in the study. For various reasons including, sickness, lack of parent permission, language barriers, discipline, and relocation, 13 students were not able to participate. More specifically, on day one of the study, one student disclosed her inability to speak or understand the English language. This student was excluded from the study and was later given the same career curriculum translated in her native language. On day three, two students were given "out of school suspension" as a result of a behavioral infraction and did not complete the study. Ten students were not given parental consent to participate in the study. At the conclusion of the study, data was collected and analyzed from 148 students.

The population consisted of students who were of Caucasian ($n=$, 89%), Asian (2%), African American (4%), Hispanic/Latino (4%), and Native American (1%) ethnicity. Students ranged from 11 – 13 years of age, 52% female and 48% male, and included those who are in their initial year of 7th grade and those that were retained to the 7th grade in previous years. The socio-economic “disadvantaged” status of the population was indicated by student’s participation in the federal funded, free and reduced lunch program and included 48% of the population. The participants were randomly assigned to the experimental and control groups. Students, teachers, and parents had no knowledge of their control or experimental group assignment throughout the duration of this experimental design study.

Setting

The setting chosen for this study was Alpha Middle School. Alpha Middle School is a public school located in a rural area that covers 512 square miles of the Shenandoah Valley (US Census Bureau, 2010). The community surrounding Alpha Middle School has a population of 5,097 and consists of 93% white, 1.7% Black, .05% Asian, and .02% Indian ethnicity (US Census Bureau, 2010). The site was chosen due to its proximity and accessibility to the researcher. Alpha Middle School is one of three similar middle schools within the county serving 578 students in grades 6-8. Alpha Middle school is a public institution which freely serves regular education students, special education students, English Language Learner students, and Gifted and Talented students. Alpha Middle School contains 47 full time employees and 13 part-time instructional assistants.

Students in the treatment group at Alpha Middle School completed the Virginia Career View curriculum while in their regular 7th Grade English classrooms. The career development lessons were components of the Virginia Standards of Learning for 7th grade English. The

control group continued with their regular English curriculum and had previously participated in career education via the regular Comprehensive School Counseling Program schedule. The activities included in the regular school counseling curriculum contained an introduction to vocational education with a guest speaker from the local business community, the completion of the “Kudar” career inventory assessment, a tour of the local vocational center, and an orientation style tour of the local high school (Kudar, 2012). The control group received the Virginia Career View curriculum the following week after all data had been collected. The specifics of the Virginia Career View curriculum are explained in the procedures section.

Instrumentation

The requirement for the Virginia Academic Career Plans set forth by the Virginia Public School System states that all 7th grade students are required to identify a career pathway that they will pursue throughout high school (Virginia, 2011b). The identification of a student’s career cluster was measured using nominal data in the form of a yes/no question. Students were asked: “Were you able to identify at least one career pathway that matches your skills and career interests as identified by the Virginia Career View Program?” Students will select “YES” or “NO” as a response. The “YES” response was assigned the numerical value of 1, and the “NO” response was assigned the numerical value of 2. Students who indicated that they were able to identify a career pathway that fit their career skills and interests were determined to be able to fulfill the requirements of the Academic Career Plans (ACP) mandated by the State Board of Education. The requirements state that students are to identify at least one career pathway they plan to pursue following secondary education. It was the goal of the researcher to determine if the Virginia Career view program was able to effectively assist students in fulfilling this state ACP requirement. The identification of a career pathway is one of the dependent variables used

in this study that helped the researcher assess the usefulness of the independent variable when used with a similar population of students in Virginia.

Student self-efficacy levels associated with career decision making were measured on an interval scale using the Career Decision Self-Efficacy Scale – Short Form (CDSE-SF) (Betz and Taylor, 1983). The CDSE-SF measured student self-efficacy on a 10 point Likert-type scale with 0 = no confidence at all and 9 = complete confidence. The original version of the CDSE was created by Betz and Taylor (1983) as a measurement that stemmed from Bandura's (1981) self-efficacy theory. The scale originally consisted of five subscale measures of self-efficacy totaling 50 items (Luzzo, 1996). In the beginning, the scale was mainly used to evaluate college students. Over the years, as the need for career development in education grew, the scale was cut down to a shorter form to include 25 Likert-type questions (Miller, Ray, Brown, Thomas, & McDaniels, 2009). Variations of the CDSE-SF are a commonly used in much of the existing research associated with adolescent career development (Bozgeyikli, 2010; Bozgeyikli, Bokanli, & Dogan, 2009; Gibbons & Borders, 2010,). In the past decade, studies have been conducted for purposes of validating the CDSE-SF for reliability and validity in research, many of which have indicated high levels of both measures (Hampton, 2006; Miller, Ray, Brown, Thomas, & McDaniel, 2009). A meta-analysis reviewing 41 different studies using the CDSE and the CDSE-SF found Cohen's coefficient alpha ranging from .83 to .97 (Betz, Hammond, & Multon, 2005; Betz, Harmon, & Borgen, 1996; Hartman & Betz, 2007; Nilsson, Schmidt, & Meek, 2002). Values of alpha for all five subscales as well as the total scale have been consistently reported throughout the research (Betz, Kline, & Taylor, 1996). Using the five point continuum, researchers found the reliability of the scales as follows: self-appraisal (.81), occupational information (.82), goal selection (.87), planning (.84), problem solving (.81), and total scale

reliability as (.95) (Betz, Hammond, & Multon, 2005; Betz, Harmon, & Borgen, 1996; Hartman & Betz, 2007). In 2006, in an effort to keep up with technological changes, one of the items on the CDSE-SF, “Find information in the library about occupations you are interested in” was replaced with “Use the Internet to find information about occupations that interest you” (Hartman & Betz, 2007). With this adjustment, the CDSE-SF reliability was found to be (.96) making the newly adjusted item a permanent change to the scale (Hartman & Betz, 2007).

In reference to the CDSE-SF, composite scores range from 0-125 and subscale scores range from 0-25 with higher scores resulting in higher levels of career self-efficacy and lower participant scores reflecting a lack of career self-efficacy. Participants reflected on their level of career self-efficacy as it related to five subscales within the CDSE-SF: self-appraisal, occupational information, goal selection, planning, and problem solving (Betz, Klein, & Taylor, 1996). Participants rated their level of career self-efficacy using a 5 point continuum scale. A score of 1 meant “no confidence at all”, 2 meant “very little confidence, 3 meant “moderate confidence”, 4 meant “much confidence”, and 5 meant “complete confidence” (Betz, Klein, & Taylor, 1996; Taylor & Betz, 1983).

For this data set, Cronbach’s alpha was used to assess internal consistency for the present sample and used was to reassure that the results of the survey produced similar results across time as well as the reliability of the survey. As the correlation between the items in the survey increased, the Cronbach’s alpha increased to show the level of internal consistency. Good internal consistency was represented by an alpha of .70 or higher. For this study the Cronbach alpha was reported as .95 for the total scale, and between .93 and .95 between the subscales: self-appraisal (.95), occupational information (.94), goal selection (.94), planning (.93), and problem solving (.93).

For this study, there was only one independent variable; therefore, a simple reliability analysis was conducted to indicate the presence of any Type II errors in the reliability (Osborne & Waters, 2002; Pedhazur, 1997). The inter-item correlation matrix was examined to ensure freedom of negative values. This check helps the researcher check for negatively worded items within the scale that need to be reversed prior to evaluating the reliability score (Pallant, 2011). Each scale was checked using the corrected item-total correlation section of the reliability analysis. This section shows the degree to which each item correlates with the total score. The corrected item-total correlation values were as follows: self-appraisal (.747), occupational information (.832), goal selection (.839), planning (.859), and problem solving (.846). Correcting the reliability helps the researcher obtain a more accurate picture of the relationship within the population being studied as well as avoid over-estimating the effect of another variable interfering with the data results (Osborne & Waters, 2002). The values indicated in the reliability analysis indicate a strong reliability between the variables.

Procedures

Beginning in April 2012, permission to conduct this study was obtained from the principal of Alpha Middle School and the school system's assistant superintendent. A completed IRB packet was submitted for approval. Following IRB approval, a signed parental consent form that included a short description of the program and an explanation of the purpose of the study was collected from all participants. Those students who returned the signed consent form were randomly assigned to the experimental and control groups. The Virginia Career View career development curriculum was administered by the researcher to the experimental group throughout the regular school day and was started and finished within a four day time span. Regular education teachers were in the classroom to provide supervision throughout the

implementation of the Virginia Career View program. Each career development lesson was 45 minutes in length for a total of 3 hours. The curriculum topics of each day were:

Day 1: Introduction to career, career development vocabulary, healthy career choices, career skills and weaknesses, personal interests, and career perceptions.

Day 2: Review of career vocabulary, parental/family career influences, career cluster and career pathway identification, discovering occupational choices.

Day3: Career interest inventory, occupational research, career demographic research, job skills and responsibilities research, college/education research.

Day 4: Career development program review, identification of career interests, career research summary, and completion of the Career Decision Self-Efficacy – Short Form.

Each day there was an introduction of the topics that were to be covered in the lesson, a review of the previous day's lesson, and numerous work sheets, activities, and games that helped students learn about each topic of career development. The entire career development curriculum came from the Virginia Career View online resource center. Prior to beginning the career development lessons, the researcher attended a Virginia Career View workshop to gain the most up-to-date knowledge of the program and to learn about the age appropriate resources available for this study.

Prior to the manipulation of the independent variable to the experimental group (Day1 – Day 4), the control group participated in the regular school counseling academic and future planning program. The activities included in the regular school counseling curriculum contained an introduction to vocational education with a guest speaker from the local business community, the completion of the “Kudar” career inventory assessment, a tour of the local vocational center, and an orientation style tour of the local high school (Kudar, 2012). The control group was kept

completely separate from the experimental group during the study and participants from both groups were kept unaware of the opposite group's activities and daily routine.

Efforts were made to avoid extending the study over the weekend to help limit the external threats to validity. For example, over a weekend, students may have more of an opportunity to speak with their family and friends about the career lessons, students might be tempted to conduct extra research on their own that is not a part of the Virginia Career View program, or students may have difficulty remembering the details of the career lessons if the study was stretched out over the weekend. On Day 4 of the career development program, all students in the experimental and control groups were administered the CDSE-SF. Students remained separated into their assigned control or experimental groups while the CDSE-SF was administered. A paper and pencil version of the CDSE-SF with the addition of one career pathway identification question was administered by the researcher. Appropriate steps were taken to ensure that the data collected from the control and experimental groups were kept separate to ensure the validity of the analysis results. All data was collected anonymously to provide students with a better sense of security, to allow free expressions and honest reflections of the program, and to further control for potential threats to validity. Data collected from the CDSE-SF were analyzed using SPSS statistical analysis software.

Research Design

An experimental, post-test only research design was used to determine student's ability to identify a career pathway and measure student's level of self-efficacy associated with their chosen career pathway. The researcher administered the independent variable, the Virginia Career View program, and randomly assigned participants. The CDSE-SF and one additional survey question related to the students' career pathway identification (Appendix E) was

administered at the conclusion of the program. Data from the experimental group and the control group were compared. The experimental design was selected based on its potential to minimize internal and external threats to validity (Caligiuri & Phillips, 2003; Turner & Conkel, 2010). The research questions examined included:

Research Question 1: What is the effect of participation in the Virginia Career View program on 7th grade student's career pathway identification?

Research Question 2: What is the effect of participation in the Virginia Career View program on 7th grade student's career self-efficacy?

Data Analysis

A chi-square analysis of independence was used to test the null hypothesis; there will be no significant difference between the experimental group and the control group in the level of student career pathway identification. A chi-square test is best used for analyzing relationships between two categorical or nominal sets of data (Gilchrist, 2010; Howell, 2008). A chi-square analysis was selected because it “assesses whether the actual results are different enough from the null hypothesis to overcome a certain probability due to sampling error, randomness, or combination” (Salkind, 2010, p. 145). In this study, the null hypothesis indicates a need to examine the differences in career cluster identification (dependent variable) between the two groups of students who either did or did not receive the independent variable (Virginia Career View). A chi-square is a nonparametric analysis and has few assumptions. The sample used to run a chi-square analysis must be randomly drawn from the population, mutually exclusive, all data must be independent of each other as not to be influenced by another group or categorical data set, and the expected sample size for each cell must be greater than or equal to 5 (Gilchrist, 2010; Green & Salkind, 2011; Howell, 2008; Salkind, 2010). For this study, the chi-square

analysis was used to reject or fail to reject the null hypothesis for research question #1. An alpha of .05 was set to determine significance, and effect size was reported using Cramer's phi. Phi is a chi-square based measure of association and measures the strength of the relationship between two variables (Agresti, 1996; Green & Salkind, 2011, Salkind, 2010). Cramer's phi is used when the variable has two categories of data (Agresti, 1996).

A One-Way Multivariate Analysis of Variance (MANOVA) test was used to test the null hypotheses for research question #2. The first null hypothesis states: There will be no significant difference between the experimental group and the control group in the level of total career self-efficacy as reported by the CDSE-SF associated with their career choice. The additional null hypotheses for research question #2 state: (a) There will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the self-appraisal associated with their career choice. (b) There will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the occupational information associated with their career choice. (c) There will be no significant difference between the experimental group and the control group in the participant's level efficacy related to goal selection associated with their career choice. The null hypothesis for research question #6 states: There will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the planning associated with their career choice. (d) There will be no significant difference between the experimental group and the control group in the participant's level efficacy related to the problem solving associated with their career choice.

A one-way MANOVA is appropriate when examining multiple quantitative dependent variables that are related (Bray & Maxwell, 1982). For, a one-way MANOVA useful in

controlling experiment wise Type I error rates in this case; and it is often best honor the reality about which the researcher is purportedly trying to generalize (Fish, 1973). The dependent variable (self-efficacy) contained five subscales that have been shown to be related, and the data for educational research purposes is ratio data produced by the 5 point Likert-type scale of the CDSE-SF.

A $p < .05$ level of significance was used for all analyses in the study to determine if the null hypotheses related to the linear combination of variables can be rejected. The univariate analysis alpha, also known as the familywise error or Type I error represents the probability that the results of a statistical test are significant due to chance (Kromrey, & La Rocca, 1995). When univariate analyses were performed, the Bonferroni correction is a multiple-comparison correction test was used (Miller, 1991). The Bonferroni was used to control for the Type I error by keeping the alpha value for all comparisons equal by dividing the alpha value (.05) by the number of statistical tests to be performed (n) (Miller, 1991). The actual alpha used for this study was .008. This procedure ensured that the overall chance of making a Type I error is less than .05 (Miller, 1991). The Bonferroni is very flexible, simple to compute, and can be used with any type of statistical test (Olejnik, Supattathum, & Hubertly, 1997). The effect size was calculated using the Eta squared statistic and was interpreted based on Cohen's d (Cohen, 1988; Levine & Hullett, 2002; Pierce, Block, & Aguinis, 2004). The partial Eta squared statistic for this study showed an effect size ranging from medium (.588) to large (.732) between the subscales of the CDSE-SF and a large effect size for the total scale (.736).

The statistical tests used in this study relied on five main assumptions about the variables: normality, linearity, multicollinearity, singularity, and homoscedasticity. For this research, the population distribution of each group was assumed to be normal (Holgerson, 2006). Variables

that are not distributed normally can result in outliers, skewed or kurtotic variables and will likely distort the relationships found during significance testing (Osborne & Waters, 2002; Salkind, 2010). To test for this assumption, the researcher visually examined the data represented on histograms and boxplots (Green & Salkind, 2011). Multivariate normality and outliers were examined by looking at the Mahalanobias distance values. To test for linearity, the researcher examined a scatterplot (Cohen & Cohen, 1983; Green & Salkind, 2011; Osborne & Waters, 2002). Multicollinearity and singularity assumptions were tested by running correlations to check for dependent variables that may have been correlated too high or not at all (Green & Salkind, 2011; Grice & Iwasaki, 2007). Box's *M* statistic and the Levene's test were used to check for homoscedasticity; however, the large sample size used in this study allows for some forgiveness in the degree of violation of this assumption and a more conservative alpha level was set as a result of the violation (Tabachnick & Fidell, 2007). Checking these four types of assumptions in research can carry significant benefits for the researcher. Doing assumptions testing can help by avoiding Type I and Type II errors as well as boost effect sizes, making the results of the study more reliable and trustworthy (Osborne & Waters, 2002).

In research, the likeliness of a type I error decreases as the sample size increases (Ary, Jacobs, Razavieh, & Sorensen, 2006). The effect size (Cohen's *d*) represents the strength of the relationship between the control group and the experimental group and is often represented by a small, medium, or large numeric indicator (Salkind, 2010). The effect size used for this data set was set at a medium level (.05) with the p-value or type I error rate preset to .05. The p-value (probability level or alpha level) of .002 indicates that in 99.8% of repeated similar studies, the results from the data analysis were within .2% of the results found in this study. The lower the p-value the better internal consistency the study has. Statistical power will be preset at .90

indicating a 10% chance of making a Type II error. To estimate the appropriate sample size for this study, an online sample size calculator was utilized (Soper, 2011). Results from this calculation showed a total population size of $N=140$ students (70 students in each group) was required for this study.

CHAPTER FOUR: RESULTS

Introduction

This chapter contains the results a summary of the findings for each of the research questions, and a detailed description of the decisions regarding the research hypotheses for this study. The data presented in this chapter will be used to determine the effectiveness of the Virginia Career View program on 7th grade student's self-efficacy and career pathway identification. Data was collected from 148 randomly assigned 7th grade students and statistical analyses were conducted to compare the data between the study's experimental group and control group. Data for the multivariate analysis of variance (MANOVA) was used to analyze the association between the dependent variable, career self-efficacy, as measured by the five subscales of the Career Decision Self Efficacy-Short Form (CDSE-SF) scale, based on the independent variable, Virginia Career View. Student responses to a single Yes/No question was used to measure student's career pathway identification and a chi-square analysis was used to determine if the two groups differed significantly on this variable.

Descriptive Statistics

Chi-Square Analysis.

The first research question examined was, "What is the effect of participation in the Virginia Career View program on 7th grade student's career pathway identification?" A single yes/no question was asked, "Are you able to identify a career pathway that matches your career skills and interests?" A Pearson's chi-square analysis was used to evaluate the effect of the Virginia Career View program on participant's career pathway identification. Data in Table 4.1 shows the cross tabulations for career pathway identification for all participants in the experimental group and control group, $N = 148$.

Table 4.1

Cross tabulation Table for Students' Career Pathway Identification Based on Group Assignment

“Can you identify a Career Pathway that matches your career skills and interests?”	Yes	No	Total
Experimental Group	64 (86.5%)	10 (13.5%)	74
Control Group	4 (5.4%)	70 (94.6%)	74
Total	68 (46%)	80 (54%)	148

Inferential Statistics

Assumptions were analyzed, and all assumptions were appropriate. Random sampling was assumed, adequate cell size and sample size was satisfied, and all observations were independent of each other. The Chi-Square analysis rendered a statistically significant difference between the experimental group and control group in the area of career pathway identification, Pearson $\chi^2(1, n = 148) = 97.941, p = .000$, Cramer's $V = .813, p = .000$. Students who participated in the Virginia Career View curriculum were able to identify a career pathway that fit their career skills and interests more often than those students assigned to the control group. The effect size showed that the relationship between variables was strong. Based on the results of the chi-square analysis, evidence exists to reject the null hypothesis for research question one.

Descriptive Statistics**One Way Multivariate Analysis of Variance.**

The second research question was, “What is the effect of participation in the Virginia Career View program on 7th grade student’s career self-efficacy?” A one-way multivariate analysis of variance (MANOVA) was performed to identify whether a significant difference

between the experimental group and the control group in the level of career self-efficacy associated with their career choice was in existence. The five scales of the Career Decision Self-Efficacy – Short Form (CDSE-SF) served as the dependent variables, self-appraisal, occupational information, goal selection, planning, problem solving, and total self-efficacy. Group assignment, experimental or control, were used as the independent variables when evaluating the equality or differences among population means. The means and standard deviations for each of the five subscales as represented by the participants' group assignment are reported in Table 4.2.

Table 4.2

Descriptive Statistics for Career Self-Efficacy based on Group Assignment

Dependent Variables	Experimental Group (<i>n</i> = 74)		Control Group (<i>n</i> = 74)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Self-Appraisal	4.297	.363	2.941	.673
Occupational Information	4.235	.330	2.776	.535
Goal Selection	4.235	.476	2.873	.658
Planning	4.014	.515	2.562	.626
Problem Solving	4.095	.455	2.565	.654
Total Self-Efficacy	4.171	.292	2.724	.544

Assumption testing was completed to determine whether the following assumptions were tenable: sample size, normality, outliers, linearity, multicollinearity/singularity, and homogeneity of variance-covariance matrices. For a MANOVA, there needs to be more cases in

each cell than total dependent variables for the study (Pallant, 2010). For this study, the sample size assumption is satisfied by having 74 cases in each cell and only six dependent variables. A large sample size can help in avoiding or getting away with some of the other assumptions throughout the data analysis (Pallant, 2010). A check for univariate normality and multivariate normality were conducted. To check for univariate normality, the Kolmogorov-Smirnov statistic was examined. For this test an alpha value of more than .05 indicates normality (Pallant, 2010). Normality was present in one dependent variable (planning = .011); however, all other variables violated this assumption with a significance value of less than .05. This is quite common in larger samples (Pallant, 2010), and, since the cell of each was over 20, a MANOVA is still a robust test (Tabachnick & Fidell, 2007). As an additional check for normality and univariate outliers, histograms, Q-Q Plots, and boxplots were examined. There were no extreme outliers presented in the boxplot graphs to indicate any errors or inconsistencies in the data set.

Although univariate normality is necessary for multivariate normality (DeCarlo, 1997) and multivariate normality is not tenable, a Mahalanobis distances statistic was still conducted to examine the presence of multivariate outliers. To decide whether a case is an outlier, the Mahalanobis distance value was compared against a critical value to determine if there is a violation of this assumption within the data set (Pallant, 2010). A Mahalanobis score that exceeds the critical value is considered a violation. The critical value is determined by using a chi-square table with the number of dependent variables (6) as the degrees of freedom and an alpha value of $p = .001$. The critical value used was 22.46. There were no violations of this assumption as none of the cases were larger than the critical value indicating a lack of multivariate outliers for this study.

To check for the linearity assumption, a matrix of scatterplots between each pair of variables was generated. The plots did not show any obvious evidence of non-linearity; therefore, our assumption of linearity is satisfied. Pearson's r correlations were conducted to examine singularity and multicollinearity among the dependent variables. Multicollinearity exists when the independent variables are highly correlated ($r = .9$ and above) (Pallant, 2011). Singularity occurs when one independent variable is actually a combination of the other independent variables (Pallant, 2011). However, since our study consists of only one independent variable, singularity issues are not a concern. Correlations up around $.8$ and $.9$ are reason for concern (Pallant, 2011). A Pearson's r correlation shows the strength of the relationship between groups of students on each of the five scales (self-appraisal, occupational information, planning, goal selection, problem solving). All variables were shown to have p -values of $p < .01$ and correlations between dependent variables indicated very strong positively skewed relationships. It is important to note that singularity is common in dependent variables that represent a combination of one or more of the other variables such as total self-efficacy (Pallant, 2011). Furthermore, a perfect correlation of 1.00 indicates that the value of one variable can be determined exactly by knowing the value of the other variable and a scatterplot representation of a perfect correlation would show a straight line (Pallant, 2011). To the contrary, a correlation value of 0.00 would indicate no relationship between variables (Pallant, 2011). For this data set, the correlations among the dependent variables are all below $.9$; therefore the data set does not violate the assumption of multicollinearity. The assumption of singularity is also not violated because the research study only uses one independent variable (Pallant, 2011). Results for this dataset are shown below.

Table 4.4

Correlation Matrix

	SA	OI	PL	GS	PS
Self-Appraisal (SA) **	-----	.733	.667	.667	.650
Occupational Info (OI) **	.733	-----	.742	.733	.729
Planning (PL) **	.667	.742	-----	.770	.786
Goal Selection(GS) **	.667	.733	.770	-----	.753
Problem Solving (PS) **	.650	.729	.786	.753	-----

Note: ** Correlation is significant at the 0.01 level (2-tailed).

Homogeneity of variance was tested as part of the MANOVA output. Box's Test of Equality indicated a violation of homogeneity of variance-covariance matrices with an alpha value less than .001 (Pallant, 2011). However, Tabachnick and Fidell (2007) warn that Box's M can tend to be too strict with large sample sizes and is usually not a concern. The Levene's test for each dependent variable was examined also. With the exception of the variable "planning", a violation of the assumption of equality of variance, with Significance levels less than .05, was present for all dependent variables. In response to this violation, a more conservative alpha level (.01) was set (Pallant, 2011; Tabachnick & Fidell, 2007). The Pillai's Trace statistic was used to indicate statistically significant differences among the variables rather than Wilk's Lamda because Pillai's Trace is considered to be a more robust test when assumptions have been violated (Tabachnick & Fidell, 2007). The results of the MANOVA indicated statistically significant differences between the experimental group and control group for all six dependent variables, Pillai's Trace = 0.848, $F(6, 142) = 131.475$, $p < .0005$, partial $\epsilon^2 = .993$. To further

examine the significance of the relationships, each variable was looked at individually. To reduce the chance of a Type I error, a higher alpha level using Bonferroni adjustment (Pallant, 2011). To do this, the alpha level of .01 was divided by the total number of dependent variables, which in this case is five (Tabachnick & Fidell, 2007). The new alpha level was set at .002. For this data set, all dependent variables: self-appraisal, occupational information, goal selection, planning, problem solving, and total self-efficacy had an alpha of less than .001, which is less than the adjusted alpha level of .002. The power of the test is “very dependent on the size of the sample used in the study” (Pallant, 2011, p. 207). Since the sample size is large ($n > 100$) for this study, power is not an issue (Pallant, 2011).

There was a statistically significant difference between the experimental group and control group on the combined dependent variables, Pillai’s Trace = .848, $F(6, 141) = 131$, $p = .000$; partial $\eta^2 = .848$. The observed power was 1.0, indicating a 100% chance that the results were significant. An inspection of the mean scores indicated the participants in the experimental group reported slightly higher levels of perceived career self-efficacy ($M = 4.171$, $SD = .292$) than the participants in the control group ($M = 2.724$, $SD = .545$). Based on these results, sufficient evidence was present to reject the null hypothesis: Students who participated in the Virginia Career View program as opposed to students who did not participate in Virginia Career View program will have no statistically significant difference in terms of career self-efficacy.

Results for the dependent variables were also considered separately; univariate ANOVAs on the dependent variables were conducted. These results showed a significant differences for self-appraisal, $F(1, 146) = 233$, $p = .000$, partial $\eta^2 = .615$; occupational information, $F(1, 146) = 399$, $p = .000$, partial $\eta^2 = .732$; planning, $F(1, 146) = 208$, $p = .000$, partial $\eta^2 = .588$; goal selection, $F(1, 146) = 237$, $p = .000$, partial $\eta^2 = .619$; and problem solving, $F(1, 146) =$

273, $p = .000$, partial $\eta^2 = .651$ between the students who participated in the Virginia Career View program and students who did not participate in the Virginia Career View program. An inspection of the mean scores indicated that the students who participated in the Virginia Career View program reported slightly higher levels of career self-efficacy than student who did not participate in the Virginia Career View program (see Table 4.2). Based on Cohen's (1988) threshold of .01 for small, .06 for medium, and .14 for large, the effect sizes were large for all the dependent variables.

Inferential Statistics

The impact of the Virginia Career View program on student's career self-efficacy was evaluated using the effect size statistic, partial eta squared. This statistic tells us to which degree the two variables are associated with one another. Results showed that 73.6% of the participants total perceived career self-efficacy is associated with their participation in the Virginia Career View program. To break the participants total career self-efficacy down even farther, the Partial Eta Squared statistic showed that 61.5% of student's career self-appraisal, 73.2% of student's occupational information, 58.5% of student's career goal selection, 61.9% of student's career planning ability, and 65.1% of student's career problem solving ability was associated with their participation in the Virginia Career View program. Furthermore, while all variables are reported as being statistically significant, the actual difference in the mean scores between groups was relatively small, within 2 scale points.

Summary

The results of the data analysis showed statistically significant differences between the experimental and control groups for this post-test only, experimental study. Based on the results, the researcher was able to reject the null hypotheses for the following research questions: (a)

What is the effect of participation in the Virginia Career View program on 7th grade student's career pathway identification? and (b) What is the effect of participation in the Virginia Career View program on 7th grade student's career self-efficacy? A chi-square test for independence indicated a statistically significant association between groups and student's career pathway identification. Students in the experimental group showed statistically significant higher ability to identify career pathway that matched their career interests and skills than those students in the control group. A one-way between groups multivariate analysis of variance was performed to investigate group difference in students' perceived career self-efficacy. Six dependent variables were used: self-appraisal, occupational information, goal selection, planning, problem solving, and total career self-efficacy. The independent variable was the Virginia Career View program. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with minor violations in homogeneity. Results showed a statistically significant difference between the experimental group and control group for career self-efficacy. Students in the experimental group showed higher levels of career self-efficacy associated with self-appraisal, occupational information, goal selection, planning, and problem solving. Analyses of Variance (ANOVA's) were conducted to evaluate the differences between groups for each subscale. The largest differences between groups were present in occupational information (partial $\eta^2 = .732$) and problem solving (partial $\eta^2 = .651$). The other subscales also showed significant differences between groups: planning (partial $\eta^2 = .588$), self-appraisal (partial $\eta^2 = .615$), and goal selection (partial $\eta^2 = .619$). Results for the total career self-efficacy (partial $\eta^2 = .736$) indicating that students who received instruction in career development using the Virginia Career View program reported higher levels of self-efficacy than those who did not.

CHAPTER FIVE: SUMMARY AND DISCUSSION

Introduction

The contents of this chapter will begin with a review of the methodology for this experimental – posttest only design study and be followed by a summary of the results from the multivariate analysis of variance (MANOVA) and chi-square data analyses. The quantitative research study will be discussed in light of prior research. The study's limitations will be outlined, and theoretical and practical implications will be discussed. In the final sections of this chapter, recommendations for future research will be presented and a closing summary will be given.

The purpose of this research study is to investigate the effectiveness of the Virginia Career View program on Alpha Middle School 7th grade students' career self-efficacy and career pathway identification. The Virginia Career View program is designed to assist Kindergarten through 8th grade educators with career development lessons. The Virginia Career View is a free, user friendly online program comprised of age appropriate career lessons, career skills and interest inventories, online tools and activities, as well as a complete nationwide college and career data base. Educators can use to design an effective career development program for adolescents (Virginia, 2011). This study investigated two research questions: 1) What is the effect of participation in the Virginia Career View program on 7th grade student's career pathway identification? 2) What is the effect of participation in the Virginia Career View program on 7th grade student's career self-efficacy?

Review of the Methodology

For this experimental study, 7th grade students ($N=148$) from Alpha Middle School were randomly assigned to an experimental and a control group. The experimental group participated

in a four day career development program supported by the Virginia Career View's activities and curriculum. Students in the control group continued to participate in their regular English lessons and were their regular school schedule was uninterrupted throughout the course of the study. The study was completed within one week and did not extend over the weekend or any non-school holidays to prevent internal threats to validity such as students discussing the career lessons with each other, students discussing the career lessons with parents, and students doing extra career research at home. At the conclusion of the program, students in both groups completed the Career Decision Self-Efficacy – Short Form (CDSE-SF), comprised of 25 Likert-type questions, to assess their level of perceived career self-efficacy. In addition to the CDSE-SF, participants were also given one categorical data driven question, "Were you able to identify a career pathway that matched your career skills and interests?" They were able to answer, "yes" or "no." A pretest was not incorporated into this study to avoid any unnecessary internal testing threat to validity (Campbell & Stanley, 1963). Data collected from the CDSE-SF was analyzed using a one-way multivariate analysis of variance (MANOVA), and results collected from the categorical question were analyzed using a chi-square. The MANOVA was used to investigate the differences in means of the five dependent variables: self-appraisal, occupational information, future planning, goal selection, problem solving. The chi-square was used to evaluate the strength of the relationship between participants' group assignment and participants' career pathway identification. Before the MANOVA analysis was completed, the data was tested to ensure conformity to the assumptions: sample size, normality, outliers, linearity, homogeneity of regression, multi-collinearity and singularity, and homogeneity of variance-covariance matrices (Pallant, 2011). For the chi-square analysis, the data was checked to ensure the expected cell size assumption was not violated. There were no major concerns related to the

violation of any assumptions; therefore, the MANOVA and chi-square analysis were completed and results were obtained.

Summary of Results

A chi square was used to examine if there was a statistically significant difference between the control group and experimental group on student's career pathway identification. The results were significant and demonstrated students in the experimental group were able to identify a career pathway significantly higher rate than those students in the control group.

A MANOVA was used to investigate research question #2: What is the effect of participation in the Virginia Career View program on 7th grade student's career self-efficacy? The results found a statistically significant difference between the control group and experimental group on all six dependent variables of student's level of career self-efficacy: self-appraisal, occupational information, planning, goal selection, problem solving, and total career self-efficacy. Students in the experimental group showed significantly higher levels of career self-efficacy than those students in the control group. Overall, the results of this study supported the independent variable: the Virginia Career View program, as an effective tool for adolescent career development in the areas of career self-efficacy and career pathway identification.

Relationship to Prior Research

The purpose of the current study was to evaluate the effectiveness of the Virginia Career View program on developing 7th grade student's career self-efficacy and career pathway identification. Studies related to the independent variable, the Virginia Career View program, and its effects on adolescent students is absent from empirical research, although its effects on adult career development has been effective (McDaniels, 1988; Snipes & McDaniels, 1984). Thus, the results for the adolescent population in this study support the ideas of those from

previous research on adults. Additionally, the results support research that concludes that adolescence to be a key point in a student's educational career to begin exploring career choices and making crucial post-secondary plans for the future (Arrington, 2000; Black, 1995; Creed, Patton, & Prideaux, 2007; Eagles and Harris, 1999; Gibbons and Lohnes, 1982; Hartung, Porfeli, & Vondracek, 2005; Manning, 1993; Schoelkopf, 1995; Wiles and Bondi, 1981).

Virginia has only recently developed a career education initiative for its public school systems (Virginia, 2011). As a result, the research surrounding adolescent student's career pathway identification, especially in Virginia and the United states, are lacking from the literature (McDaniels, 1988). The current research study was able to provide data that supports the Virginia Career View program as a successful curriculum platform for educating students on the state supported career pathways. The results for this study showed a significant relationship between the Virginia Career View program and student's career pathway identification. The current research supports the Virginia Career View program as an effective career development tool for adolescent students and helps fill the current gap in the literature. Data analyses for the current study revealed significantly higher levels of self-efficacy for students who completed the Virginia Career View career development program, compared to those students who had no prior career development exposure. These findings are consistent with the work of previous researchers who found that self-efficacy was a very important factor for future planning and successful career exploration (Betz, 2007; Bozgeyikli, Bancanli, & Dogan; 2009, Bozgeyikli & Dogan, 2010; Bullock-Yowell, Andrews & Buzzetta, 2011; Fouad & Smith, 2006; Gainor, 2006; Koivisto, Vinokur & Vuori, 2011; Osipow, Carney, & Barak, 1976; Rogers & Creed, 2011).

The research incorporating the dependent variable, the Career Decision Self-Efficacy - Short Form (CDSE-SF), is located within the research, and has been successfully utilized with

the adolescent population (Betz, Klein, & Taylor, 1996; Betz & Taylor, 2006; Bozgeyikli & Dogan, 2010; Hampton, 2006; Nawaz & Gilani, 2011). Prior research has provided supportive results for the CDSE-SF as an accurate measure of career self-efficacy and an effective measurement tool for adolescent students (Bozgeyikli & Bacanli & Dogan, 2009; Nawaz & Gilani, 2011; Rogers & Creed, 2011). The current study produced results that also support the use of the CDSE-SF with adolescent students. In previous studies using the CDSE-SF with adolescent students, Bozgeyikli, Bacanli, and Dogan (2009), Fouad and Smith (1996), and Rogers and Creed (2011) showed student self-efficacy levels to be a key factor in successful student career development, future planning, and realistic goal selection.

Theoretical Implications

The results of this study provides support for Super's life-span, life-space theory and Bandura's self-efficacy theory as grounding theoretical framework for adolescent career development. Super's theory operates on the position that career development is a complex process that begins in childhood and continues throughout life (Super, 1990). Super (1980) believed children to be ready and capable of exploring their career interests and ideas around age twelve. Super (1980) claims that during this important growth and exploration stage are when children begin the development of their career interests and skills through participation in various events and activities. It is during this crucial life-stage that career development is most effective in helping adolescent students successfully plan their future pathways explore their career options (Crites, 1978; Betz, 2000; Betz, 2007; Super, 1980). The current study sought to support Super's theory by using participants that were considered to be in the growth and exploration stage. Results indicated that participants were successful in developing skills and knowledge in multiple areas of career development including: planning, occupational

information, problem solving, self-appraisal, goal selection, and career pathway identification. With the use of an effective career development curriculum, educators can feel confident about student's readiness and ability to complete an extensive career program.

Bandura's self-efficacy theory was also used to support the current research study. Bandura (1986) believed career self-efficacy was an important motivator for individuals involved in a career development program. Bandura felt a person's readiness and capacity for career development largely depended on his/her confidence associated with the understanding of career information and behaviors (Creed, Patton, & Prideaux, 2007). Self-efficacy is also thought to be one of the main components that influence career planning during adolescence (Lent, Brown, & Hackett, 1994). Bandura's theory claimed self-efficacy to be a driving force behind the goal setting and organizing tasks related to career exploration and development in adolescent students (1986). Results from the current study support Bandura's self-efficacy theory and showed a statistically significant relationship between student's self-efficacy and his/her future planning, problem solving, goal setting, self-appraisal, and occupational information.

Based on the results of the current study, it can be reasoned that the life-span, life-space theory and self-efficacy theories remain consistent and plausible throughout the research. When paired with an effective career development program, adolescent students are capable and ready to explore their career options and create realistic future goals. This study supports previous research studies that have shown self-efficacy as a major driving force behind adolescent career development (Betz, 2007; Gainor, 2006). Not only is the time frame in which career information is presented to students important, but the method and underlying goals of the

program need to be designed to foster student's self-confidence and support student's need for exploration and growth.

Practical Implications

The results of the current study lead to implications for educational practices in the area of school and career counseling. Results of this study indicate a significant relationship between career development and student self-efficacy. This study also provided support for career development at the adolescent level. In this study, adolescents were successful in building their career development skills and self-efficacy associated with career development based on the curriculum provided by the Virginia Career View program. The Virginia Career View program provided a variety of online and traditional career activities, an extensive occupation database, an age appropriate career interest inventory, and a user-friendly college search engine. These tools were key components in presenting students with a successful career development program that they felt comfortable and confident with. Career development can be a stressful time in an adolescents life so having a program that is not only age appropriate and user-friendly, but also helps build student's self-esteem can make setting career goals and planning for ones future a more pleasant and meaningful experience. It is important for educators to incorporate career related activities that harvest self-efficacy in students. Furthermore, the results of this study indicate a need for educators/counselors to identify those students who are believed to have lower levels of self-efficacy and provide extra support in that area in order to best serve their career development needs. In the same sense, given the results of this study, it may be beneficial for educators to prepare ahead of time for career development activities by incorporating lessons focused on building overall student self-efficacy prior to beginning a career development program in an attempt to best serve all student's career development needs.

For educators in Virginia, this study provides results that support the Virginia Career View program as an effective career development program for use with adolescent students. There is an immediate need for educators to design a career development program that not only supports the career interests and skills of the students, but also encourages students to identify a career pathway, which they will follow in preparation for their transition into high education, technical education, or the workforce. This study has provided data that supports the Virginia Career View program as a vehicle for an intensive and beneficial career development program that is capable of meeting all of the requirements associated with the new state mandated academic career plan's requirements. Furthermore, for this study, school counseling career development standards were integrated into the English 7 academic standards of learning without compromising important class time. This career development program allowed time for school counselors to work with students simultaneously on both sets of standards and collaborate with teachers to develop an effective cross standard curriculum.

A large component of the Virginia Career View program is self-discovery. As part of each lesson and activity, students are directed to focus on their own interests and skills which led them to select careers and career pathways they felt confident exploring. Many researchers believe that self-discovery is an important component of career development and have found it to be very beneficial in building more realistic and success plans for the future (Arrington, 2000; Dickson, 2003; Janeiro, 2010; Koivisto, Vinokur, & Vuori, 2011; Moore, 2002). Even though students were experiencing a new topic and discovering new things, they were comfortable with the information presented as it was associated with activities they were already familiar with. Students enjoyed learning about themselves and were relieved to find career options that matched their current activities and skills sets. While the Virginia Career View program is an

effective, age appropriate program for adolescent students, educators must use the information provided in a way that meets the needs to the students and hones student's comfort and confidence levels. Lastly, throughout this study, the more comfortable and confident the students were in their skills and interests, the more willing they were to face the challenges associated with the education and training requirements as well as accept the demographic and economic information related to their career choices. Koivisto, Vinokur, and Vuori, 2011 were successful in improving students awareness of the economic and social adjustments required in their future planning. Research conducted on adolescent students from Hong Kong, China and Canada found that adolescent students were willing and ready to develop extensive plans for their future that included plans for overcoming the challenges associated with the global economy, post-secondary education, and occupational training requirements related with their career choices (Bardick, Bernes, Magnusson, & Witko, 2008; Yuen, Gysbers, Chan, Lau, & Shea, 2010). Finding ways to help students feel comfortable learning about careers and being supportive of the emotional need of students will be an essential component to any career development program and something the Virginia Career View program seems to concentrate on a great deal.

Limitations

This experimental, post-test only design study makes every effort to limit the threats to external and internal validity. In an effort to avoid threats to external validity, the researchers accounted for participant selection, setting, and history (Tebes, 2000). Although this study provided positive results and implications, the limitations need to be recognized. The participants used in this study were selected without bias. The student population used in this study consisted of multiple ethnicities, socio-economic groups, and regular as well as special

education students. This study will use a heterogenetic sample and no students were excluded on a basis of religious belief or affiliation (Tebes, 2000). The results of this study are only generalized to the current population (Shadish, Cook & Campbell, 2002; Tebes, 2000). The population used in this study was from a rural county located in the Shenandoah Valley in Virginia with a town population of 5,097 (US Census Bureau, 2010). The participants in this study were randomly assigned, however the demographic make-up of the participants: Caucasian (89%), Asian (2%), African American (4%), Hispanic/Latino (4%), and Native American (1%), may not match the diversity of other schools and areas of Virginia with a more diverse population of students. The Virginia Career View program was designed to meet the needs of educators throughout Virginia and contains occupational data specific to the state of Virginia.

The CDSE-SF was a self-report measure and it was assumed that participant's responses were a true representation of their levels of career self-efficacy. The self-report measure is a possible limitation in that the researcher cannot guarantee students to have been 100% honest, accurate, or free from external influences when completing the survey (Campbell & Stanley, 1963; Salkind, 2010). Adolescence is a time when peer pressure and environmental factors can play a huge roll in student behaviors. Students can be vulnerable to emotional, physical, and social stresses during adolescence which may have contributed to their self-reported, career self-efficacy ratings (Crockett, Schulenberg, & Petersen, 1987; Cronbach, 1970). Furthermore, while students were monitored during the data collection process, the possibility of cheating is minor, but still a possible influence to consider. While it is very unlikely that any interference occurred during the data collection process, it is important to note that in the event that any internal or external influences played into student responses, the results may not be a true representation of the independent variable used in this study. The historical timeframe used for this study was an

ideal representation of everyday student life within the school setting (Tebes, 2000). The internal validity of this study refers to the accuracy of the results collected from the experimental and control groups (Keppel & Wickens, 2002). Randomly assigning the sample population into the control and experimental groups was one way to control for internal validity (Keppel & Wickens, 2002). Random sampling allows for any participant biases to be equally distributed across the two groups, decreasing the likelihood that these biases interfered with the results of the study (Shadish, Cook, & Campbell, 2002). Furthermore, using a post-test only design will prevent the participants from becoming too familiar with the testing instrument or sharing the survey questions with their peers. Using an experimental, post-test only design study is the best way for the researcher to control for these threats and to ensure that the results are valid and an accurate representation of the sample population (Shadish, Cook, & Campbell, 2002).

This study was completed within a four day time frame and did not overlap the weekend; controlling for any threat to mortality (Keppel & Wickens, 2002). Mortality refers to the likelihood of participants dropping out of the study leaving the experimental and control groups with an unbalanced number of participants and an internal threat to the validity of the data (Keppel & Wikens, 2002). The relatively short timeframe measure was put into place to help control for external influences, however the use of any multi-day study cannot be completely protected from the participants parental and non-school environmental influences, which have to be considered as potential limitations for this study. Keeping the study confined to one week helps limit the opportunities students have to talk to their parents, friends, and family about their career options and plans. This also limited the time available for students to do their own research or career investigation in an external environment. By avoiding the weekend, the study

was able to limit potential influences from affecting student responses and perceived self-efficacy levels.

Despite the potential influences that may have influenced the data and results, this study sought to determine the effectiveness of the Virginia Career View program on student self-efficacy and career pathway identification. To the best of knowledge, the results are a true representation of the research procedures and variables used in this study, which are considered to be reliable, practical, and an accurate measure of adolescent self-efficacy.

Recommendations for Future Research

Throughout the planning stages of this study, two recommendations for future research were revealed. The procedures and limitations for this study also revealed areas for future research. The review of literature focusing on adolescent career development often focused on gender differences and parental influence. Future studies could investigate the influence of gender on the effectiveness of the Virginia Career View curriculum. An extension of the program to incorporate lessons that address parent/guardian influence as well as introduce career activities that are meant to desensitize student's negative perceptions of certain gender sensitive occupations, i.e. nursing and/or auto mechanic could add more insight into the strengths and weaknesses of the program's curriculum. Additionally, a study should be conducted that would examine whether the participants retained the information from the Virginia Career View curriculum over time and whether the participants reported the same level of self-efficacy over time as they did directly after the conclusion of the program. The review of literature also presented a limited number of longitudinal studies. A complete measure of the Virginia Career View program would be to design a longitudinal study that would help in understanding the

program's effectiveness as a career development tool for students in Kindergarten through grade 8.

Future research could be conducted using a qualitative design to provide school counseling practitioners with a better understanding of the experience associated with adolescent student participation in career development using the Virginia Career View program. Additionally, the current study was conducted over a four day time frame. A recommendation for future research would be to extend the program over additional days to give each component of the Virginia Career View program more attention and in turn allow the participants to participate in more activities related to each topic and as a result gain a more extensive understanding of the career development components. The limitations of this study indicated a need for expansion over a broader area to include a more diverse population of participants. This study was limited in its student diversity and could only be generalized to similar populations of students. A recommendation for future research would be to include more schools from different geographical areas and to include a more culturally diverse participant pool. The current study did include students from all areas of education including: regular education, gifted and talented, special education, and English language learners. I would first suggest the investigating the effect of the Virginia Career View curriculum on various cultural groups, socio-economic groups, or to evaluate whether educators should approach career development differently depending on student's scholastic classification and learning styles.

Future research related to adolescent career development is critical. As school counseling becomes more data driven, quantitative research studies hold a wealth of knowledge and can assist counselors in providing students with the best possible career development program. At the present time, the empirical research focusing on adolescent career development

is in its early stages. Adding to the literature should be a goal of all school counseling practitioners in order to enhance the field of education and provide future educators with a more complete database directed towards the growing need for more adolescent career development programs.

Summary and Conclusions

The purpose of this quantitative experimental, posttest only study was to determine the effectiveness of the Virginia Career View program on adolescent student's career pathway identification and career self-efficacy. Results indicated a statistically significant relationship between the Virginia Career View program and student self-efficacy and career pathway identification. Students in the experimental group showed significantly higher levels of self-efficacy related to planning, occupational information, goal selection, self-appraisal, problem solving, and total self-efficacy compared to those students in the control group. Students in the experimental group were significantly more capable of identifying a career pathway that matched their career interests and skills compared to those students in the control group. Based on the results, the Virginia Career View program was found to be an effective tool for adolescent career development.

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APPENDIX A

IRB Approval Letter

LIBERTY
UNIVERSITY.

The Graduate School at Liberty University

April 5, 2012

Shanna McComb-Beverage

IRB Approval 1302.040512: A True Experimental Design Study: Examining the Effectiveness of the Virginia Career View Program on Creating 7th Grade Student Career Self-Efficacy

Dear Shanna,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB and we wish you well with your research project.

Sincerely,



Fernando Garzon, Psy.D.
IRB Chair, Associate Professor
Center for Counseling & Family Studies

(434) 592-5054

LIBERTY
UNIVERSITY.
40 Years of Training Champions for Christ: 1971-2011

APPENDIX B

Parental Consent Form

Greetings Parents/Guardians!

My name is Shanna McComb-Beverage. I am a school counselor for Shenandoah County Public Schools as well as a Doctoral student at Liberty University. This spring, I am inviting your student to participate in a research study that will focus on the effectiveness of the Virginia Career View program as a tool for 7th Grade career development. All 7th grade students at PMMS are being asked to participate in this research study, and I encourage you to carefully read this entire letter and ask any questions you may have before agreeing to let your student participate.

During the month of April, I will be meeting with all 7th grade students at Peter Muhlenberg Middle School to introduce and facilitate a career exploration lesson. This program will take place within your student's regular 7th grade English classrooms. Participants will be randomly placed into a control group (receiving no career development materials/information) or experimental group (receiving the career development materials/information) before the career lesson begins. Following the data collection process, students originally assigned to the control group will then participate in the same career development activities and lessons as the experimental group. The entire career development lesson will take approximately three class periods to complete. During this time, all participants will be introduced to career related vocabulary, activities, and information that will assist them in discovering their own career skills, interests, and goals. Following the last career lesson, each participant will be administered a career confidence scale (Career Decision Making Self-Efficacy Scale – Short Form). The scale

will contain 25 career confidence type questions which participants will respond to using a numerical scale (1 indicating “no confidence at all” or 5 indicating “total confidence”).

The data collected during this study will help assess the effectiveness of the Virginia Career View Program as a career development tool for use with 7th grade students. In 2012-2013 the Virginia Department of Education is introducing a new career focused initiative that requires all 8th grade students to complete and maintain an Academic Career Plan throughout high school. The Academic Career Plan will identify each student’s chosen career pathway and will outline individualized career goals and educational needs associated with that occupation. In order to better prepare students to effectively create such a plan, students will need to be exposed to career development activities throughout their middle school years.

The purpose of this study is to collect data that will help school/career counselors identify an effective program that can be used in the career development process of adolescents. The risks associated with participating in this study are no more than your student would encounter in everyday life. Participation in this study is voluntary and your decision whether or not to participate will not affect your student’s future relations with Liberty University. If you decide to allow your student to participate, they will be free to withdraw at any time. The records and data collected during this study will be collected anonymously and will be kept private and will not include any information that will make it possible to identify any of the participants. Students will not be compensated for their participation in this study. However, by agreeing to participate, your student will make it possible for others to potentially benefit from the results of this study.

Again, my name is Shanna McComb and I will be the sole researcher in charge of this study. If you wish to contact me at any time with questions regarding this career development

research study you may do so by email: skmccomb@shenandoah.k12.va.us or by phone: (540)459-2941. You may also contact my faculty advisor, Amanda Szapkiw via email: aszapkiw@liberty.edu or by phone: (434) 582-7423. If you have 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, Dr. Fernando Garzon, Chair, 1971 University Blvd, Suite 1582, Lynchburg, VA 24502 or email at fgarzon@liberty.edu.

Statement of Consent:

Student Name (Printed): _____

Student Signature: _____ **Date:** _____

Signature of parent/guardian: _____ **Date:** _____

Signature of Researcher: _____ **Date:** _____

APPENDIX C

School Approval Letter



600 North Main Street, Suite 200 • Woodstock, VA 22664 • (540) 459-6222 • FAX (540) 459-6707

March 26, 2012

Dear IRB Committee:

I have reviewed the research proposal for Shanna McComb-Beverage and have given my approval for this study to be conducted in the Shenandoah County Public Schools. I am aware this research study is quantitative in nature and involves collecting data from approximately 200 Shenandoah County 7th grade students using the Career Decision Making Self-Efficacy – Short Form (CDSE-SF) scale. Additionally, I have approved a “letter of consent” to be distributed to all 7th grade parents and students who are being asked to participate in this study.

Sincerely,

A handwritten signature in black ink, appearing to read "JRaley", is written over a faint, larger version of the same signature.

Jeremy J. Raley, Ed.D
Assistant Superintendent

APPENDIX D

Nancy Betz Approval Letter (Email Correspondence)

January 30, 2012 (4:29 pm)

Dear Dr. Betz,

My name is Shanna McComb-Beverage. I am currently enrolled at Liberty University in Lynchburg Virginia as a doctoral student. My doctoral dissertation will investigate the effectiveness of the Virginia Career View program on 7th Grade Students' career self-efficacy. I would like to ask permission to use your CDMSES-SF during my dissertation. Also, do you sell copies of the CDMSES-SF that I can purchase? If so, how do I go about purchasing this scale? IF not, do you have an electronic copy of the scale that I can print and administer to the students involved in my study?

Thank you for your time,

Shanna McComb-Beverage

January 30, 2012 (4:54 pm)

Shanna,

Here is everything you need – no charge
Best wishes
NB

Nancy E. Betz, Professor Emeritus
Department of Psychology
The Ohio State University
Columbus OH 43210
614-847-0517
betz.3@osu.edu

APPENDIX E

Career Decision Self-Efficacy – Short Form (CDSE-SF)

Career Decision Self-Efficacy – Short Form

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

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

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

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

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

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

- 1. Use the internet to find information about occupations that interest you.**

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

- 2. Select one major from a list of potential majors you are considering.**

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

- 3. Make a plan of your goals for the next five years.**

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

4. Determine the steps to take if you are having academic trouble with an aspect of your chosen major.

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

5. Accurately assess your abilities.

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

6. Select one occupation from a list of potential occupations you are considering.

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

7. Determine the steps you need to take to successfully complete your chosen major.

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

8. Persistently work at your major or career goal even when you get frustrated.

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

9. Determine what your ideal job would be.

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

10. Find out the employment trends for an occupation over the next ten years.

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

11. Choose a career that will fit your preferred lifestyle.

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

12. Prepare a good resume.

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

13. Change majors if you did not like your first choice.

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

14. Decide what you value most in an occupation.

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

15. Find out about the average yearly earnings of people in an occupation.

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

16. Make a career decision and then not worry whether it was right or wrong.

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

17. Change occupations if you are not satisfied with the one you enter.

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

18. Figure out what you are and are not ready to sacrifice to achieve your career goals.

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

19. Talk with a person already employed in a field you are interested in.

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

20. Choose a major or career that will fit your interests.

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

21. Identify employers, firms, and institutions relevant to your career possibilities.

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

22. Define the type of lifestyle you would like to live.

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

23. Find information about graduate or professional schools.

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

24. Successfully manage the job interview process.

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

25. Identify some reasonable major or career alternatives if you are unable to get your first choice.

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

APPENDIX F

Career Pathway Identification Question

1. Can you identify a Career Pathway that matches your career skills and interests?

(Circle One Answer Only)

1. YES

2. NO