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Middle School Parents' Perceptions of Career and Technical Education

Virginia R. Powers Jones
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**MIDDLE SCHOOL PARENTS' PERCEPTIONS OF CAREER AND
TECHNICAL EDUCATION**

By

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
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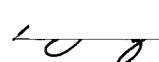
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M. Lee Manning, Member



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ABSTRACT**MIDDLE SCHOOL PARENTS' PERCEPTIONS OF CAREER AND
TECHNICAL EDUCATION**

Virginia R. Powers Jones

Old Dominion University, 2009

Director: Dr. John M. Ritz

This study explored middle school parents' perceptions of the contributions career and technical education could make to their child's educational or workforce plans. It also examined what actions parents undertake to influence their child's plans, specifically the impact of the career exploration tool, Coin Career Community[®], on their actions. Last, the study explored the correlation between the course choices students made in ninth grade relative to their parents' perceptions.

This study took place at Halifax County Middle School, located in South Boston, Virginia, in spring 2009. This school was the only middle school in the county with a student population of 1,337 students in grades 6-8. Halifax County is located in Southside Virginia. The researcher distributed the survey to the entire population. The participants were parents of the 435 students in the eighth grade at Halifax County Middle School. All parents received a survey at the end of March shortly after the registration process for high school courses.

The researcher extracted pre-existing data of student demographics and course requests from the School Administration Student Information System (SASI[®]), Halifax County Public Schools' student database. The Coin Career Community[®] provided pre-existing data on student career interests and skill assessments. The researcher distributed a survey to all parents. The survey covered three major sections of parental influences

and actions: (1) career and technical education course support, (2) Coin Career Community[®] assessments, and (3) school services support.

The researcher performed factor analyses and hierarchical linear regressions to determine the factors and relationships between parental influences, student course selections, and student career and skill assessment in Coin Career Community[®].

Qualitative univariate analyses were conducted using parent and student demographics.

The study identified parental perception and support factors. Gender and ethnicity were negligible factors for parent support but statistically significant for student career exploration. Further, this study supported the research that parental support of students' choices was instrumental to student engagement in school and career exploration.

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DEDICATION

I dedicate this work to all those who have helped me in this journey and encouraged me to push onward and reach my goals.

Primarily I dedicated this to my parents, the late Rev. Claude G. Powers and Rev. Mary S. White, who provided me with the strong desire to seek knowledge and education. They taught me to explore unknown worlds, to always take apart and examine other's ideas and theories, and most of all, to be always inquisitive.

My wonderful children, Rachel, Sarah, Mary Margaret, and John Dwight always provided me with moments of laughter and song. They reminded me that I could succeed and teased me into persevering to the end.

To my colleagues and friends, Sarah Martin, Dan Trent, and Cheryl Barksdale Terry, who suffered through my bouts of anxiety over classes, statistics, and deadlines! To Ms. Shirley Herline, who watched over me and kept me on my toes at all times. Thanks to all of you for keeping me straight and focused.

To all these and others who helped me during this learning adventure, I credit you with making me what I am today – you share in my achievement and have my boundless gratitude.

Virginia R. Powers Jones

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The journey to achieving this Ph.D. followed many years of being a mother and teacher. I extend my sincere appreciation to all my friends and co-workers who encouraged me during this often-lonely path.

Dr. John M. Ritz, Dissertation Committee Chair, academic advisor, mentor, and most of all a friend, provided me with guidance, gentle criticisms, and reminders to keep working. His manner of encouraging and way of speaking comforted me when I felt unequal to the task. I am tremendously grateful for his encouragement, his advice, and attention to detail.

Dr. M. Lee Manning, Eminent Scholar and committee member, provided the quiet, gentle voice of reason on my committee. He reassured, suggested, and guided me into thinking of different areas to explore and add depth to my research.

Dr. George Haber, committee member, held me to rigorous standards and had the practical knowledge of career and technical education in public schools to assist me in this dissertation.

My other professors in the career and technical education coursework assisted me in untold ways to create my chapters and hone my statistical skills. For all this, I thank and applaud each of you for doing not only your job but excelling.

Last, but with a mother's love; I am eternally grateful to Mary Margaret and John Dwight, who sacrificed their teenage angst to help run the house allowing me the time and energy to finish this project.

Virginia R. Powers Jones

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CHAPTER I

INTRODUCTION

To have a promising career in the current economy, students needed technical and academic skills as well as the ability to think and work collaboratively with others (Lynch, 2000). Although today's students were digital natives, persons who grew up with accessible electronic media, that was not enough to be competitive in the economy. For more than 80 years career and technical education (CTE) was grounded in blue-collar-type jobs and training students for jobs in that economy (Lynch, 2000). Realizing the need to teach the new technologies, CTE had changed its course foci to meet these needs by providing students with the content and skills necessary in an increasingly complex technological world. Federal legislation such as No Child Left Behind (2001) and the Carl D. Perkins Act (2006) had provided the framework for alignment of career and academic curriculum with rigorous, relevant, and related coursework.

Educators were aware that students could not afford to wait until attaining high school status to explore seriously career options. Career education had to begin in middle school or earlier to allow students time to develop the aptitudes, skills, and attitudes necessary to develop an awareness of their chosen career. Research conducted by Perry and Van Zandt (2006) stated, "Career awareness should lay the foundation for career exploration" (p. 79). Middle school was the transition stage between elementary and high school and it provided the perfect opportunity for life or career planning through the development of skills, knowledge, attitudes, and awareness of careers (Kerka, 2000). Career and technical education courses provided the exposure and preparation needed to form realistic career plans prior to high school

graduation. The Association for Career and Technical Education (ACTE) (2007) stated that 24 of the 30 fastest growing occupations required postsecondary education and training culminating in a vocational or academic degree. In addition, research showed that CTE concentrators score higher on their mathematics and reading tests and had opportunities for a 5% to 8% higher income after graduation than non-CTE concentrators. CTE concentrators entered college at a rate consistent with all high school graduates and obtained their degree or certificate within two years of study (Arizona Department of Education, 2006; National Assessment of Vocational Education, 2004). CTE coursework offered 36% of the total secondary dual enrollment courses nationwide, which positively affected student success in postsecondary education (Association for Career and Technical Education, 2008). Increased acceptance of the academic content of CTE classes and intentional career planning provided assistance to parents when advising their child and planning for a rewarding, relevant career. Society, to a certain extent, had embraced the belief that academic pursuits were higher order skills, brain based or intellectual versus career and technical skills which were considered manual or practical (Rose, 2008). There was a false dichotomy of knowledge work as opposed to manual work in society's perception (Crawford, 2009). Even with the broadened understandings of Gardner's theory (1999, 2004) about multiple intelligences, society tended to undervalue the intelligence and knowledge embedded in today's comprehensive career and technical education.

Statement of the Problem

The problem of this study was to determine parents' perceptions of CTE as related to their child's future educational or workforce plans. Historically in public school systems, students in the eighth grade were required to make critical academic decisions that ultimately determined their placement in courses, whether academically or career/technical oriented, during high school. Hornak and Gillingham stated in 1980 and Gainor reaffirmed in 2006 that middle school students made these decisions with limited career awareness and information especially concerning how work values and knowledge of higher education would influence their future career and college success. Their data supported the negative outcomes of these decisions proving that nearly half of college-bound students requested assistance in making career decisions (Gainor, 2006; Hornak & Gillingham, 1980; Simmons, 2008; Usinger, 2005). Research was needed to determine the success of parental/child relationships to support academic success and enhance career assessment and planning because of the long-term impact on students' future academic and career success and the importance of early career awareness.

Research Goals

To provide insight into influences on students' career choices, the researcher explored four research questions:

RQ₁: What factors contributed to middle school parents' perceptions of the contributions career and technical education could make to their child's educational or workforce plans?

RQ₂: What actions do parents undertake to assist their children's education and workforce plans?

RQ₃: What impact did the Coin Career Community[®] data have on parents and students in assisting them to plan their child's selection of career and technical education courses?

RQ₄: How did these perceptions relate to the choices students make in ninth grade academic and career and technical course selections in secondary education?

Background and Significance

The purpose of this study was to examine the influence of parental perceptions, specifically ones involving career and technical education, on their child's career awareness and career aspirations. A significant area for exploration was the parent/student relationship and its influence on student career choice. In conjunction parental involvement and influence in academic career decisions was the "millennial generation" affect and its impact on parent/student relationships. These results would present a foundation and recommendations for future CTE awareness training for both parents and students.

Adolescence is a time of great change for middle school students with the onset of cognitive, physiological, and psychological developments associated with puberty (Kerka, 2000). Some traditional educational and psychological research had questioned the validity of exposing adolescents to career aspirations while experiencing such extensive developmental changes. Other research asserted that offering career information along with self-knowledge assisted students in making the

necessary connections between schoolwork and the world outside of school (Kerka, 2000). In 1997, the Southern Regional Education Board (SREB) tested eighth grade students' performance on the National Assessment of Educational Progress (NAEP) and determined many students were well below the required basic academic standards (Cooney & Bottoms, 2002). The significance of this finding was that many students did not connect the academics of school with the real-world application to a career after completing secondary education. This affected their employability as well as their future educational plans. Career exploration introduced in middle schools would be a means for students to obtain a broad overview of designated strands in the major clusters of careers, such as Agribusiness; Science, Technology, Engineering, and Mathematics (STEM); Business; Manufacturing Technology; Technology; Health Sciences; Automotives; and others (Career Clusters in Virginia, n.d.).

Most children possessed immature attitudes of careers by focusing on the glamorous aspects and not the actual foundations necessary to achieving the career (Arrington, 2000; McMahon & Watson, 2005). Students relied on peers, media, and parental influences to develop their perceptions of careers (Perry & Van Zandt, 2006). Students, however, must have a foundation of career awareness and career exploration experiences to consider career plans in-depth prior to high school graduation. Career development was a projection activity based on a student's past, present, and future ideals and dreams (Millar & Shevlin, 2007). There were numerous variables influencing these distinct stages of career development, including parental education levels and career, parental knowledge of other careers, socioeconomic status, ethnic

background, and the academic and financial ability of the child to attend postsecondary education.

Increased parental recognition of the academic content of CTE classes and intentional career planning would assist students in planning for a rewarding, relevant career. Research showed that career exploration ensured that all students comprehended the importance of designing their life-long career focus in stages consistent with their educational stages in life (Kinney, 2007). It had shown that family influences were pervasive but findings indicated they were not the only variable in career choice (Kerka, 2000; Lankard, 1995). A child chose a career based on his/her internal concepts and idealizations of careers (Ji, Lapan, & Tate, 2004; McMahon & Watson, 2005; Post-Kammer & Smith, 1985). Formation of these concepts was by exposure to career exploration at school, parental influences, and peer acceptance (Manning & Baruth, 2009). The research did show that family influence was important to the child's development of internal concepts and thereby his/her concepts of careers (Crites & Savickas, 1962).

Career awareness and development were important facets of all students' educational endeavors. Careers were not only a way of life or a way to provide financial means; they were also an aspect of life that was rewarding and enjoyable (Association for Career and Technical Education, 2007; NAVE Summary, 2004). Career and technical education's design offered students these opportunities through the academic rigor, relevance, and dual enrollment opportunities. Career and technical education courses provided the exposure and preparation needed to form realistic

career plans and achieve success in high school and postsecondary careers, training, or education.

Parental and school counseling were the major influences in students' career choices. Informed counseling with current, relevant data ensured that all students comprehended the importance of designing their life-long career focus in stages consistent with their educational stage in life. Beginning this process early in middle school was paramount in achieving this goal.

The research goals were relevant, as studies have shown that career intervention and real-world applications of CTE at an earlier age in a child's development would provide a more mature basis for their career decisions. The established middle school philosophy of a curriculum that supported exploration, self-directed activities, and opportunities for student success was consistent with the contextual learning in CTE courses (Perlstein, 2003). Informing students prior to entering high school about career choices and courses available in CTE would improve their career outlook immediately upon graduation from high school. It would also assist students in preparing for postsecondary education by taking prerequisite courses while still in high school. This research study showed that informing parents of career and technical opportunities available in secondary education would increase student educational and work skill attainment.

There was a great deal of significance for this study. Career counseling at an earlier age would help to overcome the barriers of race, ethnicity, and socioeconomics. Counseling would assist students with awareness of the wide range of postsecondary school and career opportunities, from those requiring college or technical training to

those that do not require any type of formalized degree. It would help students master academic and life-career skills with an understanding of the relationships between these skills and future career success and would develop the decision-making and other skills necessary for success. This awareness would help students reach their fullest potential to become effective lifelong learners, responsible citizens, and productive, satisfied workers in today's global economy (New Jersey School Counselor Association, 2005).

Limitations of the Study

The limitations to this research study were as follows:

- The sample size was limited to only parents of the 435 eighth grade students at Halifax County Middle School. Halifax County Middle School was selected due to its ethnic makeup with a nearly even distribution of Caucasians and African-Americans, the rural, economically depressed location, the fact that it is the only middle school in the county, and because the school system utilizes a comprehensive academy approach for all its secondary education courses. This academy approach requires students to identify with one of seven offered academies and tailor their course selections toward that area of concentration. The academies are unique in that students may select courses from one or several academies achieving a blended approach to their secondary education.

- Parents' knowledge and/or lack of knowledge of career and technical education curriculum, industry relevance, and real-world connections would limit their child's career options.
- Parents' perceptions of their role in their child's career awareness and selection would affect career self-efficacy.
- Parents' knowledge of college admittance requirements and that career and technical education is not a detriment to college attendance.

Assumptions of the Study

For this research problem, the researcher made the following assumptions:

- CTE contributed to students' education and career choices (ACTE, 2007; Kerka, 2000).
- Halifax County taught their courses in compliance with Virginia Department of Education guidelines for CTE programs.
- Students had completed the Halifax County career assessment, Coin Career Community®, and shared this information with their parents.
- Early selection of a career pathway would assist a student in properly preparing for a career through proper education and training pathways.
- Some parents believe that career and technical education courses do not assist a child if they plan to attend college.

Procedures

This study first obtained data by means of parent surveys to determine perceptions of CTE and its contributions to educational or workforce plans. The researcher analyzed the completed parental surveys regarding their knowledge and

perceptions of CTE after to the registration process for high school coursework. The data set developed constructs of parental knowledge based on their personal experiences with education, especially CTE courses. In their application to today's courses and career opportunities, these constructs may be outdated; they may present a barrier to educational and career exploration in high school.

Pre-existing data from the Coin Career Community[®] was used for analysis of student's skill and interest assessments. Research showed that computer-assisted career guidance systems have a greater impact on students' career determination than conventional pen and paper systems (Mau, 1999). The design of the Coin Career Community[®] assessments was to provide teachers, parents, and students with obvious connections between skills learned in the classroom with real-world applications of those skills. Parents had access to the results of these assessments prior to the survey for their knowledge of career and technical education. The data sets provided student scores on skills and assessments correlated to the independent variables of gender and ethnicity. This information was relevant in exploring gender role segregation and ethnic barriers. Data showed that students needed more exploration in CTE courses to achieve a stronger connection with real-world applications, skills required, and opportunities.

The researcher extracted pre-existing course request data from the School Administration Student Information System (SASI[®]), Halifax County Public School's student database system. This information was relevant in exploring actual course selections students and their parents made for their ninth grade courses.

The researcher used a quantitative approach to the data analysis. A hierarchical multivariate analysis of data from the Coin Career Community® was performed to assess the relationship between student interests, student skill levels, gender, and ethnicity. The researcher performed a factor analysis of the parental surveys, based on a 5-point Likert scale, to determine the factors underlying parental influences on student career choice and aspirations. Pre-existing data from student course selections was compared to parental survey results. This multivariate technique will assess the dimensionality of the set of variables (influences and/or actions) parents exerted on their child.

Definition of Terms

To provide the reader a better understanding of the content discussed within this paper, the researcher provided definitions of the following terms.

- Career and technical education covered a variety of challenging fields in diverse subject areas, which are constantly evolving due to the changing global economy. Some of the career areas that students might enter through CTE included agriculture, trade and industrial, family and consumer sciences, health occupations, public safety and security, and technology (Association for Career & Technical Education, 2008).
- Coin Career Community® was an online guidance and curriculum program that used a research-based 32 question career cluster assessment to provide information on the top five career clusters that best matched student interests and a 41 question skills assessment that ranked the top 20 occupations matching student skill strengths (Coin Career Community®,

2007). This was a commercial product purchased by the Halifax County School system in lieu of the Kuder® system (now replaced by Virginia Wizard) used by many school systems in the Commonwealth of Virginia. Halifax County Public Schools choose this product based on its multiple reporting capabilities, online portfolio component, and the ability to add testing data from numerous sources including Standards of Learning, SAT (Scholastic Aptitude Test), and ASVAB (Armed Services Vocational Aptitude Battery) scores. The Coin Career Community® (owned by EBSCO Publishing) was chosen by an independent panel of guidance counselors, administrators, and curriculum specialists based on its research-based assessments.

- Industry credentials were the completion of an industry certification program or career pathway that led to the awarding of an industry certification or state-issued professional license.
- Career clusters were a grouping of occupations and broad spectrum of industries based on common career factors. Virginia utilized sixteen career clusters that provided an organizing tool for schools to develop rigor in both academic and industry based courses (Career Clusters in Virginia, n.d.).
- Career awareness was familiarity with the different career choices and educational backgrounds required to achieve a particular choice. Awareness also included a generalized knowledge of career planning techniques.
- Educational plans assisted students in following a specific academic course of study from a secondary to a postsecondary educational setting.

Educational plans stressed authentic applications in college-preparatory mathematics, sciences, English, and social studies (Hoachlander, 2007).

- Digital native referred to those students who had grown up immersed in technology, that was, surrounded by and using computers, videogames, digital music players, video cameras, mobile phones, and all the other toys and tools of the digital age (Learning and Teaching Scotland, 2008).
- Millennial generation encompassed those born between 1982 and 2002. “Echo boomers” and “Gen M” are other references for this generation. They represented 70 to 80 million people in the United States or roughly 30% of the population (Elam, Stratton, & Gibson, 2007; Tucker, 2006).
- Workforce plans enabled students to think about careers and guide them toward their goals. The primary defining characteristics of the plans were recognizing and preparing the students to enter the labor force upon graduation from secondary education (Gray, 1997; Herr & Niles, 1997).

Summary and Overview

Career development was a synthesis of numerous events starting at birth and evolving throughout life. Many children formed their attitudes about work and careers because of parental influences. Parental influences were recognized yet not fully understood. Research showed that parents feel the need overall for more information about career planning and especially more structured information and dissemination of the data at the middle school level (Bardick, Bernes, Magnusson, & Witko, 2005). Bardick et al. stated parents felt a stronger tie between the school and home as well as between the students and the local workforce would benefit children’s career planning.

This study sought to determine what parents' perceptions of the contributions of CTE would make to their child's educational plans or workforce plans. The findings of this study would show early intervention and extensive exposure to careers would benefit students in their career planning.

Chapter II provided a review of related literature. This chapter contained a section on parental perceptions and influences and their impact on student career choice. A literature reviews of student perceptions including career maturity, career knowledge, gender role socialization, and knowledge presented ways students make life choices about careers and a course of study in secondary and postsecondary environments. A section on the affects of the millennial generation reviewed current literature on the relationship between student and parents, close family ties, and parental influences on postsecondary education.

Chapter III explained the methods and procedures needed to understand this study including the population, instrument design, and statistical analysis. Chapter IV was a presentation of the findings of the study and the data results. The chapter addressed demographic data of the participants as well as a documentation of the analytical and statistical procedures. Finally, Chapter V presented a summary of the findings and research questions, the conclusions, and implications and recommendations for practice and further research.

CHAPTER II

LITERATURE REVIEW

Most children possessed immature attitudes of careers by focusing on the glamorous aspects of a career and not the actual foundations necessary to achieving the career (Arrington, 2000; McMahon & Watson, 2005). Students relied on peers, media, and parental influences to develop their perceptions of careers (Perry & Van Zandt, 2006). Students, however, needed a foundation of career awareness and career exploration experiences to consider career plans in-depth prior to high school graduation. Career development was a projection activity based on a student's past, present, and ideals and dreams (Millar & Shevlin, 2007). There were numerous variables influencing these distinct stages of career development, including parental education level and career, parental knowledge of other careers, socioeconomic status, and ethnic background. Parents were the primary source of career guidance in their child's life and exerted strong influence on their child's career choices. Parental knowledge and input was vital in assisting all adolescents in choosing a career (Georgiou & Tourva, 2007). The literature review examined parental perceptions and influences, students' perceptions, and the relationship of millennial generation students and their parents.

The researcher conducted a systematic and explicit approach to identification and retrieval of independent studies for the literature review. These studies were relevant to parental perceptions and influences, student perceptions and choices, and an overview of relationship of millennial generation students and parents. The researcher used peer-reviewed databases including EBSCO, Education Research

Complete, Education: A SAGE Full-Text Collection, ERIC, and journals. Key search words included education, vocational adolescents, career choice, career development, student attitudes, parent attitudes, parent child relationships, parental influences, social theories, social influences, and cultural influences.

Parental Perceptions and Influences

Significant research evidence indicated that parents influenced their children's career development and choices. Parents, through their daily modeling, were their child's foremost teacher of career education. Research showed that parents provided a standard for work values, and they educated their child about life roles, sex roles, and employability skills (Lankard, 1995). Consistent with this role, parents perceived a child's career performance was directly a reflection of their parenting skills. Parents felt that their child's career planning skills increased with age, but also felt that offering career exploration earlier in the child's education was important (Bardick, Bernes, Magnusson, & Witko, 2005).

Parental Involvement

Research showed that parental involvement in their child's education, specifically through school interactions, such as open house, parent-teacher conferences, and career fairs, to have a positive link when parents believe their involvement matters (Flynn, 2006; Georgiou & Tourva, 2007). The 1965 Elementary and Secondary Education Act (ESEA) first promulgated a definition of parental involvement stating it is:

The participation of parents in regular, two-way and meaningful communication including student academic learning and other school related activities including ensuring that parents play an integral role in

assisting their child's learning; that parents are encouraged to be actively involved in their child's education at school; that parents are *full partners* in their child's education and are included, as appropriate, in decision-making and on advisory committees to assist in the education of their child; . . . as described in section 1118 of the ESEA (Parent Involvement). [Section 9101(32).EA]

Research from the Center for Prevention Research and Development (CPRD) housed at the University of Illinois supported evidence that middle school parents are not aware of recognized middle school practices such as teaming, advisory programs, integrated lessons, and exploratory courses (Anfara & Mertens, 2008). Significantly, research supported those students with above average parental involvement (school, homework, and emotional support) presented with academic achievement rates of 30% higher than students with below average parental involvement (Henderson & Mapp, 2002). This above average support transcended lines of family income and parent education levels (Anfara et al., 2008). Kesici's (2008) research focused on parent views of middle school students' counseling needs and upheld that middle school students need guidance and counseling to assist them in assessing their career interests. The National Middle School Association (NMSA) (2003) advocated, "Successful middle schools promote family involvement and take the initiative to develop needed home-school bonds "(p. 2). The involvement of family was linked to higher levels of student achievement and improved student behavior according to NMSA. While parents desired involvement in middle school activities and career planning they tended to disengage from these activities as their child progressed from elementary school

through the middle school years (Allen & Migliore, 2005; Downs, 2001; Elkind, 1998). Although disengagement on both sides, parent and student, was anticipated due to the aging of the student, family engagement in the middle school process and career exploration is an important positive contributor to the adolescents' educational and career development (Davis & Lambie, 2005).

Career Process Influences

Family influences were pervasive but findings indicated they were not the only variable in career choice (Kerka, 2000; Lankard, 1995). Research supported that parenting and literacy practices be viewed in their socioeconomic, cultural, and historical context as reflections of deeply seated cultural traditions and cultural adaptations to material resources (Prins & Toso, 2008; Manning & Baruth, 2009). Identified areas of parental career process influences included the parents' educational level, educational expectations for children, parental involvement, and socioeconomic factors (Choy, 2001). Significantly, no single parental influence consistently predicted children's career outcomes (Schott, 1974; Domina, 2005). Choy (2001) asserted that parental education level, specifically a parent possessing a bachelor's degree, remained a significant influence in students' career aspirations. Independently, parental involvement did not improve children's learning but some involvement in activities did prevent behavioral problems (Domina, 2005). Parents' gender stereotypes directly influenced their perceptions of their children's abilities, resulting in more positive perceptions for children favored by the gender stereotypes specifically girls in social settings and boys in mathematics and sports settings (Jacobs, Chhin, & Bleeker, 2006). Parental stereotyping was also prevalent in children's

perceptions of occupational status that increasingly correlated to their parents' perceptions as they aged (Teig & Susskind, 2008).

The research supported more career assistance from secondary school systems for students and parents specifically in the areas of preparation for work or postsecondary education and more individual career planning (Schott, 1974). The research also stressed that mathematics education in secondary school had a strong impact on postsecondary student educational attainment (Choy, 2001).

Parental Knowledge of Other Careers

Various career development theories addressed the influences of the family on adolescent career development (Vondracek & Hartung, 2002). Many career choice theories indicated that the family played a role in shaping the values and needs of its members. Research showed that parents indicated they did not want to influence unduly their children's career choices, yet they did prescribe to an acceptable range of careers aspirations for their children (Young, 1993). Students, pre-adolescents through young adults, were reluctant to pursue or even explore diverse career opportunities without parental support and approval (Taylor, Harris, & Taylor, 2004). Parents did influence their children's career aspirations through continual modeling of standards, expectations, social skills, and open communication (Ainsworth, 1989; Gray & Herr, 2006; Young, 1993). The strength of the links between negative work experiences and affectivity suggested that negative work affectivity is more transferable from adults to children than is positive work affectivity (Porfeli, Wang, & Hartung, 2008). Research indicated that the family setting influenced children's perceptions of and future orientation toward the world of work through their parents' expression of positive

work experiences, negative work affect, and negative work experiences. Furthermore, indicators of favorable work affect and experience positively influenced children's work and school motivations (Porfeli et al., 2008).

Socioeconomic Status

Research showed that ethnicity, gender, socioeconomic status, and intelligence, as well as other contextual factors, such as cultural and gender role segregation are significant influences on students' academic goal setting and career development (Ali & Saunders, 2006; Manning, 1994). Ali and Saunders (2006) looked at the Social Cognitive Theory (SCCT) model to examine the career development processes of minorities and underserved populations of students. The study showed that students needed exposure to both vocational (e.g., career and technical) and educational information to increase goal setting. Other research (Manning, 1994; Prins & Toso, 2008) showed that parenting practices and styles differed considerably based on ethnicity, gender, socioeconomic status (SES), generational status, and socio-cultural setting. All studies examined supported the construct that self-efficacy is a critical component of academic and career goal setting for minorities and underserved students and may be more influential than other status variables such as parental education levels, occupation, or socioeconomic status (Ali, McWhirter, & Chronister, 2005; Ali & Saunders, 2006; Lent, Brown, & Hackett, 2000).

Ethnic Background

Research showed that parental influences were important to all students but was especially critical to minority students. Some researchers speculated that African-American parental influences were stronger compared to those of Caucasian students

(Constantine, Wallace, & Kindaichi, 2005). African-American students tended to place greater priority on familial goals and community needs (Alliman-Brissett, Turner, & Skovholt, 2004; Constantine et al., 2005). Minority students also felt the need to make a contribution to their ethnic group by obtaining a career status above that of their parents (Fisher & Padmawidjaja, 1999).

Research by Alliman-Brissett, Turner, and Skovholt (2004) concluded that African-American adolescents are not prepared to enter the workforce at the same rate as students from other ethnic groups. Perceived career barriers also positively predicted minority career indecision (Alliman-Brissett et al., 2004). These perceived barriers included lack of employment opportunities, limited exposure to vocational options and information, limited job skills, and low economic resources (Constantine, Wallace, & Kindaichi, 2005). Significantly, research supported parental influences and availability as decisive factors to minority student success (Fisher & Padmawidjaja, 1999). Self-efficacy of minority students depended upon four essential components: “(a) personal accomplishments, (b) vicarious learning (modeling by significant others), (c) emotional support of others and (d) others verbal encouragement” (Alliman-Brissett, et al., 2004, p. 3). According to Keller and Whiston (2004) emotional support and interest shown by parents was more conducive to career development than explicit information about specific careers.

Relational Influences

Super's Theory (1957) suggested that the family influenced the development of the child's self-concept, which shaped their abilities, interests, values, and career choices. Crites and Savickas' Theory (1996) suggested that the amount of parental

identification reflected in the interests of their children and in turn, the careers that they pursued were influential. One body of research asserted that parental education had the greatest impact on career choice (Lankard, 1995); yet another body of research supported the effects of close family relationships as indicators of career exploration and risk taking (Kerka, 2000).

In studies of relational influences on career development, researchers used the attachment theory of close family or caregiver support. Supporters of this theory proposed that family functioning was more influential in a child's career development than parent's educational or socioeconomic levels. Attachment Theory was manifested by the individual keeping in proximity to one or more significant others (Bluestein, Prezioso, & Schultheiss, 1995). A major shift in attachment took place with the onset of adolescence when the individual reached out to age appropriate peers for attachment (Ainsworth, 1989). Throughout adolescence, children accepted their parents' values while remaining independent and assertive (Martin & Martin, 2000). The major social unit for emotional development in adolescents was the family. Strong parental attachment through late adolescence resulted in more freedom to explore educational and vocational environments. These attachment results confirmed the role of relations or attachment factors in career development (Vignoli, Croity-Belz, Chapeland, de Fillipis, & Garcia, 2005). Parental attachment remained a strong affect from childhood into adulthood encompassing many aspects of career, marriage, parenting, and life satisfaction (Perrone, Webb, & Jackson, 2007).

Social learning or social-cognitive theory also pointed out possible influences the family had on students' career choices, since its premise was that individual's

personalities and skills are a direct result of their instrumental and associative learning experiences. These learning experiences included demographics, psychosocial, and perceived or realistic career barriers (Constantine, Wallace, & Kindaichi, 2005). Parents reinforced this theory through punishment or rewards for certain behaviors that either encouraged or discouraged certain interests or abilities (Mitchell & Krumboltz, 1990).

Significantly, all theories agreed that parent-child interactions and connectedness assisted the child in developing risk-taking, exploration skills and were the primary sources for the child's career knowledge (Kerka, 2000). To achieve this interaction, the parents frequently relied on their knowledge of careers or their experiences in the work place to counsel their child regarding careers (Kerka, 2000). In an age of rapidly advancing technology and related changes in the work place, parental counseling often only skimmed the surface of career opportunities. Research showed that educators and parents know more about *what* occupations children desire than what they *know* about the occupations (Phipps, 1995). From the literature, it seemed apparent that the quality of the parental-student relationship, especially attachment to parents, was a reliable predictor of educational or career aspirations (Garg, Kauppi, Lewko, & Uraknik, 2002; Juang & Silbereisen, 2002).

Student Perceptions and Influences

At the secondary level, more specifically middle school, expectations were that children had formulated a clear goal of their academic or workforce aspirations and planned their educational futures accordingly (Arrington, 2000). Middle school students experienced their greatest surge of physical and emotional growth since

infancy (Perlstein, 2003). These changes manifest themselves into contradictory thoughts, actions, and reactions in these adolescents; more often than not a timid move to fixing of values and self-identification (Perlstein, 2003). Studies reported (Arrington, 2000; Johnson, 2000; Phipps, 1995) that the developmental needs of 11-14 year olds were compatible with the concepts of future goals, interests, an awareness of work, and an ability to develop positive attitudes towards work. However, Johnson (2000) found in a study of 194 sixth graders and 179 ninth graders that most had a shallow understanding of how school related to work and limited awareness of the knowledge and skills needed for work. More specifically, students had little or no awareness of the type of work involved in their career aspirations.

Career Knowledge

A middle school poll prepared for the National Association of Secondary School Principals (NASSP) and Phi Delta Kappa (PDK) (Markow, Liebman, & Dunbar, 2007) reported nine out of ten middle school students (92%) planned to attend college. This poll reported however that nearly 7 out of 10 (68%) had no information about how to choose the appropriate high school courses to prepare them for postsecondary education. Students knew what they desired in a post-high school career or educational pathway, but they did not possess the knowledge or tools to achieve their dreams.

Gender Role Socialization

A significant factor of an adolescent's career aspirations was gender perception of specific careers. Gender differences played a significant role in the career development of adolescents (McMahon & Patton, 1997; Jacobs, Chhin, & Bleeker, 2006). The effect of gender role socialization was far reaching; a significant consequence was that many students only perceived a narrow gender-based range of future options, particularly in relation to education and career opportunities. Gender continued to be an important factor in occupational choice at all levels of occupational prestige. Eighth and ninth grade students reported more satisfaction and desire to participate in careers, especially careers dominated by their own respective gender (Ji, Lapan, & Tate, 2004; Post-Kammer & Smith, 1985). Studies substantiated the tendency of adolescents to employ gender role socialization and self-segregate into career clusters (Haber, 2002; Ji et al., 2004; Jones, 2008). This self-segregation was consistent with immature "cognitive architecture" (McMahon & Watson, 2005, p. 240) where students employed superficial and peer guided input to formulate their theory of careers and associated CTE courses. Gottfredson's four-stage model (1981, 1996) examined the impact of developmental changes in gender roles, occupational status, and the capabilities and aspiration to pursue specific careers. Beginning with stage two and on, children based their career preferences on seeking appropriate gender roles rather than career prestige. The fourth stage when expectations were that adolescents based their career choices on personal interests and capabilities supported the stance that when confronted with a major compromise, adolescents avoided a career sex-typed for the opposite gender rather than a low-status career. This theory also noted

that sex typing for career was less prevalent for females than for males (Teig & Susskind, 2008).

Career Maturity

Studies showed that career maturity was important in understanding career development (McMahon & Watson, 2005). Predictors for career maturity included self-efficacy, age, career decidedness, and work commitment (Creed & Patton, 2003).

Exposure to careers and career exploration early in secondary education provided a foundation for students to begin the maturation process needed to make wise career choices. Research had shown self-efficacy is important to all adolescents and fundamental for academic success for minorities and underserved students (Ali, McWhirter, & Chronister, 2005; Ali & Saunders, 2006; Lent, Brown, & Hackett, 2000; Manning, 1994).

Postsecondary retention research had shown that a student's ability to make appropriate and relevant career choices and decisions greatly increased the commitment to remain in school and graduate (Herr, 2000; Hornak & Gillingham, 1980; Luzzo, 1995). There was very minimal literature for students classified as middle adolescents (14-17 years old) or early adolescents (around 11-13 years old) examining personality traits and career decidedness (Lounsbury, Hutchens, & Loveland, 2005). Research showed a low rating of career decidedness in middle school students with only minor increases as the students' mature and complete high school (Lounsbury et al., 2005). The research did not show, however, how well career decidedness would predict future career satisfaction. This satisfaction was important for students to realize fully their career goals and needs. Further studies comparing

maturity and satisfaction would enhance understanding the connection between career maturity and planning early in the student's educational career and long-term career satisfaction.

Millennial Generation

The millennial generation was a subject of extreme interest in this research. Research showed that this generation was unlike its predecessors; with some stating it was the most intelligent consumer generation in history (Geraci, 2005). Additionally, it was the most protected in history, indulged, and consulted by family on important family decisions (Tucker, 2006). Millennial students were raised by aggressively protective parents in child-centered households (Elam, Stratton, & Gibson, 2007; McGlynn, 2005). These children grew up in economic prosperity, were optimistic about the future, and were the most protected generation as supported by increased government consumer safety mandates (McGlynn, 2005; Tucker, 2006). This generation had more distinct demographic characteristics than previous generations including views of people different from themselves, political and social values, and attitudes about social justice (Coomes & DeBard, 2004). Females, as shown by a 57% female enrollment in postsecondary educational settings, are the predominant gender of the millennial generation (Verhaagen, 2005).

Academic Preparation

This generation devoted much time and energy to their educational pursuits. They expected high grades as validation of their academic achievements and would not hesitate to have their parents intervene when they felt academically slighted (Coomes & DeBard, 2004; Wilson, 2004). Paralleling the high achievement

expectation of millennial students, they self-report as spending less than three hours a week on homework and study activities during high school; furthermore, they expected to continue these habits through the first year in college (National Survey of Student Engagement, 2006). Research on millennial students' habits found that the overall United States high school experience is seriously lacking in fostering and promoting study patterns and the academic skills necessary for success in higher education (Millirons, 2008). From an academic perspective, there were concerns about the millennial generation's use of technology especially related to academic honesty, plagiarism, and the use of the internet as an academic resource in respect to verifying its credibility (Coomes & DeBard, 2004; Elam, Stratton, & Gibson, 2007; McGlynn, 2005; Wilson, 2004).

This generation required an active, immersive role in their education. According to Verhaagen (2005), this generation comprised the next wave of stakeholders who have and will continue to demand accountability from all educational settings. Due to their high academic expectations, millennials faced a great deal of stress regarding their education. They preferred to work collaboratively and appreciated structured, cognitive learning activities that promoted creativity (Atkinson, 2004). The millennial students exhibited a marked deterioration in active reading habits rarely reading newspapers or books; when they did read, they often engaged in multitasking with computer applications to remain in touch with peers (Millirons, 2008; The Chronicle of Higher Education, 2007).

Career Preparation

Research maintained that this age of millennial generation students was when lifelong learners were truly born as they viewed education as a pathway to their dreams (Tucker, 2007). Csikszentmihalyi and Schneider (2000) suggested that millennials had unrealistic dreams for the work expectations. Parents and students were aware of increased scrutiny of post-secondary education regarding deficits in preparing graduates for academic and workplace readiness (Taylor, 2006). Levine tagged “worklife unreadiness” (2005, p. B11) as millennials who are unprepared to engage in long term planning, underachieve in learning to communicate, problem solving, and critical thinking skills necessary in the 21st century workplace (Taylor, 2007). Millennials often pursued careers unsatisfactory to their personal skills due to a lack of skills testing, student interviews, and job shadowing (Levin, 2005). Millennials were consumer employees expecting incentives from the employer more important than what the employer expected from them (Taylor, 2007).

Relationship Attachment

The millennials have mastered the art of attachment employing multiple ways to stay connected with family and friends through their extensive use of technology (Coomes & DeBard, 2004). Being digital natives, the millennial generation was fascinated with new technology and adapted technologies to meet their lifestyle needs and desires. They identified with their parents’ values 75% of the time and felt close to their parents (McGlynn, 2005). In addition, 97% of the students reported that they got along with their parents, and family members are among their top role models (Verhaagen, 2005). This generation was accustomed to being over programmed by

their parents and schools and continuously being involved in an activity (Levine, 2005). This over programming led to students having more difficulties when tasked to work independently.

Summary

Hoyt (2001) asserted that vocation had significance for all education and the individual's entire education inevitably influenced his/her career. He stated it is still as significant for the future of CTE as it was when defined by the Educational Policies Commission of the National Education Association (NEA) in 1956. The great divide between academic and vocational education was still prevalent; yet there are many ways to excel that did not require a four-year degree (Gray & Herr, 2006). Furthermore, a four-year degree need not be anti-vocational. Hoyt (2001) further asserted that career education was concerned with the whole student (child); what existed within the student and the student's role in society. Career education embraced the child's talents and utilized these talents in a society that needed all the talents of all its citizens (Hoyt, 2001).

Increased acceptance of the academic content of CTE classes and intentional career planning would assist students when planning for a rewarding, relevant career. Research showed that career exploration ensured that all students comprehended the importance of designing their life-long career focus in stages consistent with their educational stage in life (Kinney, 2007). Research had shown that family influences are pervasive but findings indicated they are not the only variable in career choice. The millennial generation, especially the bond between parent and child, was also a strong influence to academic and career success. The millennial generation demanded

accountability from their educational providers through their focus and drive to achieve. A child chose a career based on his or her internal concepts and idealizations of careers, formed by exposure to career exploration at school, parental influences, and peer acceptance. Research substantiating family influence was prevalent but not conclusive as to how it advanced the child's career maturity. The research did show that family influence is important to the child's development of internal concepts and thereby his concepts of careers.

The next chapter described how the study design sought to accomplish the research goals. It described in detail the methods and procedures used in the study.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to examine the impact of parental perceptions, specifically ones involving career and technical education, on their child's career awareness and career aspirations. To provide insight into influences on students' career choices, the researcher explored four research questions:

- RQ₁: What factors contributed to middle school parents' perceptions of the contributions career and technical education could make to their child's educational or workforce plans?
- RQ₂: What actions do parents undertake to influence their children's education and workforce plans?
- RQ₃: What influences will the Coin Career Community® data have on parents and students in assisting them to plan their child's selection of career and technical education courses?
- RQ₄: How did these perceptions relate to the choices students make in ninth grade academic and career and technical course selections in secondary education?

The research design was a descriptive, quantitative approach. The parent variables are parental perceptions, educational level, gender, and ethnicity. The student variables are results on Coin Career Community® assessments, course selections, gender, and ethnicity. The researcher obtained data by means of a cross-sectional parent surveys using a five-point Likert type scale to determine perceptions of careers and career and technical education, gender, educational level, and ethnicity.

Pre-existing data from the Coin Career Community[®] was used for analysis of student's skill and interests assessments.

Population

This study took place at Halifax County Middle School, located in South Boston, Virginia, in spring 2009. This school was the only middle school in the county with a student population of 1,337 students in grades 6-8. Halifax County is located in Southside Virginia with its border on the North Carolina state line. It was one of the larger counties in the Commonwealth of Virginia encompassing 830 square miles. In 2000, the official population was 37,355 with a population density of 47 persons per square mile (Halifax County Industrial Development Authority, 2004). The ethnic composition of the county was 60% Caucasian, 38% African-American, and 2% other ethnicities (Halifax County Industrial Authority, 2004). The average highest educational attainment of the residents was completion of high school at 33.8% (ESRI Market Data – Halifax County, 2007). Halifax County reported the socioeconomic status as economically depressed, with a marked decline in manufacturing and agriculture related job opportunities (Halifax County Industrial Authority, 2004).

The researcher distributed the survey to the entire population. The participants were parents of the 435 students in the eighth grade at Halifax County Middle School. All parents received a survey shortly after the registration process for high school courses that occurred during the latter part of March. The researcher made no distinctions between students repeating the eighth grade and age appropriate students. There were no distinctions made between special education and regular students. Potential intervening variables included the influence of gender and family on the

student's ideas of career (Blustein, Walbridge, Friedlander, & Pallandino, 1991; McMahon & Patton, 1997). There were no criteria established to determine whether students come from single versus two-parent, blue-collar versus white-collar families.

Instrumentation

Collection of data was by a survey designed for this study. A panel of experts in career and technical education as well as middle and high school administrators reviewed the survey. With regard to the previously outlined limitations of the unique characteristics of Halifax County Middle School (i.e., use of academy approach for secondary education and use of Coin Career Community® assessments), the pilot test was given to parents of current ninth grade students. Self-selected participants from an invited pool of 25 parents attended an after-school focus group held at Halifax County High School. In addition to the survey, the researcher asked the participants to assess the survey for clarity of instructions as well as questions, survey layout, and survey length. Eleven participants completed the survey and offered suggestions and concerns regarding the survey (see Appendix A).

The use of a coded numbering system for each survey ensured the confidentiality of responses. The major content sections of the survey included instructions, demographic items, attitudinal or perceptual items, and factual items. The items were measured on a continuous scale of strongly disagree to strongly agree. The survey contained both open and close-ended questions. A sample question was "How important are the following reasons for you and your child in deciding whether to participate in CTE courses: future job opportunities, dual enrollment, interesting subject", and so forth (see Appendix B). The superintendent of Halifax County Public

Schools, the principal at Halifax County Middle School, and the researcher designed a cover letter to accompany the survey. This letter explained the support of the school system, the intent of the data collection, and procedures for requesting access to the data from the researcher (see Appendix C).

The Coin Career Community®, an online research-based guidance and curriculum program, provided teachers, parents, and students with obvious connections between skills learned in the classroom with real-world applications of those skills (see Appendices D and E). The Coin Career Community® provided other survey instruments for use by students (see Appendix F). The researcher extracted pre-existing course request data from SASI®, Halifax County Public Schools' student database system. This information was relevant in exploring actual course selections students and their parents made for their ninth grade courses.

Data Collection Procedures

The middle school principal distributed a memorandum to all eighth grade homeroom teachers explaining the survey and its distribution (see Appendix G). The homeroom teachers of all eighth grade classes at Halifax County Middle School handed out the surveys. The students took the survey to their parents and returned them to the school within two days. The students were eligible for a raffle for a \$25 first place gift card and a \$15 second place gift card to Wal-Mart for returning the surveys. Distribution of a follow-up notice occurred five days after the initial distribution. Distribution of a final follow-up notice occurred 10 days after the initial distribution, to ensure the response rate was statistically significant.

Data Analysis

This study first obtained data by means of parent surveys to determine perceptions of CTE and its contributions to educational or workforce plans. The researcher analyzed the completed parental surveys regarding their knowledge and perceptions of CTE after the registration process for high school coursework. The researcher coded the open-ended responses into categories based on similarities. Coded categories were beneficial in that participants' responses determined the categories rather than created a priori based on the researcher's decisions, thereby increasing the validity of the data collection.

Pre-existing data from the Coin Career Community[®] were used for analysis of student's skill and interests assessments. The design of the assessments was to provide teachers, parents, and students with obvious connections between skills learned in the classroom with real-world applications of those skills. The Coin Career Community[®] program provided the school a letter of parental instructions on how to access their student's assessment data (see Appendix H). The data sets provided student scores on skills and assessments correlated to the independent variables of gender and ethnicity. This information explored gender role segregation and ethnic barriers as research showed students narrow their career choices on gender and perceived ethnic barriers.

The study utilized a quantitative approach to the data analysis. All statistical tests used a .05 alpha level of significance. To answer Research Questions 1 and 2, the researcher considered data from the Likert scale survey as nominal data and will perform a factor analysis to determine the factors underlying parental influences on student career choice and aspirations. The researcher used three criteria to determine

the number of factors to rotate: (1) the a priori hypothesis that the measures will be unidimensional, (2) the scree test, and (3) the interpretability of the factors solution. Further analysis used the principal components analysis (PCA) method, in which items are assumed as exact linear combinations of factors; these factors are uncorrelated, and the communality of each item sums to one over all factors, implying that each item has zero unique variance. The PCA method, along with the Varimax rotation procedure produced two factors. Subsequent analyses used the maximum likelihood extraction method with Varimax rotation procedure to produce several factor structures.

To answer Research Question 3, hierarchical multivariate analyses were performed on data from the Coin Career Community[®] to assess the relationship between student career and skills assessments interests, gender, and ethnicity. Gender and ethnicity were included because these variables affect career development factors in young people (Ji, Lapan, & Tate, 2004; Post-Kammer & Smith, 1985). The design used the following constructs and variables. The analysis used six predictors or independent variables. They were gender, ethnicity, parental support for pursuing identified interest career, parental support for identified skill occupation, support for selecting CTE courses, and parental support for all (academic, career, and technical education) course selections. To assess the relationship between the independent and criterion variables, the analysis used two blocked sets. The first was the gender block composed of gender and ethnicity, and the second was the parental support block composed of parental support for pursuing identified skill occupations, parental support for pursuing identified interest career, and parental support for course

selections. The researcher examined the independent variables for multicollinearity, the relationship between the independent variables, due to its confounding effect of multiple regression models (Meyers, Gamst, & Guarino, 2006)

The researcher performed two separate analyses to answer Research Question 4. Student data from career and skills assessments as well as course selections were analyzed using categorical qualitative univariate analysis. Then pre-existing data from student course selections were compared to the parental survey results using hierarchical multivariate analyses. This technique assessed whether parental influences were useful in predicting courses chosen by their child. This study assessed two correlational indices: The Pearson product-moment correlation coefficient (r) and the multiple correlation coefficient squared value (R^2). The researcher examined the independent variables for multicollinearity (Meyers, Gamst, & Guarino, 2006). The analysis used 13 predictors or independent variables. They were interesting subjects, future job opportunities, parents' wishes, school advice, industry knowledge, practical experience, dual enrollment credits, friends recommendations, gender of responding parent, educational level, ethnicity, marital status, and educational level of spouse. Parental gender, ethnicity, marital status and educational level were included as research (Prins & Toso, 2008; Manning, 1994) showed that parenting practices and styles differed considerably based on ethnicity, gender, socioeconomic status (SES), generational status, and cultural setting. The dependent variables were the course selections.

Summary

The study examined the influence of parental perceptions, specifically ones involving CTE on eighth grade students skills assessment rating and the career assessment rating as measured by the Coin Career Community[®] assessment. The multivariate analyses showed that parental influences were a strong indicator of student choice for ninth grade courses. The literature showed that parents do exert a strong influence on their child. It also showed that parental support was a complex process as it related to guiding their children in their career development journey. Another theory supported by research was that students who feel that their parents are supportive and place importance on achievement in school and work were more likely to engage in career development activities. The family support of career development emerged from the literature and theories reviewed (Crites & Savickas, 1962; Lankard, 1995; Kerka, 2000; Mitchell & Krumboltz, 1990; Super, 1957).

This chapter opened with a description of the methods and procedures used in this study as well as the population of participants. Next, it explained the research variables of parent and student variables and the rationale for including gender and ethnicity of each group. The researcher explained the instrument design as researcher generated and pilot tested survey. The third section reviewed data collection procedures specifically the use of a 5-point Likert scale on the survey and existing data from the Coin Career Community[®] assessments and Halifax County Public school's database for student course selection data. The last section explained the data analysis procedures outlining the utilization of factorial analysis and multiple hierarchical regression analyses.

Chapter IV reported the findings from these statistical analyses. Information from the survey assisted in describing the study participants. Presentation of the data analyses are in the order of the research goals.

CHAPTER IV

FINDINGS

This study was conducted from March through May 2009 at Halifax County Middle School, South Boston, Virginia. The problem of this study was to determine parents' perceptions of CTE as related to their child's future educational or workforce plans. Distribution of the survey to parents of eighth grade students occurred after registration for ninth grade courses. Following this introduction is an overview of the participants including their demographic characteristics. Next, the findings appear in order of the four research questions evaluated during this study. Each analysis section reviewed statistical procedures used and analysis outcomes.

Demographics

The population for this study included all parents of eighth graders enrolled in Halifax County Middle School. The researcher made no distinctions between students repeating the eighth grade and age appropriate students. There were no distinctions made between special education and regular students. The population for this study was 435 parents, with 204 responses required for statistical significance (Patten, 2007). The final data response rate for this study included 211 parent participants (48.5%).

Existing demographic data of students (gender and ethnicity) were obtained from SASI®, the school system's student database. The student population was 435 students consisting of 230 females and 205 males. The ethnic breakdown was 230 Caucasian students (52.9%), 191 African-American (43.9%), 9 Hispanic students (2.1%), 2 Multi-ethnic students (0.5%), 2 Asian (Pacific Islander) students (0.5%), and 1 Native-Indian student (0.2%). See Table 1.

Table 1

*Ethnicity and Gender Data for Halifax County Middle School Eighth Grade Students
(N = 435)*

Ethnicity	Males	Females	Total	Percentage
African-American	93	98	191	43.9%
Caucasian	105	125	230	52.9%
Hispanic	6	3	9	2.1%
Asian (Pacific Islander)	0	2	2	0.5%
Multi-racial	0	2	2	0.5%
Native-American	1	0	1	0.2%

Note: Values rounded to one decimal place.

Data collected for this study included demographic information and Likert scale nominal data responses to the Parent Survey of Career and Technical Education (see Appendix B). The major content sections of the survey included instructions, demographic items, attitudinal or perception items, and factual items. The items were measured on a continuous scale of strongly disagree to strongly agree. The survey contained both open- and close-ended questions. Pre-existing data from the Coin Career Community[®] was used for analysis of student's skill and interests assessments. The design of the assessments was to provide teachers, parents, and students with obvious connections between skills learned in the classroom with real-world

applications of those skills. The researcher collected pre-existing data of student ninth grade course selections from SASI[®], the school system's student database. All data were processed into scale scores for statistical analysis, with the exception of demographic data.

Demographic Characteristics of Survey Respondents

Women comprised 71% of the survey respondents. A majority of the respondents reported their relationship to the student as parent (82.0%), guardian (12.3%), and grandparent (5.2%). Respondents reported their ethnicity as Caucasian, 52.6%, African-American, 42.1%, and Hispanic, 2.8%. Educationally, most participants reported some college (26.0%), followed closely by high school/GED (25.6%), and two-year degree (25.1%). Classifications of degree types, represented numerically, included Associate in Applied Sciences (34), Associate in Arts (13), and Technical Preparation (17). More than two-thirds of the respondents (66.8%) listed their marital status as married, with 12.3% reported as single, never married, or as divorced. Most respondents reported the educational level of their spouse as high school/GED (25.7%) with some college (10.1%) and a two-year degree (11.0%) representing the other major categories. Classification of degree types for spouses included Associate in Applied Arts (7), Associate in Arts (4), and Technical Preparation (14). The free and reduced lunch data from SASI[®] for the eighth grade at Halifax County Middle School was 55%. Shown in Table 2 are the demographic characteristics of survey participants.

Table 2

Demographic Characteristics of Parent Survey Participants (N = 211)

Demographic Characteristic	Frequency	Percentage
Gender		
Males	60	28.4%
Females	151	71.6%
Relationship		
Parent	173	82.0%
Guardian	26	12.3%
Grandparent	11	5.2%
Other	1	0.5%
Ethnicity		
African-American	89	42.4%
Caucasian	111	52.9%
Hispanic	6	2.9%
Asian (Pacific Islander)	2	1.0%
Native-American	2	1.0%

Table 2 (continued)

Demographic characteristic	Frequency	Percentage
Educational Level of Respondent		
Less than High School	17	8.16%
High School/GED	54	25.6%
Some College	55	26.1%
Two-year degree	53	25.1%
Four-year degree	22	10.4%
Master's degree	6	2.8%
Doctoral degree	0	0.0%
Professional degree	4	1.9%
Marital Status		
Single, never married	26	12.3%
Married	141	66.8%
Separated	10	4.8%
Divorced	26	12.3%
Widowed	6	2.8%
No response	2	1.0%

Table 2 (continued)

Demographic characteristic	Frequency	Percentage
Educational Level of Spouse		
High School/GED	14	6.6%
Some College	54	25.6%
Two-year degree	22	10.4%
Four-year degree	23	10.9%
Master's degree	9	4.3%
Doctoral degree	1	0.5%
Professional degree	2	1.0%
Not applicable	86	40.7%

Note: Values rounded to one decimal place.

Survey Design

The major sections of the survey were divided into three main categories: Career and technical education course support, Coin Career Community[®] assessments, and school services support. The average of parent responses on the CTE course support section was 4.18 (on the 5-point Likert scale) and the mode was four (important). The average of parent responses on the Coin Career Community[®] assessments section was 4.37 and the mode 5 (very important). The average of parent responses on school services support section was 4.36 and the mode was five (very important). The only yes/no question on the survey, "Did you receive information

from the school about Coin Career Community[®]?” was answered “no” by 81% of the respondents. The three sections provided quantitative data for the research questions below.

Research Question 1

To answer Research Question 1, the researcher extracted career and technical course support data from the Likert scale survey instrument to determine the factors that contributed to parental perceptions and their influence on their child’s educational or workforce plans. The dimensionality of the 18 items from the career and technical course support, Coin Career[®] assessment data, and parent demographics was analyzed using principal components analysis. Three criteria determined the number of factors to rotate: (1) the a priori hypothesis that the measure was unidimensional, (2) the scree test, and (3) the interpretability of the factor solution. The scree plot indicated that our initial hypothesis of unidimensionality is incorrect. Based on the plot, two factors are rotated using a Varimax rotation procedure with Kaiser Normalization. The rotated solution, as shown in Table 3, yields two interpretable factors: obvious (overt) parental influences and hidden (covert) parental influences. The obvious parental influences factor accounted for 18.4% of the item variance, and the hidden parental influences factor accounted for 6.0% of the item variance.

The open-ended question associated with this section, CTE course support, elicited only seven comments categorized into three major areas. These were: (1) career future and planning (3), career interests (2), and interesting material and skills (3) are most important for career success.

Table 3

Correlations between Direct and Hidden Parental Influences on Career Items

	Factors	
	Direct Parental Influences	Hidden Parental Influences
Direct Parental Influences		
Interesting subjects	.48	.20
Future job opportunities	.45	.15
Industry knowledge and experience	.41	.19
Practical experience	.49	.12
Dual enrollment	.26	.06
Support Coin Interest Assessment	.76	-.05
Support Coin Skill Assessment	.81	-.11
Support for All Courses	.61	-.08
Support for Career Cluster	.67	-.02
Gender of responding parent	.10	.03
Ethnicity	.00	-.08
Educational level of respondent	-.03	-.21
Hidden Parental Influences		
Parents' wishes	.23	.64
Friends' recommendations	.12	.46
Relationship to student	-.22	-.12
Marital Status	.02	.07
Educational level of spouse	-.13	.20

Note: Values rounded to two decimal places

School advice was a complexly determined item based on the factor analysis correlations with direct parental influences at .46 and hidden parental influences at .47.

Research Question 2

To answer Research Question 2, the researcher extracted school support data from the Likert scale survey instrument to determine the factors that contributed to parental school support and their influence on their child's educational or workforce plans. The dimensionality of the 12 items from school services support section of the survey and demographic data was analyzed using principal components analysis.

Three criteria determined the number of factors to rotate: (1) the a priori hypothesis that the measure was unidimensional, (2) the scree test, and (3) the interpretability of the factor solution. The scree plot indicated that our initial hypothesis of unidimensionality is incorrect. Based on the plot, the researcher rotated two factors using a Varimax rotation procedure with Kaiser Normalization. The rotated solution, as shown in Table 4, yields two interpretable factors: direct parental influences and school directed parental influences on school support services. The direct parental influences factor accounted for 14.0% of the item variance, and the school directed parental influences factor accounted for 9.8% of the item variance.

This section reviewed the three open-ended comments. The researcher grouped the comments into categories based on commonalities of the content. The category groupings were need for information (6), guidance not helpful (6), and help from others, which were further categorized into sub-categories of school counselors (5), friends (5), principals (5), teachers (4), and outside speakers (1).

Table 4

Correlations between Direct and Hidden Parental Influences on School Support Items

	Factors	
	Direct Parental Influences	School Directed Parental Influences
Direct Parental Influences		
Relationship	.11	-.26
Ethnicity	-.06	-.11
Marital Status	.29	-.16
Educational level of spouse	1.00	.00
Hidden Parental Influences		
Guidance counselor	-.09	.50
School career fairs	-.04	.72
Open house	.12	.67
Career, registration materials	.05	.67
Teachers	-.07	.25
Others	.03	.46
Gender	.04	.11

Note: Values rounded to two decimal places

Research Question 3

Career Assessment Data

The Coin Career Community® data were examined to determine its influence on parents' and students' career planning processes. The researcher first examined the data to identify possible problems with multicollinearity. The independent variables were examined for multicollinearity, the relationship between the independent variables, due to its confounding effect of multiple regression models (Meyers, Gamst, & Guarino, 2006).

The researcher computed the Pearson Product-Moment correlation coefficients among the parent survey scales. Using the Bonferroni approach to control for Type I errors across the 28 correlations, a p value of less than .001 ($.05/28 = .001$) was required for statistical significance. Table 5 presented the results of the bivariate correlations analyses. Eleven correlations were statistically significant and were greater than or equal to .38.

The researcher performed computations for partial correlation coefficients controlling for Coin Career Community® assessment data variables (parental support for interest, parental support for skill, support for ninth grade course selections, career cluster or pathway choices, and selecting CTE courses). Using the Bonferroni approach to control for Type I errors across the correlations, a p value of less than .003 ($.05/15 = .003$) was required for statistical significance. The results of the partial correlational analyses presented in Table 6 shows that 10 of the 15 correlations were statistically significant and were greater than or equal to .34.

Table 5

The Bivariate Correlations among the Parent Survey Influence Scales (N = 187)
(Career Assessment Data)

	Coin Skill	All Courses	Career Cluster	Select CTE Courses	Gender
Support Coin interest	.69*	.47*	.51*	.49*	.17
Support Coin Skill		.49*	.52*	.59*	.22
All courses			.54*	.38*	
Career Cluster				.42*	
Career Interest Assessment					.40*

* $p < .001$

Table 6

Partial Correlations among the Parent Survey Influence Scales (N = 123)
(Career Assessment Data)

	Coin Interest	Coin Skill	All Courses	Select CTE Courses
Coin Skill	.73			
Support All Courses	.52	.50		
Select CTE Courses	.53	.58	.34	
Support Career Cluster	.55	.57	.56	.42

* $p < .003$

Presented in Table 7 are the means and standard deviations for parental support variables in the parent survey.

Table 7

Means and Standard Deviations for Support Variables in Parent Survey (N = 187)

	Mean (<i>M</i>)	Standard Deviation (<i>SD</i>)
Support for all course selections	4.49	.68
Support of career cluster or pathway	4.40	.76
Support for Coin Career Assessment	4.44	.70
Support for Coin Skills assessment	4.36	.72

Note: Values rounded to two decimal places.

Three multiple linear regression analyses were conducted to predict the relationship between student career assessment, gender, and ethnicity for eighth grade students at Halifax County Middle School. The hypotheses were tested using multiple linear regressions since there were two sets of predictors that could influence a student's career interest assessment.

The first regression performed was unordered to determine the significance of each predictor. The design used the following constructs and variables. The analysis used six predictors or independent variables. They were gender and ethnicity of the student, parental support for pursuing identified interest career, parental support for identified skill career, and parental support for all course selections. The dependent or criterion variable was the career assessment ratings. The six predictors were entered unordered to determine the significance of each predictor. A second, ordered

regression entered the data in sets, set 1 (gender and ethnicity) and set 2 (parental support). The predictors were then entered a third time, in reverse order, set 2, then set 1 to see the difference between the sets to determine if one set should come before the other. An alpha level of .05 was used for all statistical tests. A gender and ethnicity block was included because these variables have been shown to affect career development factors in young people (Post-Kammer & Smith, 1985; Ji, Lapan, & Tate, 2004). Table 8 shows the indices to indicate the relative strength of the individual predictors.

A second ordered regression analysis was performed to evaluate the relative importance of gender and ethnicity predictors and parental support and the results indicated that the gender and ethnicity significantly predicted influence over and above the parental support indices, R^2 change = .16, $F(2, 119) = 11.80$, $p = .00$. Gender and ethnicity accounted for 19% of the variance in the career assessment rating. The zero-order correlations for gender ($r = .41$) was statistically significant while the zero-order correlations for ethnicity ($r = .03$) was nonsignificant. The correlations between these two variables partialling out the effects of all other predictors was .40, $p < .01$. The comparable partial correlations for support Coin interest, support Coin skill, support for all courses, support for career cluster, and selecting CTE courses, were .01, .03, .04, -.11, and .07 respectively.

A third ordered regression analysis was conducted to evaluate the contribution of parental support over and above gender and ethnicity. The results of this third regression indicated the parental support did not predict significantly over and above gender and ethnicity, R^2 change = .01, $F(5, 119) = .42$, $p = .84$.

Table 8

The Bivariate and Partial Correlations of the Predictors with Career Assessment Ratings

Predictors	Correlation between each predictor and the career assessment ratings	Correlation between each predictor and the career assessment rating controlling for all other predictors
Coin Interest	.10	.01
Coin Skill	.13	.03
All Courses	.08	.04
Career Cluster	.00	-.11
CTE courses	.07	.06
Ethnicity	.03	.05
Gender	.41*	.41*

* $p < .001$

The open-ended comments for this section received 15 comments with the major category of “No knowledge of Coin Career Community[©]” receiving eight comments. The other categories included child making own decisions (4), future learning (2), and parent support (1).

Skills Assessment Data

Based on the results of the above analyses, the researcher performed the multiple regressions again this time using as the criterion variable the skill assessment rating to determine its influence on parents’ and students’ career planning processes.

Three multiple linear regression analyses were conducted to predict the relationship between student skills assessment, gender, and ethnicity for eighth grade students at Halifax County Middle School. The hypotheses were tested using multiple linear regressions since there were two sets of predictors that could influence a student's career interest assessment.

The Pearson Product-Moment correlation coefficients were computed among the parent survey scales. Using the Bonferroni approach to control for Type I errors across the 28 correlations, a p value of less than .001 ($.05/28 = .001$) was required for statistical significance. Table 9 presented the results of the bivariate correlations analyses. Eleven correlations were statistically significant and were greater than or equal to .34.

The researcher performed computations for partial correlation coefficients controlling for Coin Career Community[®] assessment data variables (parental support for interest, parental support for skill, support for ninth grade course selections, career cluster or pathway choices, and selecting CTE courses). Using the Bonferroni approach to control for Type I errors across the correlations, a p value of less than .003 ($.05/15 = .003$) was required for statistical significance. The results of the partial correlational analyses presented in Table 10 shows that 10 of the 15 correlations were statistically significant and were greater than or equal to .34.

The first regression performed was unordered to determine the significance of each predictor. The analysis used six predictors or independent variables. They were gender and ethnicity of the student, parental support for pursuing identified interest

career, parental support for identified skill career, and parental support for all course selections. The dependent or criterion variable was the skill assessment ratings.

Table 9

The Bivariate Correlations among the Parent Survey Influence Scales (N = 187)

(Skills Assessment Data)

	Coin Skill	All Courses	Career Cluster	Select CTE Courses	Gender
Support Coin interest	.69*	.47*	.51*	.49*	.17
Support Coin Skill		.49*	.52*	.59*	.22
All courses			.54*	.38*	
Career Cluster				.42*	
Career Interest Assessment					.41*

* $p < .001$

The six predictors were entered unordered to determine the significance of each predictor. A second ordered regression entered the data in sets, set 1 (gender and ethnicity) and set 2 (parental support). The predictors were then entered a third time, in reverse order, set 2, then set 1 to see the difference between the sets to determine if one set should come before the other.

Table 11 shows the indices to indicate the relative strength of the individual predictors.

Table 10

Partial Correlations among the Parent Survey Influence Scales (N = 114)
(Skills Assessment Data)

	Coin Interest	Coin Skill	All Courses	Select CTE Courses
Coin Skill	.72			
Support All Courses	.54	.54		
Select CTE Courses	.52	.54	.35	
Support Career Cluster	.53	.59	.56	.40

* $p < .003$

A second ordered regression analysis was performed to evaluate the relative importance of gender and ethnicity predictors and parental support and the results indicated that the gender and ethnicity significantly predicted influence over and above the parental support indices, R^2 change = .18, $F(2,106) = 12.64$, $p = .00$. Gender and ethnicity accounted for 24% of the variance in the career assessment rating. The zero-order correlation for gender ($r = .44$) was statistically significant while the zero-order correlations for ethnicity ($r = .03$) was statistically nonsignificant. The correlations between these two variables partialling out the effects of all other predictors was .44, $p < .01$. The comparable partial correlations for support Coin interest, support Coin skill, support for all courses, support for career cluster, and selecting CTE courses, were -.17, .18, .09, -.14, and .04 respectively.

A third ordered regression analysis was conducted to evaluate the contribution of parental support over and above gender and ethnicity. The results of this third

regression indicated the parental support did not predict significantly over and above gender and ethnicity, R^2 change = .05, $F(5, 106) = 1.25$, $p = .29$.

Table 11

The Bivariate and Partial correlations of the Predictors with Skill Assessment Ratings

Predictors	Correlation between each predictor and the skill assessment ratings	Correlation between each predictor and skill assessment rating controlling for all other predictors
Coin Interest	.03	.17
Coin Skill	.16	.18
All Courses	.10	.09
Career Cluster	.01	.14
CTE courses	.02	.04
Ethnicity	.03	.03
Gender	.44*	.44

* $p < .001$

Research Question 4

The data from student Coin Community® assessments and ninth grade course selections were analyzed using categorical qualitative univariate analysis. Then pre-existing data from student course selections were compared to the parental survey results using hierarchical multivariate regression analyses to predict how parental perceptions related to the choices students made in their course selections.

For course selections, the sample consisted of 435 students who were required to choose three or four elective credit courses for their ninth grade course selections.

Halifax County Public schools required ninth grade students to take a mathematics course, either an advanced one-semester course or a yearlong course, and one semester each of English, Geography, and Science. All ninth grade students were required to take Physical Education, which counted as one elective credit. Given the mentioned requirements, most students selected two or at most three elective courses for their ninth grade courses. For reporting purposes, course requests were counted in two separate files consisting of course request 1 and course request 2 omitting all physical education requests. Figure 1 showed the frequencies for rising ninth grade course selections. Personal finance accounted for 47% of all course requests while Foundation of Arts (8.9%), JROTC (Army Junior Reserve Officer Training Corp, 6.8%), and Healthcare (5.4%) represented the other highly requested courses.

Two-way contingency table analyses evaluated whether a statistical relationship existed between the ethnicity, gender, and student course selections for the ninth grade. The rows represented the course request data and the columns represented gender and ethnicity. Course request data from course selection 1 were found to be statistically significantly related to ethnicity, Pearson $\chi^2(150, N = 433) = 206.93$, $p = .001$, Cramér's $V = .31$. The course request data from course selection 1 were found to be statistically significantly related to gender, Pearson $\chi^2(30, N = 433) = 111.04$, $p = .000$, Cramér's $V = .51$. Course request data from course selection 2 were found to be statistically significantly related to ethnicity, Cramér's $V = .39$ and statistically significantly related to gender, Pearson $\chi^2(180, N = 435) = 333.44$, $p = .000$, Cramér's $V = .66$.

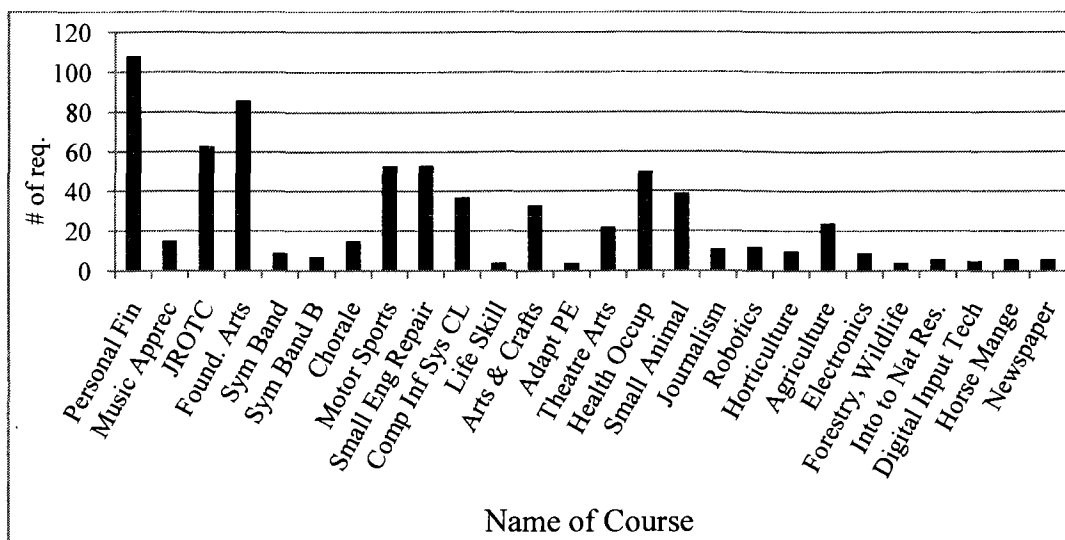


Figure 1. Rising Ninth Grade Course Requests by Course Name.

Demographically, African-American students selected Foundation of Arts (40.7%), Personal Finance (20.8%), and JROTC (24.6%). Caucasian students selected Personal Finance (37.1%), JROTC (20.5%), and Foundation of Arts (18.2%). Figure 2 shows ethnic breakdown of major course selections.

Males chose Motor Sports (27.5%), Small Engine Repair (27.5%), Foundation of Arts (24.7%), and JROTC (19.1%). Females chose Health Occupations (24.4%), Personal Finance (24.4%), Foundation of Arts (17.9%), and JROTC (13.4%). Figure 3 shows gender distribution of major course selections.

Categorical data from the Coin Career Community[®] Career Interest assessment showed students expressed interest in careers of Finance (14.5%), Agriculture (13.8%), and Human Services (11.8%). Figure 4 showed the frequencies and career cluster distributions for the career interest assessment ratings.

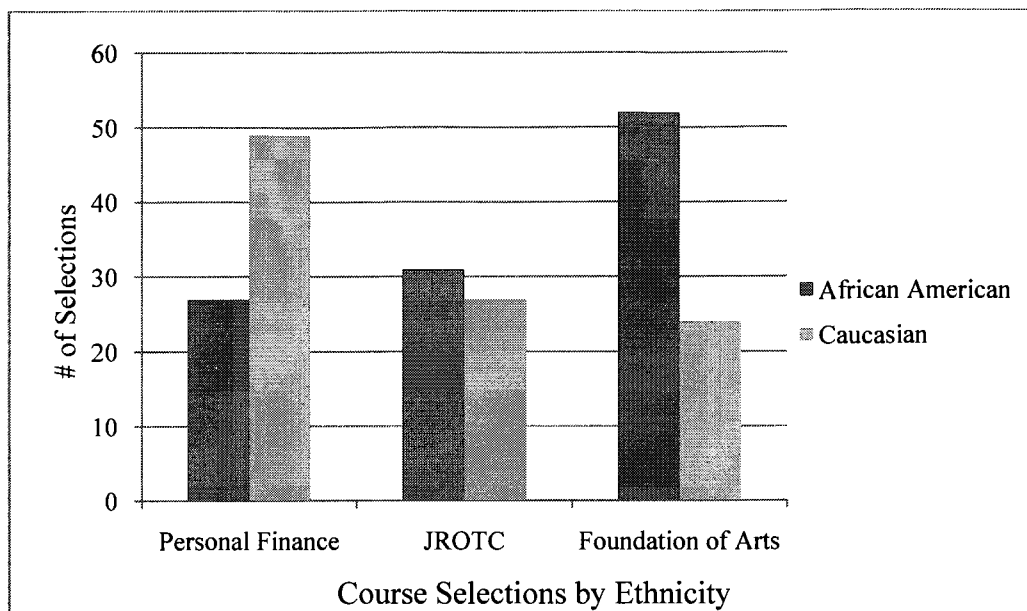


Figure 2. Course Selections by Ethnicity.

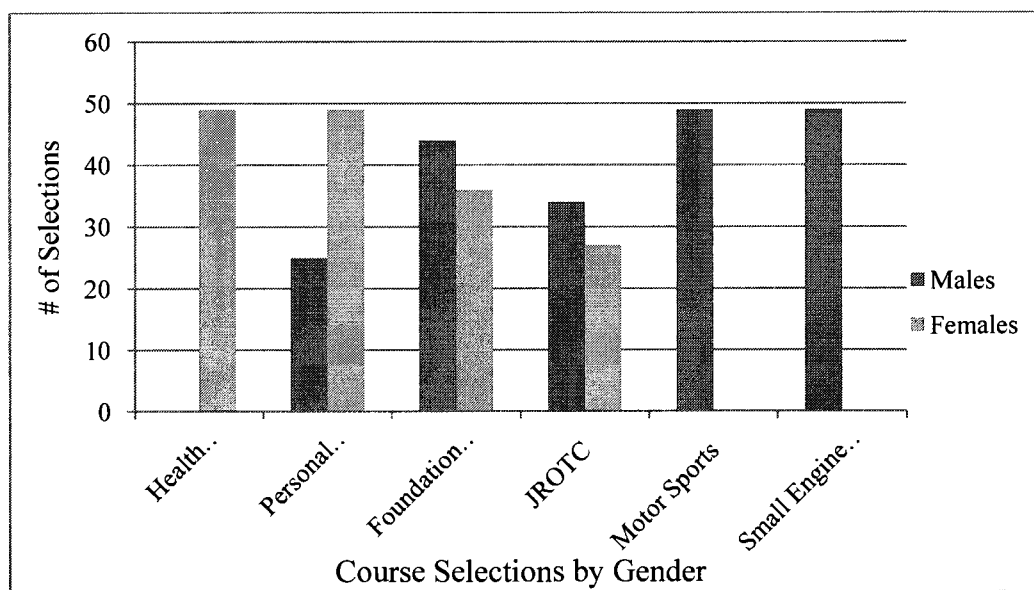


Figure 3. Number of Course Selections by Gender.

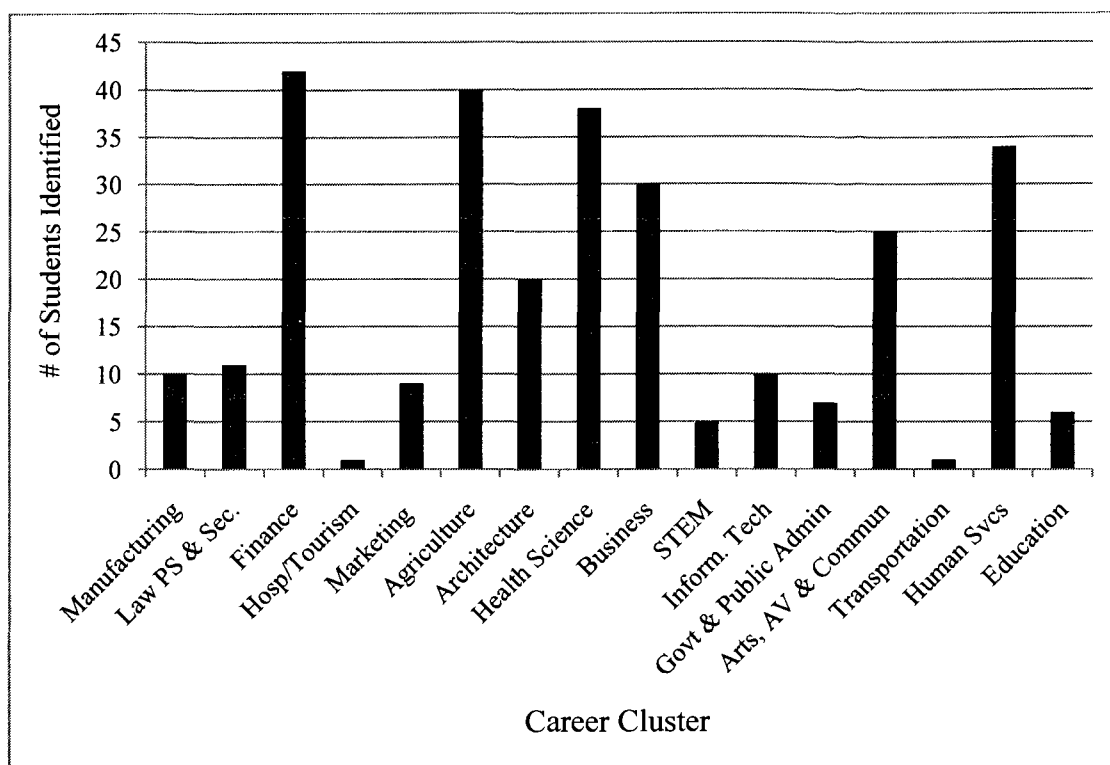


Figure 4. Eighth Grade Students by Career Interest Cluster Assessment.

Categorical data from the Coin Career Community© Career Skills assessment showed students demonstrated skills in careers of Human Services (17.6%), Manufacturing (12.5%) and Finance (10.0%). Figure 5 showed the frequencies and skill cluster distributions for career assessment ratings.

Demographic analysis in career assessments ratings showed African-American males self-reporting a strong interest in Finance, while White males assessed with a strong interest in Agriculture. African-American females assessed with strong interests in Finance, while White females also assessed with a strong interest in agriculture. Table 12 detailed the gender and ethnic breakdown of the career skills assessment clusters.

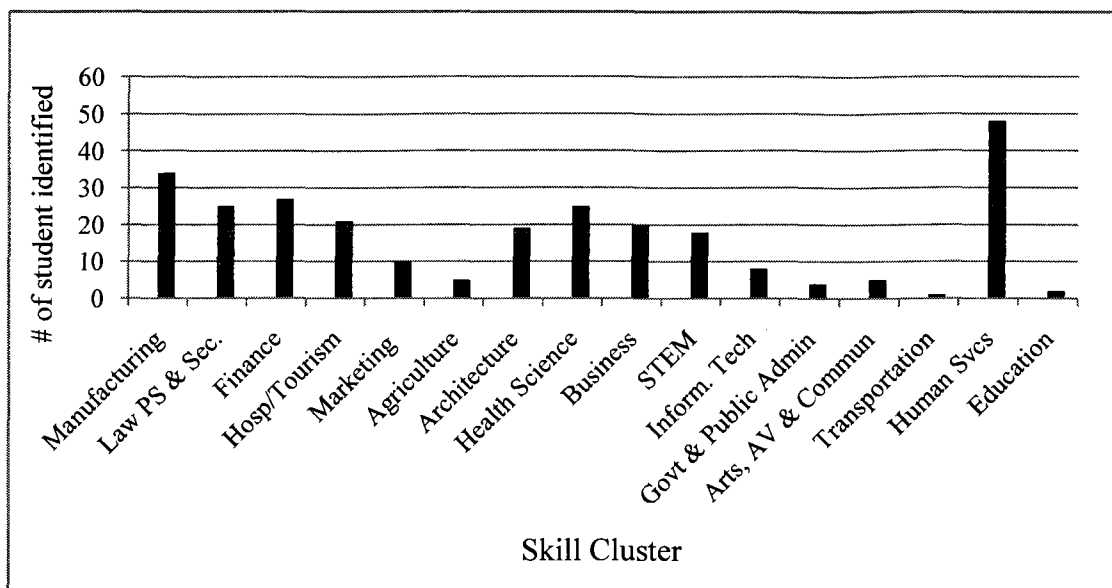


Figure 5. Eighth Grade Students by Skill Cluster Assessment.

Skills assessment data by gender and ethnicity, Table 13, showed African-American and White males as skilled in Manufacturing with both African-American and White females ranked highest in Human Services.

The hierarchical multivariate analysis used 13 predictors or independent variables to assess parental influences on student course selections. They were interesting subjects, future job opportunities, parents' wishes, school advice, industry knowledge, practical experience, dual enrollment credits, friends recommendations, gender of responding parent, educational level, ethnicity, marital status, and educational level of spouse. Parental gender, ethnicity, marital status and educational were included as research (Prins & Toso, 2008; Manning, 1994) showed that parenting practices and styles differed considerably based on ethnicity, gender, socioeconomic status (SES), generational status, and socio-cultural setting. The dependent variables were the course selections. The study assessed two correlational indices: The Pearson

product-moment correlation coefficient (r) and the multiple correlation coefficient squared value (R^2).

Table 12

Identified Career Cluster by Gender and Ethnicity (N = 289)

Demographics in Career Assessments

	African - American		White		Hispanic		Multi		Am. Indian	
	M	F	M	F	M	F	M	F	M	F
Manufacturing	7	1		2						
Law PS & Sec.	2		8	1						
Finance	21	5	13	3						
Hosp/Tourism	1									
Marketing	1	2	3	2	1					
Agriculture	6	2	16	15					1	
Architecture	5	2	11	1	1					
Health Science	1	13	1	23						
Business	6	10	4	10						
STEM			3	1	1					
Inform. Tech	3	1	4	1	1					
Govt. & Public Admin	2	3	1	1						
Arts, AV & Communication	4	3	5	13						
Transportation			1							
Human Services	1	16	1	15			1			
Education		1	2	3						

Table 13

Identified Skill Cluster by Gender and Ethnicity (N = 272)

	Demographics in Skills Assessment									
	African-		White		Hispanic		Multi		Am. Indian	
	M	F	M	F	M	F	M	F	M	F
Manufacturing	15		15	3					1	
Law PS & Sec.	3	6	11	5						
Finance	9	5	5	8						
Hosp/Tourism	5	6	8	2						
Marketing	3		1	5	1					
Agriculture	1		3	1						
Architecture	4		8	6	1					
Health Science		6	1	18						
Business	6	6	4	4						
STEM	6	3	3	5	1					
Inform. Tech	2		5	1						
Govt. & Public Admin	2		1	1						
Arts, AV & Communication	1	1	2	1						
Transportation		1								
Human Services	2	19	2	24			1			
Education				2						

The Pearson Product-Moment correlation coefficients were computed among the parent influences. Using the Bonferroni approach to control for Type I errors across the correlations, a p value less than .001 ($.05/78 = .001$) was required for statistical significance. Table 14 presented the results of the bivariate correlations

analyses. Twelve correlations were statistically significant and were greater than or equal to .24.

The researcher performed computations for partial correlation coefficients controlling for parental demographic variables (gender and ethnicity of respondent, educational level of respondent, marital status, and educational level of spouse). Using the Bonferroni approach to control for Type I errors across the correlations, a p value of less than .001 ($.05/28 = .001$) was required for statistical significance. The results of the partial correlational analyses presented in Table 15 shows that 11 of the 32 correlations were statistically significant and were greater than or equal to .25.

Table 14

The Bivariate Correlations among the Parent Survey Influence Scales on Course Requests (N = 211)

	Future Parents' Job	School Wishes	School Advice	Industry Knowledge	Practical Exp	Dual Enroll	Friend's Recommend	Marital Status
Interesting Subject	.39*	.24*	.33	.34*	.28*	.17		
Future Job		.17	.27*	.35*	.32*	.25*		
School Advice				.24*	.35*	.16	.20	
Parents' Wishes			.40*	.19				
Industry Knowledge					.49*	.21		
Practical Experience						.19		
Educ. Level Respondent								.22

* $p < .001$

Course Request 1

The regression equation with all 13 of the predictors was not significantly related to the criterion variable of the course request 1, $R^2 = .03$, adjusted $R^2 = -.03$, $F(13, 187) = .92$, $p = .83$.

Table 15

Partial Correlations among the Parent Survey Influence Scales on Course Requests
($N = 199$)

	Future Job	Parents' wishes	Ind. Knowledge	School advice	Practical Exp	Dual Enroll
Interesting subject	.41	.25	.35		.29	
Future Job			.35	.26	.31	.25
Parents' wishes				.41		
School advice					.34	
Industry knowledge					.46	

* $p < .001$

Table 16 shows the indices to indicate the relative strength of the individual predictors.

A second ordered regression analysis was performed to evaluate the relative importance of parental demographic predictors and parental influences. The results indicated that the parent demographics did not significantly predict influence over and above the parental support indices, R^2 change = .02, $F(5, 180) = .66$, $p = .66$. Parent

demographics accounted for 4.3% of the variance in the course selection 1. None of the zero-order correlations was statistically significant.

A third ordered regression analysis was conducted to evaluate the contribution of parental influences over and above parent demographics. The results of this third regression indicated the parental support did not predict significantly over and above gender and ethnicity, R^2 change = .03, $F(8, 180) = .72$, $p = .67$.

Table 16

The Bivariate and Partial Correlations of the Predictors with Parental Influences on Course Selection 1

Predictor	Correlations between predictor and Course Selection 1	Correlations controlling for all other predictors
Interesting subject	-.06	-.10
Future job	-.02	-.01
Parents' wishes	.00	.06
School advice	-.06	-.09
Industry knowledge	.02	-.01
Practical experience	.08	.14
Dual enrollment	.03	.03
Friends recommend.	-.02	.01
Gender	-.05	-.06
Ethnicity	-.06	-.06
Ed. level of responden	.00	.04
Marital status	-.08	-.09
Ed level of spouse	.02	.07

* $p < .005$

Course Request 2

The regression equation with all 13 of the predictors was not significantly related to the criterion variable of the course request 1, $R^2 = .04$, adjusted $R^2 = -.03$, $F(13, 180) = .63$, $p = .83$.

Table 17 shows the indices to indicate the relative strength of the individual predictors.

A second ordered regression analysis was performed to evaluate the relative importance of parental demographic predictors and parental influences. The results indicated that the parent demographics did not significantly predict influence over and above the parental support indices, R^2 change = .02, $F(5, 187) = .71$, $p = .62$. Parent demographics accounted for 3.4% of the variance in the course selection 2. None of the zero-order correlations was statistically significant.

A third ordered regression analysis was conducted to evaluate the contribution of parental influences over and above parent demographics. The results of this third regression indicated the parental support did not predict significantly over and above gender and ethnicity, R^2 change = .02, $F(8, 187) = .41$, $p = .91$.

Summary

The findings of the factor analysis revealed a significant finding in parents' influence and perceptions of CTE related to their child's educational plans as indicated by the obvious (overt) influences over hidden (covert) influences. Additional analyses of multivariate hierarchical regressions were performed, holding parent demographics, student gender and ethnicity, and student Coin Career Community[®] career and skill ratings constant. The unordered analyses were significant, with all variables held as

equal predictors yet were not statistically significant when predictors were ordered into sets.

Chapter V discusses the study findings. It opens with a summary of the study. Conclusions of the study are presented for each research question and discussed relative to the theories and studies reviewed in this study. Finally, Chapter V closes with recommendations for use of this study and for future research.

Table 17

The Bivariate and Partial Correlations of the Predictors with Parental Influences on Course Selection 2

Predictor	Correlations between predictor and Course Selection 2	Correlations controlling for all other predictors
Interesting subject	.04	.07
Future job	.00	-.04
Parents' wishes	.05	.02
School advice	.05	.05
Industry knowledge	.03	.03
Practical experience	.01	-.03
Dual enrollment	-.07	-.07
Friend's recommendation	-.03	-.06
Gender	.08	.08
Ethnicity	.05	.04
Ed. level of respondent	-.01	-.01
Marital status	-.03	-.01
Ed level of spouse	-.09	-.09

* $p < .005$

Chapter V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the study, presents conclusions, and makes recommendations for the use of this study. The conclusions discuss the findings from the factor analyses, multivariate hierarchical regression analyses, and categorical univariate analysis. The recommendations address uses for this study as well as ideas for future research in this area.

Summary

The problem of this study was to determine parents' perceptions of CTE as related to their child's future educational or workforce plans. Historically in public school systems, students in the eighth grade were required to make critical academic decisions that ultimately determined their placement in courses, whether academically or career/technical oriented, during high school.

Research was needed to determine the success of parental/child relationships to support academic success and enhance career assessment and planning because of the long-term impact on students' future academic and career success and the importance of early career awareness.

To provide insight into influences on students' career choices, the researcher explored four research questions:

RQ₁: What factors contributed to middle school parents' perceptions of the contributions career and technical education could make to their child's educational or workforce plans?

RQ₂: What actions do parents undertake to assist their children's education and workforce plans?

RQ₃: What impact did the Coin Career Community® data have on parents and students in assisting them to plan their child's selection of career and technical education courses?

RQ₄: How did these perceptions relate to the choices students make in ninth grade academic and career and technical course selections in secondary education?

A significant area for exploration was the parent/student relationship and its influence on student career choice. In conjunction with parental involvement and influence in academic career decisions were the "millennial generation" affect and its impact on parent/student relationships. These results would present a foundation and recommendations for future CTE awareness training for both parents and students.

The limitations to this research study were as follows:

- The sample size was limited to only parents of the 435 eighth grade students at Halifax County Middle School. Halifax County Middle School was selected due to its ethnic makeup with a nearly even distribution of Caucasians and African-Americans, its rural, economically depressed location, the fact that it is the only middle school in the county, and because the school system utilizes a comprehensive academy approach for all its secondary education courses. This academy approach requires students to identify with one of seven offered academies and tailor their course selections toward that area of

concentration. The academies are unique in that students may select courses from one or several academies achieving a blended approach to their secondary education.

- Parents' knowledge and/or lack of knowledge of CTE curriculum, industry relevance, and real-world connections would limit their child's career options.
- Parents' perceptions of their role in their child's career awareness and selection would affect career self-efficacy.
- Parents' knowledge of college admittance requirements and that CTE is not a detriment to college attendance.

This study took place at Halifax County Middle School, located in South Boston, Virginia, in spring 2009. This school was the only middle school in the county with a student population of 1,337 students in grades 6-8. The researcher made no distinctions between students repeating the eighth grade and age appropriate students. There were no distinctions made between special education and regular students. There were no criteria established to determine whether students come from single versus two-parent, blue-collar versus white-collar, families. The population for this study was 435 parents, with 204 responses required for statistical significance (Patten, 2007). The final data response rate for this study included 211 parent participants (48.5%).

This study first obtained data by means of parent surveys to determine perceptions of CTE and its contributions to educational or workforce plans. The data set developed constructs of parental knowledge based on their personal experiences

with education especially CTE courses. Pre-existing data from the Coin Career Community® was used for analysis of student's skill and interest assessments. Pre-existing course request data were extracted from SASI®, Halifax County Public schools' student database system. This information was relevant in exploring actual course selections students and their parents made for their ninth grade courses.

To answer Research Questions 1 and 2, the researcher considered data from the Likert scale survey as interval data and performed a factor analysis to determine the factors underlying parental influences on student career choice and aspirations. To answer Research Question 3, hierarchical multivariate analyses were performed on data from the Coin Career Community® to assess the relationship between student career and skills assessments interests, gender, and ethnicity. The researcher performed two separate analyses to answer Research Question 4. Student data from career and skills assessments as well as course selections were analyzed using categorical qualitative univariate analysis. Then pre-existing data from student course selections were compared to the parental survey results using hierarchical multivariate analyses.

Conclusions

The following sections outline conclusions for each research question. The researcher derived the conclusions by considering statistical analyses performed compared with relevant literature and theories.

Research Question 1

What factors contributed to middle school parents' perceptions of the contributions career and technical education could make to their child's educational or workforce plans?

Parental support for career interests, courses, and overall career projections of their child accounted for 24.8% of the overall influence experienced by the child. This is consistent with the research that parents are their child's foremost teacher of career education by establishing an acceptable range of career aspirations and continual modeling of standards, expectations, social skills, and open communication (Ainsworth, 1989; Gray & Herr, 2006; Lankard, 199; Young, 1993). Research supported that this millennial generation of students was the most protected in history, indulged, and consulted by family on important family decisions (Tucker, 2006). Millennial students were raised by aggressively protective parents in child-centered households (Elam, Stratton, & Gibson, 2007; McGlynn, 2005). Parents of these millennials had to maintain an active role in their child's career exploration since they often pursued careers unsatisfactory to their personal skills due to a lack of skills testing, student interviews, and job shadowing (Levin, 2005).

Gender (.11), ethnicity (-.01), and relationship to student (-.24) were minor factors in this analysis, which is inconsistent with the research. Research stated that ethnicity, gender, socioeconomic status, as well as other contextual factors, are significant influences on students' academic goal setting and career development (Ali & Saunders, 2006; Manning, 1994). Other research asserted that parental practice and styles differed considerably based on ethnicity, gender, socioeconomic status, and

socio-cultural setting (Manning, 1994; Prins & Toso, 2008). This study reported a gender base of 72% female respondents to 28% male respondents to the survey. Eighty-two percent of the respondents were parents of the student. Ethnicity representation was nearly equal, with 42% of respondents being African-American and 53% Caucasian.

Research showed that parental influences were important to all students but especially critical to minority students. Some researchers speculated that African-American parental influences were stronger compared to those of Caucasian students (Constantine, Wallace, & Kindaichi, 2005). African-American students tended to place greater priority on familial goals and community needs (Constantine et al., 2005; Alliman-Brissett, Turner, & Skovholt, 2004). This research did not strongly support that ethnicity made a significant difference in parental influences in career exploration and career interests. The free and reduced lunch data from SASI[®] for the eighth grade at Halifax County Middle School was 55%. Research had shown that socioeconomic status (SES) was an important factor in parental influences and student career choice, but the researcher did not address SES in this study due to restrictions on obtaining parental income data from the participating school system.

Educational level of parent (2.7 factor load) and spouse (1.6 factor load) were also negligible factors in this analysis. This research reported the educational level of the respondents ranging from High School/GED, some college, or a 2-year degree (25.6%, 26.1%, and 25.1% respectively). Educational level of spouse was slightly less, with the significant category being High School/GED (26%). Choy (2001) asserted that parental education level, specifically a parent possessing a bachelor's degree,

remained a significant influence in students' career aspirations. Again this study did not strongly support educational level as a significant factor in middle school students perceptions of careers and career exploration.

Overall, this research supported Super's Theory (1957) and Crites and Savickas' Theory (1996) that the amount of parental identification reflected in the interests of their children were influential. Relational and attachment theories with adolescents are supported through strong parental influences (24.8%) with freedom to explore careers and vocational environments yet still accept parents' values and close family relationship (Ainsworth, 1989; Kerka, 2000; Martin & Martin, 2000; Vignoli, Croity-Belz, Chapeland, de Fillipis, & Garcia, 2005). This study maintained the research that significantly no single parental influence consistently predicted children's career outcomes (Schott, 1974; Domina, 2005).

Research Question 2

What actions do parents undertake to assist their children's education and workforce plans?

Parental involvement in school activities accounted for 23.8% of total variance in assisting career and workforce planning with their child. Of particular interest in this research were involvement in school career fairs (.72 factor load), guidance counselors (.50 load), and career and registration materials sent home (.67 load). Research showed that parental involvement in their child's education specifically through school interactions such as open house and career fairs, have a positive link when parents feel their involvement matters (Flynn, 2006; Georgiou & Tourva, 2007). The family involvement was linked to higher levels of student achievement and

improved student behavior (NMSA, 2003) and this analysis supported the research that students with above average parental involvement tend to achieve higher academically (30%) transcending lines of family income and parental educational level (Anfara & Mertens, 2008; Henderson & Mapp, 2002). The loading of guidance counselors as a factor also supported the research that parents' believed and upheld the view that middle school students need guidance and counseling to prepare them for their future careers (Kesici, 2008).

Respondents stated a strong belief that guidance counselors were not trained, able, nor had time to actually counsel and guide the students in the career process based on the open-ended responses in the school services section of the survey. Parents did place strong confidence in principals and administrators as well as teachers in providing guidance for their student during the middle school years in the open-ended responses. Overall, parents supported school services involvement but felt counselors should provide more assistance and career guidance to students.

The study supported the research that parents were involved in their child's educational and career activities on a school level during the eighth grade but that involvement was ranked as average involvement and should be higher to ensure their child received all information and opportunities to assist in their educational planning.

Research Question 3

What impact did the Coin Career Community® data have on parents and students in assisting them to plan their child's selection of career and technical education?

The multivariate hierarchical analyses revealed that gender and ethnicity accounted for 19% of the variance in students' Coin Career Community® career interest assessment ratings and 24% of the variance in students' skill assessment ratings. The zero-order correlations for career and skills assessment ratings both showed gender was statistically significant ($r = .41$) while ethnicity was nonsignificant ($r = .03$). The correlations between these two variables partialling out the effects of all other predictors was .40 for career ratings and .44 for skills ratings, both with $p < .01$. Parental support did not predict statistically significant over and above gender and ethnicity for either analyses.

The parental support data is consistent with data acquired from the Parental Survey of Career and Technical Education that reported 81% of respondents stated they never received any information regarding the Coin Career Community® and the assessments given to students. Yet, parents who answered the questions in this section, irrespective of a yes or no answer to the previous questions asking if they received Coin Career Community® information from the school, reported a mean of 4.37 on the Coin Career Community® support section with the mode being five (very important). The research supported more career assistance from secondary school systems for students and parents specifically in the areas of preparation for work or postsecondary education and more individual career planning (Schott, 1974). This study supports the research that parents required more involvement, communication, and assistance in preparing for educational and career planning.

Research Question 4

How did these perceptions relate to the choices students make in ninth grade academic and career and technical course selections in secondary education?

The univariate statistics showed that student course selections of personal finance or finance college level were consistent with the Coin Community[®] Career Interest assessment of a 14.5% interest in the career of finance. Health Occupations represented only 5.4% of the course selections, while both the career and skills assessment showed interest in this career at 11.8% and 17.6% respectively.

The registration data were generated from information completed by the student and approved by parent signature. The student returned the form to the school and the information was entered in the student database. Research had shown self-efficacy is important to all adolescents and fundamental for academic success for minorities and underserved students (Ali & Saunders, 2006; Ali, McWhirter, & Chronister, 2005; Lent, Brown, & Hackett, 2000; Manning, 1994).

The Coin Career Community[®] career assessments ethnicity data reported African-American males self-reporting a strong interest in the finance career which is consistent with their course request selections in SASI[®], Halifax County's student database. Interestingly, Caucasian males self-reported a high interest in an agricultural career, yet their course selections were stronger in the areas of motor sports and small engine repair. In Halifax County, these courses are in the motorsports pathway yet they are applicable to the agricultural industry based on course description information from the school system's course catalog. These courses cover basics in sheet metal

repair, welding, basic engine repair, two- and four-cylinder, and other generic engine repair technology.

Demographically by ethnicity, African-American students selected foundation of arts (40.7%), personal finance (20.8%), and JROTC (24.6%). Caucasian students selected personal finance (37.1%), JROTC (20.5%), and foundation of arts (18.2%).

Gender data from the Coin Career Community[®] career assessments showed males choose motorsports (27.5%), small engine repair (27.5%), foundation of arts (24.7%), and JROTC (19.1%). Females choose health occupations (24.4%), personal finance (24.4%), foundation of arts (17.9%), and JROTC (13.4%). Eighth and ninth grade students reported more satisfaction and desire to participate in careers, especially careers dominated by their own respective gender (Ji, Lapan, & Tate, 2004; Post-Kammer & Smith, 1985). Studies substantiated the tendency of adolescents to employ gender role socialization and self-segregate into career clusters (Haber, 2002; Ji et al., 2004; Jones, 2008). This self-segregation was consistent with immature “cognitive architecture” (McMahon & Watson, 2005, p. 240) where students employed superficial and peer guided input to formulate their theory of careers and associated CTE courses. The data in this study supported the research of gender self-segregation.

Based on the elective constraints in the ninth grade schedule students were able to choose two or three selections out of a possible eight-block schedule for the year. The school system mandated one elective for all ninth graders as physical education reducing the number of “free” electives to one or two. Therefore, the data results were consistent with students choosing more “conventional” or “acceptable” ninth grade

career electives and waiting until the following years to branch out into more of a career pathway consistent with their career interests. Research showed a low rating of career decidedness in middle school students with only minor increases as the students' mature and complete high school (Lounsbury et al., 2005). The research did not show, however, how well career decidedness would predict future career satisfaction.

The hierarchical multiple linear regressions did not show a statistically significant relationship between parent influences and course requests of the student. This is consistent with the research that a major shift in attachment took place with the onset of adolescence when the individual reached out to age appropriate peers for attachment (Ainsworth, 1989). Throughout adolescence, children accepted their parents' values while remaining independent and assertive (Martin & Martin, 2000).

The researcher performed a second regression analysis to evaluate the relative importance of parental demographic predictors to student course selections. Again, the parent demographics did not statistically predict course selections over and above the parental influences predictors. Significantly, research supported parental influences and availability as decisive factors to minority student success (Fisher & Padmawidjaja, 1999). Self-efficacy of minority students depended upon four essential components: "(a) personal accomplishments, (b) vicarious learning (modeling by significant others), (c) emotional support of others and (d) others verbal encouragement" (Alliman-Brissett, Turner, & Skovholt, 2004, p. 3). According to Keller and Whiston (2004) emotional support and interest shown by parents was more conducive to career development than explicit information about specific careers. This study did not support parental demographics as a defining factor in student

course selections but did show that interest and support by parents was statistically significant as research asserted.

Significance

The research problem of parents' perceptions of CTE and overall influence were statistically significant related their child's future educational or workforce plans. Relational and attachment theories with adolescents are supported through the strong parental influences (24.8%). Parental involvement in school activities was a statistically significant influence in their child's career exploration, career exploration, and course selections (23.8%). Gender and ethnicity of parent were not significant factors in this particular research. Additionally, parents stated strong beliefs that guidance counselors were not trained, able, nor had time to actually counsel and guide students in their career process. Significant factors in the research are shown in Table 18.

Recommendations

Based on the outcomes of this research, the researcher proposed several recommendations. The first set of recommendations address the public school system using the findings of this study to guide the preparation and enhancement of their school counseling and career planning services. The next recommendations concern future research in the area of career planning and exploration for middle school students and their parents.

Implementing Findings of This Study

Findings of this research can be implemented in numerous ways. First, the researcher must share the findings with the appropriate members of the Halifax County Public School system. Second, the researcher must share the findings with

school counselors, members of the Virginia Middle School Association (VMSA), and National Middle School Association (NMSA).

Table 18

Significant Factors in Parental Perceptions for Child's Career or Workforce Plans

	Direct Parental Influences	Hidden Parental Influences
Direct Parental Influences		
Support Coin Career Interest Assessment	.76	
Support Coin Skill Assessment	.81	
Support for Career Cluster	.67	
Hidden Parental Influences		
Parents' wishes		.64
Friends' recommendations		.46
Guidance counselor		.50
School fairs		.72
Open house		.67
Career, registration materials		.67
Others		.46
Complexly Determined Item		
School advice	.46	.47

Note: Values rounded to two decimal places

The goal of sharing findings with Halifax County Public Schools is to enhance their effectiveness in providing school counseling, career exploration, and career planning services to parents and students. In addition, the researcher will use the

findings to support the need for more interactive, open communication between the school system, parents, and the guidance counselors through school events such as open house, registration, and career fairs.

The research in this study showed that parents support their child's career exploration and career interests but often lack the resources necessary to assist them in reaching their goals. The data showed parents felt the school system needed to provide more information to assist in this process. The largest gap in career services revealed in this research was the unfamiliarity of the parents with the resources of the school system's career exploration tool, the Coin Career Community[®]. Parents overwhelmingly were unaware of this tool but rated support and interest in their child's career and skill interests as very important.

The Coin Career Community[®] program is a comprehensive, research-based tool with online access for school counselors, parents, and students. The program has an extensive career library incorporated into the program with links to other career assessment tools, parent informational handouts, and student handouts. It also has the capability for the student to build an online career portfolio, incorporate outside testing scores such as American College Testing (ACT), Scholastic Aptitude Test (SAT), and Armed Services Vocational Assessment Battery (ASVAB), as well as state mandated Standards of Learning assessments.

This online career program, purchased by the school system, would bridge the gap in knowledge of careers that research showed parents needed to assist their child. Halifax County Middle School employs a career counselor to guide students in completing the Coin Career Community[®] assessments in the middle school. At the

high school level, the school counselors should review the Coin data with the students and assist them in career planning. As the results of this research showed, many students did not complete the skills and/or the career interest assessments and the majority of parents (81.0%) received no information regarding this career-planning tool. Coordination between the career counselor and the school counselors would improve the dissemination of the Coin Career Community[®] information and concurrently improve communication between school and parent as well as improve parent knowledge and access to career planning tools.

School counselors must work to achieve more open communication and “ownership” with parents and students relative to their career and educational planning processes. Research showed that parents who are involved in their child’s school activities achieve at higher levels than those who do not. School counselors, in this research, were viewed by parents as not providing the necessary guidance opportunities, communications, and parent contacts. This lack of support from parents is disquieting and represents a serious concern in engaging parents in their child’s education and career planning. Current information sent to parents regarding all aspects of middle school education is lacking in reaching its intended audience. School counselors, along with administrators and teachers, must engage in informational exchanges such as telephone calls, flyers, e-mail communications, blogs, teacher web pages, or even quick notes on assignments to ensure all parents feel a part of the middle school community.

This study did show that in this particular school system, Halifax County Public schools, the issues of gender and ethnicity were not significant barriers to parental

involvement or student career planning assessments. This is attributable in part to the near equal demographic and gender mix of the county and correspondingly the school system. The county is a small, close-knit community and its demographics lessen the barriers often experienced in larger, more diverse school systems. Yet, gender and ethnicity are key factors in student success as shown by extensive research. Halifax County Public Schools must remain vigilant in providing opportunities for all students to have access to non-traditional career information and opportunities.

Future Research

This study sought to understand more about parents' perceptions of career exploration and development of middle school students. Findings in this study in conjunction with other research suggest the need for continued assessment of parental influences relative to their child's career and workforce development. Research Question 1 examined the factors that contributed to middle school parents' perceptions of contributions of CTE could make to their child's educational or workforce plans. Based on the data in this research, a follow-up study on parents' careers, exposure to CTE (vocational) while in they were in high school, and family educational level could further examine the underlying factors in parental perceptions not covered in this research.

Research Question 2 examined the actions parents undertake to influence their children's education and workforce plans. Based on the data from this research, follow-up research is recommended to explore quantitative and qualitative analyses of parent/school involvement. The study should include other counties with similar student body size in middle schools yet with more diverse gender and ethnic

demographics. A second study should compare the differences in parent involvement from middle school to high school in Halifax and surrounding counties. A third study, a longitudinal study, should be performed to determine the effect of parental school involvement from middle school through the student's post-secondary or workforce plans including demographic information (gender, ethnicity, socioeconomic status, marital status, and educational level of parents). The goal of this research would be to define the construct of parental school involvement. Improving the understanding of parental school involvement may help educators develop interventions to assist parents in becoming more active in their child's school.

Research on the effectiveness and utilization of school based career exploration programs including Coin Career Community[®], Virginia Wizard, and other widely used career exploration programs could provide data regarding the effectiveness of these programs. Most public schools offer career assessments to middle school students and do not fully explore and understand the effectiveness of these offerings.

Lastly, a follow-up study examining career exploration in middle school would help to understand how family influences affect this exploration. Family influences should include the relationship dynamics of the family, the transmission of certain values related to career and work, and finally the role that gender plays in how the family influences middle school students in career exploration.

The recommendations contained here have potential to expand the understanding of parental influences on middle school students' career and educational aspirations. More importantly, they have the potential to benefit all middle school students. In some instances, improved understanding of parental influences and

school involvement may help students stay engaged and active in their educational and career pursuits. However, at a minimum, greater attention to disseminating career assessment data and more interactions with school counselors will allow more middle school students to pursue educational and career studies of greatest interest and benefit to them.

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Appendix A

Protocol for Pilot Testing (for researcher use only) Parent Survey of Career and Technical Education

Time required for survey completion: Approximately 10 -20 minutes

Subjects: invited pool of 25 ninth grade parents

Explain the purpose of the survey:

As a part of the ongoing process of continuous improvement of Halifax County Public Schools, we have developed a survey to assess parents' perceptions of career and technical education on the secondary level. We appreciate your willingness to help us pilot test the survey and provide feedback on your understanding and perception of the survey items. Your individual responses in the pilot test phase are not going to be recorded or reported to anyone except to the designer of the survey.

Process:

1. After explaining the value of their participation, hand out the survey.
2. Indicate to the participants that they should take the survey seriously and respond to the items thoughtfully. They MAY NOT ask questions as they go through the items but need to take the survey as they would under normal circumstances.
3. Take note of how long it takes participants to respond to all items.
4. After the participants have completed the survey, have them respond to each survey item in four ways:
 - a. Understandable: Was the item understandable? Did you have to read the item more than once to understand what it was asking? Was the meaning of the question clear and straightforward?
 - b. Scale adequate: Was the scale (very important ...very unimportant) adequate?
 - c. Only one response: Was the item written in such a way that you could have answered it more than one-way (e.g. could you have said BOTH "very important" and "very unimportant"?).
 - d. Loaded: In your opinion, was the item written in such a way that there was ONLY one OBVIOUS answer for you?
5. After participants have responded to the four items for each survey question, ask them to discuss with you any of the items that have a "no" response. Discuss ratings in each column starting with "understandable." Encourage participants to discuss why they responded in the way they did.
6. Ask participants if they found any of the questions to be "emotionally charged?" For example, did they find any of the items offensive or insulting?
7. Prepare a summary of all concerns about survey items to guide improvements in the quality of the survey.

Survey Items Rating Scale

	Understandable?		Adequate?		Only One response?		Loaded?		Comments
1	Yes	No	Yes	No	Yes	No	Yes	No	
2	Yes	No	Yes	No	Yes	No	Yes	No	
3	Yes	No	Yes	No	Yes	No	Yes	No	
4	Yes	No	Yes	No	Yes	No	Yes	No	
5	Yes	No	Yes	No	Yes	No	Yes	No	
6	Yes	No	Yes	No	Yes	No	Yes	No	
7	Yes	No	Yes	No	Yes	No	Yes	No	
8	Yes	No	Yes	No	Yes	No	Yes	No	
10*	Yes	No	Yes	No	Yes	No	Yes	No	
11	Yes	No	Yes	No	Yes	No	Yes	No	
12	Yes	No	Yes	No	Yes	No	Yes	No	
13	Yes	No	Yes	No	Yes	No	Yes	No	
14	Yes	No	Yes	No	Yes	No	Yes	No	
15	Yes	No	Yes	No	Yes	No	Yes	No	
17*	Yes	No	Yes	No	Yes	No	Yes	No	
18	Yes	No	Yes	No	Yes	No	Yes	No	
19	Yes	No	Yes	No	Yes	No	Yes	No	
20	Yes	No	Yes	No	Yes	No	Yes	No	
21	Yes	No	Yes	No	Yes	No	Yes	No	
22	Yes	No	Yes	No	Yes	No	Yes	No	
24*	Yes	No	Yes	No	Yes	No	Yes	No	

Rating Scale (continued)

25	Yes	No	Yes	No	Yes	No	Yes	No	
26	Yes	No	Yes	No	Yes	No	Yes	No	
27	Yes	No	Yes	No	Yes	No	Yes	No	
28	Yes	No	Yes	No	Yes	No	Yes	No	
30*	Yes	No	Yes	No	Yes	No	Yes	No	
31	Yes	No	Yes	No	Yes	No	Yes	No	
32	Yes	No	Yes	No	Yes	No	Yes	No	
33*	Yes	No	Yes	No	Yes	No	Yes	No	

*Omit survey items # 9, 16, 23, 29, 34, and 35, as they are free response questions.

APPENDIX B

Parent Survey of Career and Technical Education

Please complete the survey below by circling your response to each question. Only mark one response per question.

Section I. Career and technical education course support

Please rank what reasons are important for you and your child in deciding whether to take career and technical education classes in high school, where **one** (1) is **very unimportant** and **five** (5) is **very important**. For example, you may decide “school advice” is important and would circle the number 4.

	Very Important	Important	Neither	Unimportant	Very Unimportant
1. Interesting subjects	5	4	3	2	1
2. Future job opportunities	5	4	3	2	1
3. Parents' wishes	5	4	3	2	1
4. School advice	5	4	3	2	1
5. Industry knowledge	5	4	3	2	1
6. Practical experience	5	4	3	2	1
7. Dual enrollment credits	5	4	3	2	1
8. Friend's recommendations	5	4	3	2	1
9. Please use this section to elaborate on any questions. Your suggestions and recommendations are welcome.					

Section II. Coin Career Community[®] assessments

	Yes	No
10. Did you receive information from the school about Coin Career Community [®] ?	_____	_____

Please rank how important the Coin Career Community® assessment results are to making decisions about supporting your child’s interests, skills, and course selections, where **one** (1) is **very unimportant** and **five** (5) is **very important**. For example, you may decide “parental support for pursuing a career your child scored as skill in” is neither and would circle the number 3.

	Very Important	Important	Neither	Unimportant	Very Unimportant
11. Parental support for pursuing a career your child scored as interested in.	5	4	3	2	1
12. Parental support for pursuing a career your child scored as skilled in.	5	4	3	2	1
13. Parental support for all courses (academic and career and technical) selected for 9 th grade school year	5	4	3	2	1
14. Support for career cluster or pathway chosen by your child	5	4	3	2	1
15. Selecting career and technical education courses for your child	5	4	3	2	1
16. Please use this section to elaborate on any questions. Your suggestions and recommendations are welcome.					

Section III. School Services

Please rank how important the following school services are when making decisions about what courses your child will take in high school, where **one** (1) is **very unimportant** and **five** (5) is **very important**. For example, you may decide “open house” meetings are unimportant in your decisions and would circle the number 2.

	Very Important	Important	Neither	Unimportant	Very Unimportant
17. Guidance counselors	5	4	3	2	1
18. School career fairs	5	4	3	2	1
19. Open house	5	4	3	2	1
20. Career, registration or other school information sent home	5	4	3	2	1
21. Discussions with teachers	5	4	3	2	1
22. Discussions with others (please list) in the school	5	4	3	2	1

23. Please use this section to elaborate on any questions. Your suggestions and recommendations are welcome.

Section IV. Demographic information.

Please check appropriate box or fill in requested information.

24. Is the gender of the person completing the survey male or female?

Male	Female

25. What is your relationship to the student?

Parent	Guardian	Grandparent	Other Please specify:

26. What is your race or ethnicity?

White	African-American	Hispanic	Asian (Pacific Islander)	Native-American	Other Please specify:

27. What is the highest level of education you have completed?

Less than high school	High school/ GED	Some college	2-year college degree	4-year college degree	Master's degree	Doctoral degree	Professional degree

28. If you received a degree from a 2-year college, what type of degree did you receive?

Associate in Applied Sciences	Associate in Arts	Technical Professional Degree

29. In what field did you receive the 2-year degree?

30. If you received a 4-year degree or higher what was the college major (examples: Bachelor of Science in Business Management, Master's of Arts in Education)?

31. What is your current marital status?

Single, never married	Married	Separated	Divorced	Widowed

32. If you are married, what is the highest level of education your spouse has completed?

Less than high school	High school/GED	Some college	2-year college degree	4-year college degree	Master's degree	Doctoral degree	Professional degree

33. If your spouse received a degree from a 2-year college, what type of degree did he/she receive?

Associate in Applied Sciences	Associate in Arts	Technical Professional Degree

34. In what field did your spouse receive the 2-year degree?

35. If your spouse received a 4-year degree or higher what was his/her college major (examples: Bachelor of Science in Business Management, Bachelor of Arts in Education)?

APPENDIX C
Survey Cover Letter

Halifax County Public Schools

Mr. Paul D. Stapleton, Superintendent of Schools

*1 030 Mary Bethune Street
Halifax, Virginia 24558
(434) 476-2171*

May 11, 2009

Dear Parent or Guardian:

Halifax County Public Schools would like to know more about your child's career exploration experiences in middle school and plans for career and technical education courses in high school.

If you are willing to help, this survey should take about 10 minutes to complete. Your participation in this survey is voluntary and if you decline to participate there is no penalty to you or your student. Any information you provide will be completely confidential and used for research purposes only. The researcher will not disclose your name or other particulars to anyone. Your information will not be individually identifiable in the data or in the final research project. Parents may submit a written request to Mrs. V. Jones to view the results of survey.

We appreciate your time and consideration.

Sincerely,

Paul D. Stapleton,
Superintendent

Gail W. Bosiger
Principal
Halifax County Middle School

Virginia R. Jones
Supervisor of Academies
Ph.D. Candidate, Old Dominion University










APPENDIX D

Samples from the Coin Career Community® Skills Assessment

Assessments - Skills Assessment Survey

[About](#)
[En Español](#)

Please respond to each statement by clicking below.

	1. I am able to explain why different types of weather affect how crops and plants grow.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	2. I can paint a room in my house.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	3. I am skilled at giving a speech in front of a group of people.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	4. I am good at being in charge of planning activities or events at school.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	5. I can create an outline to help myself and others prepare for a test.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	6. I am good at maintaining my savings or checking account.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	7. I am good at listening to different opinions and making a decision about my beliefs.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	8. I am able to take care of sick pets.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	9. I am good at researching different locations for a vacation.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	10. I am skilled at listening to friends' problems and giving them advice.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	11. I can install software on a computer.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
	12. I am able to know what steps to take if a stranger approaches me.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree

[Continue](#)

APPENDIX E

Samples from the Coin Career Community[®] Career Interest Assessment

Assessments - Career Cluster Assessment Survey

[About](#)
[En Español](#)

Please respond to each statement by clicking below.

In my career I would like to:

1. Work with animals and plants.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
2. Study the effects of chemicals on plants and soil.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
3. Sort and file papers.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
4. Build furniture or buildings.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
5. Count and keep track of money.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
6. Play in a band.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
7. Coach or teach students.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
8. Help people with their problems.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
9. Develop exercise programs for people.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
10. Work with children or adults who are ill.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
11. Organize the shipment of goods from one place to another.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree
12. Produce containers for different types of products.	<input type="radio"/> Strongly Disagree <input type="radio"/> Disagree <input checked="" type="radio"/> Neither <input type="radio"/> Agree <input type="radio"/> Strongly Agree

APPENDIX F

Other Career Assessments Available in Coin Career Community[®]

The Interest-Finder Quiz	The Interest Finder is a sample quiz designed to acquaint the user with a national test that is part of the ASVAB Career Exploration Program. Your answers are analyzed and fit into two of the six Holland work types.
The Keirsey Temperament Sorter	The Keirsey Temperament Sorter is one of the most popular on-line personality tests, complete with analysis and descriptions of the 16 personality temperaments and lists of famous people who share the same traits. Dr David Keirsey's descriptions of the temperament are based on the study of people and the study of psychology. The Keirsey Temperament Sorter is quite similar to the Myers-Briggs Type Indicator (MTBI [®]).
Myers-Briggs Type Indicator[®]	<p>The Myers-Briggs Type Indicator (MBTI[®]) instrument is the most widely used personality inventory in history. Professionals depend on it when clients need to make important business, career, or personal decisions. Last year alone, two million people gained valuable insight about themselves and the people they interact with daily by taking the MBTI[®] instrument. Helps to build teams and develop leadership, interpersonal, and lifestyle pursuits in business, counseling, and education.</p> <p>The MBTI[®] inventory helps to improve work and personal relationships, increase productivity, and identify leadership and interpersonal communication preferences for clients.</p>
Strong Interest Inventory	<p>The Strong Interest Inventory assessment instrument reflects today's pattern of constant change in the world of work. It provides a solid, dependable guide for career change and development. Whether for students exploring careers, clients considering a job change, or individuals interested in career development, the Strong provides the most valid, powerful, and up-to-date information to help make informed decisions. The Strong's 317 items measure interest in a broad range of occupations, work activities, leisure activities, and school subjects.</p> <p>The validity and reliability of the Strong exceed those of any other interest inventory:</p> <ul style="list-style-type: none"> • Sample size is 13 times larger than that of other career or interest inventories • Sample base represents a wide range of educational and socioeconomic levels • 14 growth occupations and contemporary careers were added in 1994 • 72 Occupational Scales from the 1985 version have been re-normed. <p>Strong products are designed to assist in career development planning. Each component is easy to use and easy for your clients to understand. The Strong products help plan for different steps along the career path with one goal in mind: to match interests with careers.</p>

APPENDIX G

Letter to Eighth Grade homeroom teachers

*Halifax County Middle School**Office of the Principal, Gail W. Bosiger**1011 Middle School Circle
South Boston, Virginia 24592
434-572-4100*

DATE: April 29, 2009

FROM: Gail W. Bosiger, Principal

Gail W. Bosiger

TO: All eighth Grade Homeroom Teachers

SUBJECT: Parent survey

Halifax County Public Schools has authorized the distribution of the attached survey to all eighth grade students. This survey is part of a doctoral research project performed by Virginia R. Jones, Supervisor of Academics, a school system employee, and a doctoral candidate at Old Dominion University.

Participation is voluntary. Please distribute the survey to all students. If a student returns the survey within two days, he/she will be entered in a drawing for either a \$25.00 or a \$15.00 gift card to Wal-Mart.

Please return completed surveys to my office as you collect them. If you have any questions, please contact me.

GWB

APPENDIX H

Coin Career Community® online Parent Letter

Letter for Parents

Your child's school has purchased the Coin Career Community. We would like to take this opportunity to explain the product, and offer instructions for using the program.

The Coin Career Community is online career guidance available to administrators, teachers, counselors, students, and parents. It is available online twenty-four hours a day, seven days a week.

The program's two main objectives are:

1. To provide teachers, parents, and students with clear connections between skills being learned in the classroom and real-world applications of those skills.
2. To build a community of support, in the form of teachers, counselors, administrators, and parents. The community will work together to provide students with reliable resources and planning assistance that will insure their success in the workplace.

COIN gives parents the ability to use the system along with students. It is our hope that you will log on to view your child's progress, and the needs and interests he or she has discovered. We hope that you will work with your child and the staff at his/her school to provide the parental support needed to make our community the most effective resource for career guidance and exploration.

HOW TO LOG IN TO THE COMMUNITY

1. Go to community.coin3.com
2. Enter the following information:
 - USERNAME: your student's username plus the letter p
 - PASSWORD: your student's password plus the letter p
3. SITEID: your student's Site ID
4. Click the check box for "parent user."

THE COIN COMMUNITY

Within the program, there are five separate centers for students and parents.

HOW TO USE THE COMMUNITY

To navigate between the sections of the program, use the colored tabs at the top of the screen. Once you click open the appropriate center, use the expanded menu down the left side of the screen to make your selection. To go back to the homepage at any time, click on the COIN logo in the top left of the screen.

Each COIN center serves a unique purpose, with the following functions:

EXPLORATION CENTER - Gold Tab

- Take assessments that connect your interests and skills to career clusters and occupations
- Search for information on occupations based on various criteria
- Research two-year and four-year colleges based on various criteria
- Watch occupation videos
- Look for instructions and suggestions on how to obtain financial aid

PLANNING CENTER – Green Tab

- Record results from COIN assessments and other standardized tests
- Complete checklists related to career and college planning tasks
- Establish goals and set action plans for achieving them
- Create a resume
- Keep track of job and college contacts
- Write journal entries that record important highlights and describe skills you have acquired
- Print a career portfolio

RESOURCE CENTER – Light Blue Tab

- Search for links and articles related to important school and career topics
- Complete short activities that introduce you to work and life skills
- Look for information specific to the state in which you live
- Read about up-and-coming or out-of-the-ordinary jobs

ACTIVITY CENTER – Red Tab

- Take weekly quizzes to prepare for SAT, ACT, GED, and/or State Proficiency exams
- Complete daily history quiz

COMMUNICATION CENTER – Dark Blue Tab

- Send/receive important messages to/from teachers, counselors, and school administrators.

Vita

Virginia R. Powers Jones

**Darden College of Education
Old Dominion University
Norfolk, VA 23529**

Education

Ph.D. Education (Occupational and Technical Studies), Old Dominion University,
2009

M.S. Administration and Supervision, Longwood University, 2000

B.S. Business Management, Averett University, 1990

Professional Experiences

Supervisor of Academics Halifax County Public Schools	2008- present
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Instructional Technology Specialist Halifax County Public Schools	2006-2008
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Assistant Principal Halifax County Middle School	2001-2006
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Instructor, Algebra 1 Halifax County High School	1999-2001
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12 th Grade Team Leader	2000-2001
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Lead Technology Teacher	1998-2001
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Instructor, Business Education	1997-1999
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Professional Affiliations

Association for Career and Technical Education (ACTE), National Leadership Fellow 2009-2010.

Association for Supervision and Curriculum Development (ASCD)

Iota Lambda Sigma Honor Society

International Technology Education Association

Phi Kappa Phi National Honor Society

S.A.C.s Peer Review Team – Gretna Middle School March 2001

Virginia Advisory Committee for Career and Technical Education

Virginia Middle School Association Board of Directors, President-Elect

Virginia Schools to Watch Training Coordinator

Virginia Educational Technology Advisory Committee Representative, Virginia Department of Education

Virginia Society for Technology in Education

Virginia Association for Career and Technical Education

Virginia Association for Career and Technical Education Administrators

Publications

Jones, V. & Capozzi, B. (2009, Spring). Secondary education collaborates with “The business of art and design” postsecondary program. *Journal for Workforce Education*, 1(2), 27-29.

Jones, V. (2008, Fall). Career and Technical Education: The missing key element: A reaction to the alliance for excellent education elements of a successful high school. *Journal for Workforce Education*, 1(1), 5-8.

Jones, V. (2008, Fall). Students’ perceptions of careers and career and technical Education (CTE). *Journal for Workforce Education*, 1(1), 9-18.

Community Service

The Prizery Singers, Christmas Concerts 2008, 2007, 2006, Dedication Concert 2005

Halifax County Little Theatre, costume design

Certified Lay Speaker, Main Street United Methodist Church

Hand bell and Chancel Choirs, Main Street United Methodist Church

Youth Group Leader, Main Street United Methodist Church