FACTORS THAT INFLUENCE CAREER UNCERTAINTY IN HIGH SCHOOL STUDENTS

by

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ABSTRACT

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While not a new phenomenon, career uncertainty among high school students remains a constant challenge for high school counselors as they search for a career decision making process that is both developmentally comprehensive and designed to prepare students for life-long career planning. Explored within this study will be a review of literature that compares and contrasts research in factors that influence career uncertainty and the contention that early preparation of high school students is paramount in the decision making process. Specifically, the literature will reveal that although research predominately focuses on the uncertainty of college students and adults, there exist enough questions, evidence and debate to suggest investigating career uncertainty of high school students.

The purpose of the study is to investigate factors that influence career uncertainty of high school students at Simley High School in Inver Grove Heights, Minnesota and to

make recommendations that will assist counselors with the early preparation of students. Specifically, the objectives are:

1. To determine if common antecedents of career indecision exist among high school students regardless of grade level.

2. To determine if uncertainty scores are a reflection of student grade.

3. To identify effective recommendations/interventions that will allow counselors to better prepare students for life-long career decision making.

Data was collected from 141 students in grades 9-12 using the Career Decision Scale (CDS). The results indicated that common areas of indecision existed regardless of grade level. In addition, working under the assumption uncertainty decreases with grade level, data revealed that with the exception of 12th grade, uncertainty scores did not clearly reflect student grade level. Supporting evidence gathered from comparisons of central tendency and crosstabulations revealed that next to 12th grade students, the 9th grade was the most certain, followed by 11th grade, and 10th grade students were overall the least certain. Counselor recommendations and implications for future research are explored.

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CHAPTER ONE

Introduction

Career Development

Virginia Gordon (cited in Hayes, 1997), an assistant dean emeritus and associate professor at Ohio State University in Columbus, Ohio, imparted the significance of early career intervention in high school. She stressed:

> There is a lot of excitement about personal counseling, but much less excitement about helping students to learn the process of making vocational choices. This is especially unfortunate when you consider that we are talking about helping a person decide how they will spend one-half of their waking life; the amount of money that they will earn during their lifetime (which will in turn strongly affect their lifestyle); and what their degree of life satisfaction will be…this is a biggie! (p. 4)

In spite of the significance that career choice plays within an individual's life, the phenomena we call "choice" could not happen if not for the methodical, dynamic process of planning and exploration. Career planning exists along a continuum, but is not a lineal process that a single interest inventory can solve. The career decision process is as varied as there are people. What are the causes of uncertainty? What is influencing young people today as they career plan for life? What type of interventions could a counselor implement that would assist in exploring options and help prepare students in understanding this life-long process? When does the process of career planning begin? These are all difficult questions in that the answers remain varied and elusive, yet still germane in the life of an individual.

Attempting to understand the dynamic process of career development can be loosely compared to the belief that the shortest route between two points is a straight line. However, there is a twist to that belief when applied to career development in that the route to one's life work is not always necessarily the shortest or the straightest. In other words, it is not uncommon for individuals to carve out a sinuous career path, underlain by uncertainty, indecision, and change at different points along the continuum of their lives.

Everyone seems to have a story to tell regarding their career path. For example, on one hand ask an adult about their career development and find answers like "I just fell into that job" or "I was in the right place at the right time" (Hansen, 1996, p. 123) or "I changed my mind/major a couple of times before I decided." On the other hand, it is relatively easy to elicit an answer from a group of enthusiastic children when asked what they want to be when they grow up. Finally, "ask a group of high school seniors the same question and some will carefully provide an answer, while others albeit, begrudgingly, may say they really are not sure" (Hayes, 1997, p. 1).

While not a new occurrence, career uncertainty among high school students remains a constant challenge for high school counselors as they search for a career decision making process that is both developmentally comprehensive and designed to prepare students for life-long career planning. Therefore, it would seem natural that an important component of early career development intervention during those exploratory and transitional stages would be to fully investigate career uncertainty among high school students.

In support of this view, the American Counseling Association, which is the world's largest association representing professional counselors (ACA, 1998), stated that

"high school students need to be prepared for the world of work as they enter a period of transition from secondary student to adult citizen," and "that the mission of career guidance and counseling in high schools is to prepare students for their future lives" (p. 2). Recognizing the common phrases of "to be prepared and to prepare" imply the important niche that the career-decision making process at the high school level maintains, but also the value of making sure that students make well thought out career decisions.

Also, Herr and Cramer (cited in Kraus & Hughey, 1999), concluded that the major objective of high schools' career guidance programs should be in assisting students by the use of research and technology in developing effective career decision-making skills. JoAnn Harris-Bowlsbey (cited in Hayes, 1997, p. 2), the past president of the National Career Development Association, also emphasized the importance of student awareness of options and alternatives. She stated, "No one can choose an alternative if they don't know that it exists" (p. 2). As a result, she believes that high school counselors need to be "proactive in developing programs" (p. 2) that assess student's needs and provide them with options.

Hidden within the process and silently interwoven with preparing students for future career decisions is the vast realm of natural career uncertainty that accompanies students creating barriers along the decision-making continuum. Brown and Brooks (1996) noted that a variety of individual characteristics can hinder the career decision-making process and that some students may have too few interests, have unrealistic or self-limiting aspirations, or are resistant to career counseling. Other barriers, such as pressure to make a prestigious decision, conflict with parents, a lack of financial

resources, prejudice, and stereotyping make career decision making more difficult. Additionally, Dungy (1984) found that students with limited self-knowledge, occupational knowledge, confidence, willingness to assume responsibility, and willingness to use resources, were correspondingly less successful and more uncertain in making career decisions.

Similarly, Gray and Herr (1995) argued that high school students are "greatly influenced by external forces but differ in that they believe those forces send overt or subtle messages regarding expectations" (p. 116) and create uncertainty and a possible lack of ownership in career direction. Tinsley (1992) suggested internal factors such as personal identity, self-esteem, and decision-making style as hinted by Osipow (1999), as well as the developmental tasks to be accomplished is also influencing student's decision-making. Nonetheless, specific career exploration objectives, interventions, and career plans could fill in early gaps with career knowledge that would greatly assist high school students in their transitional process. Finally, the ACA (1998) emphasized that regardless of where students exist concerning career development and uncertainty, early preparation and exposure to the world of work is a vital component of life-long career decisions.

Interestingly, assumptions concerning uncertainty and decision draws heavily on theory as major career development theorists such as Parsons, Super, Krumboltz, and Holland have all made subtle references to the importance of early influences in the success of the career decision making process (Brown & Brooks, 1996; Zunker, 1994). These references have been made in spite of the understanding that career indecision has been recognized by many (Ginzberg, Ginsburg, Axelrad, & Herma, 1951; Super, 1980;

Tinsley, 1992; Krumboltz, 1992; Osipow, 1999; Erickson, Piaget, cited in Zunker, 1994) as not only being a life-long process, but also being developmentally appropriate for adolescents. As a result, among the several studies (Orndoff & Herr, 1996; Herr & Cramer, 1995; Gordon, cited in Hayes, 1997) on career uncertainty, many have focused on the tumultuous state of career indecision that exists among college students.

While it certainly seems plausible to investigate the reasons for uncertainty at this stage, it is also an indication that the antecedents for indecision are borne at an earlier developmental stage. Additionally, if research indicates that career development is a life-long process, then career decision-making is a worthwhile component for high school students to explore. Although the constructs of uncertainty may be difficult to explain and that an exact career decision may not typically occur during adolescence, it appears that initial decisions about careers are, in all likelihood, made during this time.

Hartung (1995) acknowledged the importance of both early interventions and the continued efforts in the identification of the multiple dimensions of career indecision, indicating that "surveying clients in terms of their choice status continues to help researchers understand the complexity of career indecision and choice" (p. 3). It goes without saying that surveying students in terms of their choice status would assist in the process. The point being made is that investigations into careers at the secondary level are not about having students decide what "job" they will have for the rest of their lives, but rather participating in a process that would assist in uncovering and identifying factors that generate levels of uncertainty, so that a foundational conduit for future career decisions has been established. The value of introducing students to life-long career-decision making during the secondary years is perhaps best summed up by Kapes,

Mastie, and Whitfield (1994), "As counselors, we understand that any particular career decision for a student or client is merely a single instance in a lifetime of career choice points" (p. 37).

For schools career development might encompasses introducing career awareness activities in elementary grades, career exploration in middle grades, and career preparation in high school. This developmental concept expands career planning beyond point-in-time individual assessment, interpretation, and placement to a whole person orientation. Savickas' construct of career adaptation encompassed an interaction of individual and environment in a dynamic system (1994). Hoerner and Wehrley enhanced the concepts of career development by proposing a strategy of integration within subject area disciplines (1995). Such a strategy complements career development theory through interconnections of academic education with relevant environments in the world of work.

Therefore, while it does seem clearly appropriate to study career indecision among college students and post-high school youth, it does not seem wise to neglect its study among adolescents. What are the causes of uncertainty? What is influencing young people today as they career plan for life? What type of interventions could a counselor implement that would assist in exploring options and help prepare students in understanding this life-long process? When does the process of career planning begin?

Statement of Problem

The purpose of the study was to investigate factors that influence career uncertainty of high school students at Simley High School in Inver Grove Heights, Minnesota during the Spring of 2001 and to make recommendations that would assist counselors with the interventions and early preparation of students in the life-long career

decision-making process. Data was collected from students by administering the Career Decision Scale (CDS) assessment during a normal school day.

Research Objectives

The research objectives were:

1. To determine if common antecedents of career indecision exist among high school students regardless of grade level.

2. To determine if uncertainty scores are a reflection of student school grade level.

3. To identify effective recommendations/interventions that will allow counselors to better prepare students for life-long career decision making.

Definition of Terms

For clarity of understanding, the following terms need to be defined.

Career Certainty/Decidedness - refers to the degree to which individuals feel confident or decided about implementing their occupational plans.

Career Development – involvement in the life-long process of exploring and investigating self, interests, and career resources.

Career Indecisiveness – a personality attribute that would exist in spite of exposure to career resources or opportunity to choose.

Career Uncertainty/Indecision - temporary states of indecision in an individual's career direction or the degree of uncertainty.

Developmental Career Guidance - counseling based on the developmental needs and concerns of all students that fosters academic, personal, social, and career development at the various age levels.

Assumptions and Limitations

The fact that this study is being conducted in a specific region of Minnesota limits the ability of the study to be generalized to other areas of Minnesota and of the United States. It was assumed that students would respond to the survey in a thoughtful and honest manner as it related to their level of career certainty.

Chapter Two

Literature Review

Explored within this chapter will be a review of literature that compares and contrasts research in factors that influence career uncertainty and the contention that early preparation of high school students is paramount in the life-long career decision-making process. Specifically, the literature will reveal that although research predominately focuses on the uncertainty of college students and adults, there exist enough questions, evidence, and debate to suggest that investigating the uncertainty of high school students needs investigating. These components naturally all lead to the awareness that career development is not a lineal process that has components that are easily defined, captured, and compartmentalized. Instead it is a powerful, dynamic process that is interwoven with threads of theory and reality, but also a process that can be supported by early and consistent assessments and interventions.

Theories of Career Choice and Development

Since the body of knowledge pertaining to career development theory is so extraordinarily massive, a complete review is well beyond the scope of this chapter. However, the theories presented within this paper represent a sample of the dynamic concepts that are reflected within the literature regarding the career-decision process as it relates to early preparation. Zunker (1994) summarized the relationships of career developmental theories by stating:

> All the theories emphasize the relationships between the unique traits of individuals and the characteristics of society in which development occurs. The major difference among the theories is the nature of the influential factors

> involved in the career-decision making process, but all the theories have common implications for career guidance. (p. 59)

In essence, they all offer an explanation on career development, although differing in perspectives.

Hartung (1995) referred to the work of Frank Parsons in 1909 as pioneering in respect to the study and assessment of career uncertainty and career indecision. His systematic model of vocational guidance assisted young people with three developmental tasks: 1) understanding of self, 2) knowledge of the world of work, and 3) true reasoning or decision-making skill by helping to incorporate the understanding of self and the knowledge of the world of work into the appropriate vocational decisions (Kapes, Mastie, & Whitfield, 1994). The premise was that young people needed to be actively involved in the process of choosing vocations, rather than leaving career issues to fate. Ultimately the vision and efforts of Parsons set in place a "structural framework" that represented the "roots of career development theory" (Brown & Brooks, 1996, p. 1) as a first attempt to classify people into career-decided and career-undecided.

The events of World War I, the Great Depression, World War II along with a concurrent explosion of psychological, interest, mental ability, and intelligence tests influenced Parson's model of career development. During this time, greater emphasis was placed on classifying younger people so that their developing personal traits relating to interests, values, personalities, and aptitudes could be placed into a congruent job environment. Accordingly, a new name was given to "Parson's model: trait and factor theory" (Brown & Brooks, 1996, p. 2).

Of the many career developmental theories that have been proposed since Parson's work, a completely new developmental theory was introduced in 1951 by Ginzberg, Ginsburg, Axelrad, and Herma (Brown & Brooks, 1996) that provided an initial challenge to the rigid trait and factor theory. In review of the trait and factor theory, an individual is successful when they choose an occupation that is congruent with their personality. In contrast, the new theorists believed conceptually that career development should be considered along a continuum that represented a life-long, developmental process. In essence, the theory hinted that factors associated with career choice and development were dependent upon an individual moving through stages of personal and psychological development and ending with an occupational compromise (Brown, 1996).

Two years later (1953), Donald Super introduced developmental theory as an integration of satisfaction to self, how that benefited society, and as a sequence of developmental stages or roles a person holds in a lifetime, of which occupation is one (Hansen, 1996). Significant to this study is that as Super's research progressed he proposed that vocational self-concepts and career maturity developed as a result of children inheriting aptitudes, observing, role-playing, and identifying with adults who work (Super, Savickas, & Super 1996).

Krumboltz (1992) proposed his Social Theory of Career-Decision-Making in 1979, which stated that individual's began with a genetic endowment of abilities and interests that predisposed them to career development. Krumboltz believed that a second contributing factor, environmental conditions, acted as a catalyst in shaping an individual's predisposition to career development. He believed that the role of the

counselor was to help individuals establish self-observations/perceptions, learn to develop new skills on an ongoing basis, and cope with the stress of that process (Mitchell & Krumboltz, 1996). Again, significant to this study is that Krumboltz was of the opinion that career education was an important process where information was infused into the regular school curriculum and that modeling of career development began at an early age (Mitchell & Kromboltz, 1996).

John Holland's work on career theory, classification, and intervention which began over forty years ago (Reardon & Lenz, 1999) viewed career choices as an extension of personality, and had its roots as a trait and factor theory. Holland hypothesized that people project their image of self and the world of work onto occupational titles, and that the resulting occupational stereotypes could be used to help them identify their career interests. The basic assumption underlying Holland's theory was that job satisfaction, which he called congruence, could be predicted by matching personal interests with careers that allowed individuals to exercise their skills, abilities, and attitudes.

Holland (cited in Reardon & Lenz, 1999) suggested "most people have a personal career theory about careers or work that is based on an individual's collection of occupational beliefs, ideas, and personal characteristics that was informally developed over a lifetime" (p. 103) and assists in the choice of occupations. In addition, Holland believed that individuals who accumulated more information concerning occupations made more adequate career choices in the future. He theorized that external forces such as teachers had a large impact on the acquisition of occupational knowledge (Spokane,

1996). Once again, a major career development theorist has made a subtle reference to the importance of early influences in the success of the career decision-making process.

Significant to the discussion of career development theories and represented in Zunker's (1994) summation earlier is that the major difference among the theories is the nature of the influential factors involved in the career-decision making process. For example, Krumboltz (cited in Chartrand & Walsh, 1999) has questioned Holland's component of congruence by suggesting that "the goal of achieving congruence between individuals and their work environments is unnecessarily restricting" (p. 138). He implies that congruence overlooks the fact that young people in today's job market can be successful in any given occupation, indicating that there are other factors that can influence choice and satisfaction. Additionally, Savickas (cited in Chartrand & Walsh, 1999) stated that "the modern age is changing the old order" (p. 138), insinuating that there are new factors influencing the current job market that have made some of Holland's original job titles obsolete and challenges the necessity of congruence with an individual's work environment and success.

However, in defense of Holland, Osipow (1999) pointed out that Holland's theory, which originated in the 1950's, has been "revised and updated several times, most recently in 1997" (p. 148) and represents a unique opportunity for counselors to measure indecision between personal type and choice or future choice regardless of the template of influencing factors. In addition, Campbell and Borgen (1999) defended Holland's theory by stating that Holland's work "has become a lens which much of vocational life is now productively viewed" (p. 86).

In review, Holland's theory focuses on interests as personality. Career choice and development are seen as an expression of that personality. Super (1980), on one hand, looks at career choice and development as a process where there are tasks to be done adequately to be able to move to the next stage. Krumboltz (1992), on yet another hand, agrees with Super that individuals develop in their careers, but not necessarily through distinct stages. Instead, he argues that learning from their environment and from themselves continually influences people, and this learning does not necessarily follow a stage model.

It would be inappropriate to neglect the influence and connection that exists between the developmental career patterns as suggested by Parson, Krumboltz, Holland, and Super to the basic understanding of human development. According to Zunker (1994), this understanding is "one of the essential ingredients leading to a greater comprehension and interpretation of career-development stages and tasks" (p. 181). He points out that Paiget's work in the stages of cognitive development of humans along with Erikson's contributions in the stages of psychosocial development have provided an important template on how humans think and develop as it relates to career development (Zunker, 1994). The implication is that career development is not fundamentally based on "chance" but rather on a transitional process that is founded in theory and practically applied.

Finally, regardless of their differences, all theories presented make a subtle reference, which is pertinent to this study, that indicates career development in reality, is influenced by many factors at an early age, and dynamically continues for life. Hence,

developmental career theory builds on the critical role of self-concept and its relationship to decision-making (Osipow, 1983).

Questions, Evidence, and Debate

Osipow (1999) indicated that the emphasis on career indecision has originally been a major concern of students, but he stressed:

> The issue now encompasses a broad life spectrum because of the increased frequency of events that require people to revise their career decisions over their life span. Instead of facing the need to make a career decision only during late adolescence and early childhood, revised career plans seem to be needed at a variety of life transitions. Each of these transitions poses the potential for career indecision to occur. (p. 147)

Gray and Herr (1995) also defined career development as a "lifelong process of decision and actions taken to decide on, prepare for, transition to, and be successful in an occupation or occupations" (p. 114). However, these authors see career maturity as the ability of a student to move from "fantasy in the elementary grades to realism at the time of graduation from high school" (p. 114) and that this transition should be based on a realistic assessment of skills at the time of graduation.

According to Super (1980), there exists a natural exploratory stage between the ages of 14 to 25 years of age. His work defined career development as a sequence of stages or roles a person holds in a lifetime, of which occupation is one (Hansen, 1996). However, Super, Grotevant, and Cooper (cited in Blustein & Phillips, 1988), recognized that exploration presents itself at all ages and stages of development but "is considered to be most prominent during the late adolescence/early adulthood period" (p. 204).

Consistent with several other major career development theories (e.g., Ginzberg et al., 1951; Super, 1953) and hinted at in the debate concerning whether career indecision is normal for college students (Hartman & Fuqua, 1983), career indecision is typically viewed as developmentally appropriate for adolescents but perhaps assumed to be a less critical area of study. In support, Krumboltz (1992) cautioned that indecision is not always bad and may be important to keep in mind depending on the developmental stage of the respondent. Therefore, indecision might be entirely appropriate. Ginzberg, Ginsburg, Axelrad, and Herma (cited in Drummond & Ryan, 1995) career developmental view suggests a natural tentative period of choice for students between the ages of 11 to 18 years of age. Similar to Gray and Herr (1995), Ginzberg, Ginsburg, Axelrad, and Herma (cited in Drummond & Ryan, 1995) described the evolution of decision making from a fantasy choice to a realistic occupational choice (Tinsley, 1992).

Osipow (1999) concurs with Ginzberg et al. (1951), Super (1980), and Hartman and Fuqua (1983) in viewing "indecision as a developmental phase through which individuals may pass on their way to making a decision" (p. 147). However, he adds another dimension to the debate concerning indecision by discussing the differences between indecision and indecisiveness. Osipow (1999) viewed indecision as a dynamic process that will wax and wane, which may temporarily produce a state of indecision but will eventually lead to choice. The implication is that indecision is to be expected and is a natural part of the decision-making process as opposed to it representing a weak character trait. Additionally, Osipow (1999) speculated that "over the life-span the time period over which the cycle (of career indecision) occurs gradually widens, so that the frequency of the need to make a career decision anew occurs less frequently" (p. 147)

On the other hand, Osipow (1999) stated that "indecisiveness is not an ordinary part of human growth and development, but is, instead, a personal trait which generalizes across situations demanding decisions" (p. 148). Nevertheless, the reality and awareness is that the state of indecision and the trait of indecisiveness are potentially lifelong individual styles. The implication is that indecision and indecisiveness may require assessment earlier in life so that an individual can be cognizant of personal decision making traits as they relate to career development.

The Value of Early Preparation

Although it certainly seems plausible to investigate the reasons for uncertainty in post-secondary students, there is also an indication that the antecedents for indecision are borne at an earlier developmental stage. In a five part study on developmental career programs for schools in 1998, the American Counseling Association (ACA) reported that senior high school students differ significantly in career development, uncertainty, and career maturity. Possible reasons for these variances included "inconsistent exposure to career developmental tasks in previous grades, inappropriate or inaccurate information delivery service experiences, and the confounding variables of socioeconomic status, class, and minority ethic group membership" (p. 2). The ACA emphasized that regardless of where students exist concerning career development and uncertainty, early preparation for the world work and exposure to making choices is a vital component of life-long career decision making.

Deci (1985) as well as Glasser and Dotson (1998) supported the value of assisting children in making choices and found that they feel more positive about learning and their future when choices are present. They believe the ability to choose allow a student

to set and reach self-determined goals, thereby increasing motivation, an important factor in learning and decision-making. In essence, early exposure to "choice" as it relates to career development would assist in the reduction of anxiety that most students feel and in turn would positively affect their ability to direct their own lives (feel more in control), make more effective choices (become better decision makers), reflect on what they are doing now (behaviors that are helping them achieve "wants"), and create a plan for fulfilling that "want" more effectively in the future.

Kapes et al. (1994) seemed to concur with Deci (1985), Glasser and Dotson (1998) on the importance of early preparation and the value of making "choices" in career development. They stated:

> Clients need to be taught to approach career choice points not as panicky crises, but as times to re-evaluate the opportunities offered in the workforce, to reassess their own present skills, interests and values through the evidence already available to them, to recognize when and if they need the further assistance available from a professional counselor, and to use the information to create short and long-term career plans and initiate appropriate action. (p. 37)

Similarly, Gray and Herr (1995) argued that high school students are "greatly influenced by external forces but differ in that they believe those forces send overt or subtle messages regarding expectations" (p. 116) and create uncertainty and a possible lack of ownership or choice in career direction. Tinsley (1992) suggested internal factors such as personal identity, self-esteem, and decision-making style as hinted by Osipow (1999) as well as the developmental tasks to be accomplished are also influencing student's decision-making. In another example, Blustein, Walbridge, Friedlander, & Palladino

(cited in Super et al., 1996, p. 129), stated that "some student's indecision problems are wrapped in their role as children because they cannot make a choice for fear of disappointing a parent."

Isaacson and Brown (2000) stated that early career developmental programs are "crucial and than many activities that occur routinely in the high school lend themselves to fostering career planning and development" (p. 267). The results of those early preparation programs would help students focus on goals and could bring forth benefits to students, parents, and school with a decline in dropout rates and improved attendance. Additionally, early preparation would assist in developing competent decision-makers, increased student perception of the world of work, higher self-concepts, increased parental involvement, and increased appreciation for the value of education.

Interestingly, it is recognized that career development is important in the realm of guidance but Moles (cited in Isaacson et al., 2000) research suggested that "school counselors spend approximately 9 to 13 percent of their time in activities that are directly related to career development" (p. 266). Indicating that assisting students in career development falls behind in importance compared to academic achievement and college planning, when in reality, all of these components are mutually dependent upon one another.

Consequently, Isaacson and Brown (2000) revealed the massive influence that early career developmental programs have on student choices and earning potential:

> The lack of early preparation has far reaching affects sighting that as many as 25 percent of students leave high school before graduation. Although 40 percent of these return to school through alternative high school programs, community

> college programs, and other means, the economic consequences for those who do not are dramatic. For example, in 1996, workers who had finished high school earned over $7,000 per year more than students who had not graduated. (p. 269)

Therefore, specific career exploration objectives, interventions, and career plans could fill in early gaps with career knowledge that would greatly assist high school students in their transitional process.

While the ACA (1998) and other authors cite the impact career counseling has at the secondary level concerning factors of career development and uncertainty, there exists a widespread attitude in research literature to focus on career development of post-secondary students. For a number of theoretical reasons, this is not surprising.

Hayes (1997) stated that "post-secondary education statistics indicate 20 to 60 percent of a freshman class can be undecided or uncertain of their career choice" reflects evidence of earlier antecedents (p. 1). Herr and Cramer (1995) reported that a primary career need among college students, especially among freshman and sophomores, is choosing a career. This need for assistance in the choice of a career is a national problem as reported by one million freshmen who took the American College Test assessment in 1999. In general, these freshmen expressed uncertainty about their career choice. In fact, over two thirds of the one million freshmen surveyed indicated that they were not sure of their vocational choice (American College Testing Program, 1999).

In addition, Orndorff and Herr (1996) determined that up to 75% of college students change their major at least once and that the problem of uncertainty can linger after the first year as students change colleges, majors, or drop out before making a decision. Titley and Titley and Hartman and Fuqua's (cited in Orndoff & Herr, 1996)

view indicated that uncertainty about career goals has been linked to attrition and suggested that uncertain students are anxious and confused as to their identity, which becomes a barrier to self-actualization.

Although research indicates it is clearly appropriate to study career indecision among college students and post-high school youth, it does not seem wise to neglect its study among adolescents. A final career decision may not typically occur during adolescence, and the constructs of uncertainty may be difficult to explain, but initial decisions about careers are, in all likelihood, made during this time.

Importance of Counselor Interventions and Assessments

Ginzberg et al. (1951) assumed that an eventual career choice is the culmination of initial and subsequent vocationally and educationally relevant decisions. Interestingly, early literature published by Osipow, Clarke and Barak (1976) indicated that "the failure to deal effectively with the phenomenon of vocational indecision is that most research attempts have been designed to deal with the construct of indecision as a totality" (p. 234). The belief was that if career choice was the culmination of relevant decisions, then it would be important to separate the construct into components that would prove to identify the multi-dimensions of career indecision that would in turn result in identifying the antecedents of indecision.

Almost twenty years later, Hartung (1995) stressed that while research has continued to assess career uncertainty, it is still an elusive construct to explain and complex to understand. Hartung (1995) acknowledged the importance of both early interventions and the continued efforts in the identification of the multiple dimensions of career indecision, indicating that "surveying clients in terms of their choice status

continues to help researchers understand the complexity of career indecision and choice" (p. 3). Ultimately, it assists career and guidance counselors in planning appropriate career interventions. Unveiling the important idea that investigating careers at the secondary level is not about having students decide what "job" they will have for the rest of their lives, but rather participating in a process that would assist in uncovering and identifying factors that generate levels of uncertainty, so that a foundational conduit for future career decisions has been established.

Osipow's (1997) work would concur with Hartung's (1995) and took it one step further by suggesting that all students, regardless of social background, personality, and past experiences, would improve their future career decision-making process by having a solid high school educational program and knowledge in how to access career information. He reported (Osipow, 1999) that assessments could identify aspects of the career decision making process in which an individual may be deficient and assist in the acquisition of skills and awareness of options. The suggestion is that assessments provide an opportunity to explore what Osipow (1999) called "sub-problems" or sub-factors "of gathering information, generating, evaluating, and selecting alternatives for implementing decisions" (p. 152).

Kapes et al. (1994) cautioned that while assessments provide an opportunity of investigation, the career guidance provided by counselors should be solidly based on philosophical underpinnings of career development of which the following should serve to be the foundational principles of intervention and assessment: 1) Career development is an ongoing process, a series of choices; 2) Decision-making and planning are processes, which can be learned and applied throughout the life span; 3) Multiple self-

factors are involved in career choices; and 4) The myth of the "One Right Job" is detrimental and inaccurate.

Asserting that "the ability to make an informed choice is paramount to helping undecided students," Harris-Bowlsbey (cited in Hayes, 1997, p. 2), the past president of the National Career Development Association, also emphasized the importance of student awareness of options and alternatives. She stated, "No one can choose an alternative if they don't know that it exists" (p. 2). As a result, she believes that high school counselors need to be "proactive in developing programs" (p. 2) that assess student's needs and then provide them with choices or options.

Furthermore, Hayes (1997) emphasized that regardless of the many factors, early intervention assessment programs and sound academic curriculum in high school would give students a solid foundation in tempering career indecision. Her thoughts were echoed by Herr and Cramer (cited in Kraus & Hughey, 1999), who concluded that the major objective of high schools' career guidance programs should be in assisting students by the use of research and technology in developing effective career decision-making skills. Changes in the economy, downsizing, dislocation, layoffs, and the number of adults making job changes are a reflection of career stressors that students will ultimately face (Kraus & Hughey, 1999). Therefore, it seems essential that the impact of early intervention on the career decision-making process should not be taken lightly given the influence on the future of each individual.

Virginia Gordon (cited in Hayes, 1997), an assistant dean emeritus and associate professor at Ohio State University in Columbus, Ohio imparted the significance of early intervention in high school. She stressed:

> There is a lot of excitement about personal counseling, but much less excitement about helping students to learn the process of making vocational choices. This is especially unfortunate when you consider that we are talking about helping a person decide how they will spend one-half of their waking life; the amount of money that they will earn during their lifetime (which will in turn strongly affect their lifestyle); and what their degree of life satisfaction will be….this is a biggie! (p. 4)

Conclusion

Although research predominately focuses on the uncertainty of college students and adults, there exist enough questions, evidence, and debate to suggest investigating the uncertainty of high school age students. The ACA (1998) believed that the mission of high school career guidance counseling programs is to prepare students for the life-long process of making decisions. Early identification and interventions would assist in the following ways:

1. Uncovering and identifying common factors that generate levels of uncertainty.
2. Reforming and redefining the career component of a high school guidance curriculum that reflects students' career developmental needs.
3. Preparing students by helping them to recognize barriers of career uncertainty, methods of exploration, self-assessment of interests, and work-related values with the intent of acquiring a foundation of skills and knowledge for future decision making.

CHAPTER THREE

Methodology

Introduction

This chapter will describe the research site, procedures, as well as the subjects under study. In addition, the instrument being used to collect information will be discussed as to it's content, format, validity, and reliability. The chapter will conclude with some of the methodological limitations.

Site Selection

The site selected for research was Simley High School, which is part of Independent School District 199, located in Inver Grove Heights, Minnesota. The city of Inver Grove Heights has approximately 30,000 residents, no traditional city center, and is considered a southeastern suburb of the Greater Minneapolis-St. Paul Metro Area. Independent School District 199 is governed by a seven-member school board. There is one high school, one middle school, and four elementary schools. There are approximately 1,700 elementary children, 1,000 middle school children, and 1,270 high school students. There are approximately 450 employees with an annual budget of 35.7 million dollars.

Simley High is a 9-12 comprehensive high school and at the time of the study had seventy teachers, three counselors, and one counseling intern. Advanced classes were offered in mathematics, science, English, and social studies. ACT test composite results were consistently higher than the reported national average. Ten years of data indicated that ninety percent of graduating seniors had post-secondary plans.

Description of Subjects

The sample for this study was drawn from the 1,270 students enrolled in grades 9-12. Ages ranged from 14 to 18. At the time of the sampling, the student population was defined by the following demographics: 1) 355-9th grade students, 184 males and 171 females; 2) 365-10th grade students, 196 males and 169 females; 3) 280 11th grade students, 135 males and 145 females; and 4) 270 12th grade students, 138 males and 132 females.

Sample Selection

All 1,270 names were downloaded onto a spreadsheet in alphabetical order from a district database and mailing labels were provided by the school system's Data Processing Office. It was determined by the researcher that the assessment was to be directed toward four different grade levels, with each grade represented by a sample size of 80 for a total 320-sample.

Students in the database were assigned numbers, with the final number corresponding to the total number of students in that particular grade. In order to select the sample, each student defined in the database needed to have an equal chance of being selected to take part in the study. Therefore, the researcher used random assignment procedures by consulting a table of random numbers. An arbitrarily determined starting point on the table was used and 80 students from each grade were matched with numbers from the table of random numbers and assigned to the sample.

Two weeks before the assessment, students in the sample were mailed a Human Research Subjects Consent Form to be completed by their parent or guardian. The signed consent form was returned within ten days to the researcher in the self-addressed

envelope that was provided. A list of students involved in the assessment was distributed to teachers and staff.

The assessment was conducted during second hour of a regular high school day, in the school auditorium, and during the last fifteen minutes of second hour. During first hour on the day of the assessment, notes were sent to each member of the sample that reminded them of the assessment and also excused them from the last part of their second hour class. Those students who were released from class and officially checked-in with the researcher were determined to be part of the participating sample.

Instrument

The instrument chosen for this research was the Career Decision Scale-CDS that is published by Psychological Assessment Resources, Incorporated. "Originally devised as part of a proposed modular system to promote self-counseling about career indecision" (Osipow, 1987, p. 1). The CDS evolved from the thinking that a measurable number of distinct problems prevent people from achieving finalization of educational and vocational decisions. The CDS provides an estimate of career indecision and uncertainty, and basic to its development is the idea that interventions could be used on the different aspects of career indecision measured by the scale.

Specifically, the CDS presents itself in a four-page booklet, which contains all items and ratings. Scoring is tabulated and recorded in the test booklet using four normative groups for calculation of percentile scores. Normative groups consist of high school and college students by sex and year of study. Westbrook, Cutts, Madison, and Arcia (cited in Osipow, 1987) stated that the CDS is appropriate for use with high school students of both sexes and indicated that the reading level is reasonable for students

making normal academic progress. The CDS can be administered in group or individual situations and depending on the reading level, can be completed in 10 to 15 minutes.

The CDS consists of 19 items, 18 of which are in a Likert format with 4 indicating "like me" and 1 indicating "not like me". Items 1 and 2 represent components of the Certainty Scale (CS), which measures the degree of certainty a student feels regarding their decision about a major or career. CS scores at the 15th percentile or less would suggest that the test-taker has significant uncertainty about a career. Items 3 through 18 represent the Indecision Scale (IS) and are 16 independent items that measure career indecision. IS scores at or above the 85th percentile would indicate a serious level of indecision about a career. Item 19 is an open-ended statement that is not scored, however, it is designed to allow the test-taker to list other unique barriers in the decision-making process not represented in the scale items.

Initial psychometric properties reported by Osipow, Carney, and Barak (cited in Osipow, 1987) of the CDS reveal adequate test-retest reliability correlations for IS scores of .82 to .90 and item correlations for Certainty and Indecision Scales ranged from .34 to .82 with the majority of correlations falling between .60 and .80. A factor analysis yielded four factors which were interpreted as 1) need for structure/lack of confidence, 2) perceived external barrier, 3) positive choice conflict, and 4) personal conflict. The validity of the CDS is acceptable and has been established by a variety of "studies showing the scale's expected relationships among a variety of hypothetical constructs, the scale's ability to differentiate career decided and undecided groups, and the scale's sensitivity to relevant changes following treatments designed to reduce career indecision" (Osipow, 1987, p. 5).

Data Collection

Upon arrival, students were instructed to sign-in with either the researcher or the assistant principal who had agreed to help proctor. After sign-in, students could sit anywhere in the auditorium. A brief introduction regarding the rationale for the study was given and the CDS was distributed to each subject.

After all the students received booklets, they were instructed to provide only his or her current grade level and gender on the front of the test booklet. The researcher cautioned the entire group to carefully read each item and respond by circling one of the four numbers indicating their judged likeness to the condition described by the item. Students were also encouraged to complete the open-ended question at the end of the assessment. As an initial guide, students were directed to refer to the example question on the front of the booklet and were instructed to begin. All students completed the assessments within 10 to 15 minutes. Assessment booklets were collected and students were given passes back to class. It was determined that the final participating sample size was 141 students.

Data Analysis

The analysis plan linked the research objectives with the data collected and spelled out the analyses that were conducted when data became available. Data was organized and analyzed by using manual methods as well as statistical software.

Descriptive methods using measures of central tendency (mean, median, mode, and standard deviation), frequencies, percentages, and individual grade crosstabulations were employed to analyze data. Certainty and indecision scores were investigated as a whole and then dissected into their respective categories. In addition, data was compared

to the group or to individual grade level when appropriate. Finally, individual comments that were obtained from an open-ended statement on the CDS (Item 19) were provided and discussed as they related to career certainty. Chapter Four provided the results of all of these analyses.

Total scores on the CDS were calculated for all 141 participants. Scoring the CDS consisted of adding the total ratings for each of the two Career Decision Scales. A raw score was obtained for the CS by adding the ratings for items 1 and 2 which was then entered in the scoring box (Table 1) included on the inside of the assessment booklet. A raw score for the IS was determined by adding items 3-18 and entered in the scoring box (Table 1). Based on raw scores, appropriate normative group percentile scores for male and female high school students (Appendix A) were obtained and recorded in the appropriate areas of the scoring box (Table 1).

Table 1: Scoring Box

	Total 1-2	Total 3-18	Normative Group	%ile
Certainty Scale				
Indecision Scale				

Examinations of Certainty and Indecision Scale percentile scores were compared to the information in Table 2. High Certainty Scale scores would indicate certainty of choice and school major. Certainty Scale scores which were at the 15th percentile or less would be considered significant, suggesting that the student was uncertain about the selection of either career and/or major. High Indecision Scale scores would indicate indecision concerning career choice. Scores that equaled or exceeded the 85th percentile would be considered significant, indicating a serious level of indecision.

Table 2: Interpretive Hypotheses for Certainty and Indecision Scores (Oispow, 1987)

		INDECISION		
		High >84th percentile	Middle 16-84th percentile	Low <16th percentile
CERTAINTY	High >84th percentile	Possible invalid test data	Further need for assessment	Little felt need for intervention
	Middle 16-84th percentile	Further need for assessment	Further need for assessment	Further need for assessment
	Low <16th percentile	High likelihood of need for intervention	Further need for assessment	Possible invalid test data

Limitations, Bias, and Unknowns

A possible reoccurring limitation that revealed itself during the investigation of the CDS centered on the variation of psychometric data that was produced from additional studies. Lyman (1998) stated that "reliability is not concerned with what a test measures—it is concerned with the reproduceability of the test results" and "irregularities have a direct and adverse effect on reliability; indirectly, they may reduce validity as well" (p. 19). As a result, it seems fit to discuss the debate concerning the psychometric properties of the CDS and subsequent confidence in assessment results.

Many researchers have conducted factor-analytic studies of the CDS to determine whether its items scale different dimensions of indecision. If the CDS proved to measure different dimensions of indecision, then counselors could use it to identify not only general indecision levels, but also specific barriers to making career decisions. These

factor analytic studies have fueled many debates about the utility of the CDS for this purpose.

Slaney, Palko-Nonemaker, and Alexander (1981) reported lower item correlations ranging from .19 to .70, but could be the result of a 6-week interval compared to the 2-week retest interval used in the original study of Osipow, Clarke and Barak (1976). In any event, this difference implies that reliability declined over time. However, Hartman, Utz, and Farnum (cited in Hartman, Fuqua, & Jenkins, 1986) found a test-retest reliability on the CDS of .61 over a 2-week interval. They stated "that the construct of career indecision may not be stable and that modest test-retest correlations would therefore be an accurate reflection of an inherently unstable construct" (p. 142).

Factor analysis in several studies (Slaney et al., 1981; Rogers, Westbrook, & Kazin, cited in Osipow, 1987) have been unable to replicate all four of the factors as described in the original study. The only factor to be replicated has been Factor 1 which is the need for structure/lack of confidence, while factors 2, 3, and 4 present a much more confusing picture because of possible item overlap between factors. Slaney (cited in Kapes et al., 1994) suggested the lack of replication may be with the compound ideas trapped by some of the items.

Although to some degree the factors have differed from study to study, Hartman and Hartman (cited in Osipow, 1987) did not replicate the original factors, but they found that the scores were good predictors of decision a year after the assessment. Similarly, Barak and Friedkes (cited in Osipow, 1987) found that factor scores predicted individuals who benefited from counseling from those who did not.

Over the years, the structure has become an issue because studies have failed to replicate the original factors, leading Osipow to suggest caution in the use of factor scores (Kapes et al., 1994). Osipow (1999) restated that there has been "some controversy regarding the accuracy or even the existence of the factors, but it does appear that some organizing substructure exists" (p. 150). He stressed that the total indecision score instead of the factor structure should be used and has successfully been used as a measure of an individual's state of indecision. Additionally, the examination of each item score could reveal supplementary information regarding the sources of indecision and could be used as a pre-post test assessment that would assist with interventions in the career-decision making process.

While the researcher understands that career uncertainty exists along a continuum, many extraneous and unknown factors could bias or affect the research results. First, the findings of this study will not be generalized or meant to be made applicable to all high school students, since only one high school was assessed. Second, a students reading level, gender, racial, ethnic, cultural background, and disability could influence career assessment results. Third, although administered in the same location, the assessment may be influenced by the fact that some students may have felt rushed because they saw other students complete the assessment in just a few minutes. Consequently, they may not have taken enough time to carefully read and thoughtfully respond to each statement. Fourth, it might also be possible to assume that some students did not take the assessment seriously and therefore responded inaccurately to the statements. Finally, perhaps some parents or teachers "prepared" students for the career assessment.

CHAPTER FOUR

Results

Introduction

This chapter presents the results of the data collected from the Career Decision Scale (CDS). It explains how data were organized and analyzed. Several sections from demographic information to student comments are provided to report the results.

The opening section of this chapter describes the assessment response rate and the participants sampled. Demographic information, such as gender and grade level, is outlined to better understand the characteristics of the participating unit in this study.

The second section pertains to Research Objective 1 posed in Chapter One, which was 1) To determine if common antecedents of career indecision exist among high school students regardless of grade level. Section three pertains to Research Objective 2, which was 2) To determine if uncertainty scores are a reflection of student school grade level. The data are discussed as they relate to the research objectives and are presented in tables of frequencies, percentages, measures of central tendency, and crosstabulations.

The last section of this chapter presents the participants "comments" from Item 19, which was an open-ended statement. Item 19 was not scored; however, it was designed to allow the assessment participants to list other unique barriers or general comments regarding their state of career decidedness not represented in the scale items. Comments were summarized according to categories of certainty.

Section One: Demographic Information

The assessment response rate was as follows: of the 320 Human Research Subjects Consent Forms sent out, 158 were returned, representing a total group response

rate of 49.38%. Of the 158 that could participate, only 141 (89.24%) actually completed the assessment. Of the 320 Human Research Subjects Consent Forms that were sent out, each grade level (9-12) received 80. Individual grade response rate consisted of 40 seniors or a 50% response rate; 30 juniors or a 37.5% response rate; 38 sophomores or a 47.5% response rate; and 33 freshman or a 41.25% response rate. With regard to the 141 participating students for this study, 28.4% (n=40) were seniors, 21.3% (n=30) were juniors, 27% (n=38) were sophomores, and 23.4% (n=33) were freshmen. The 40 seniors were made up of 47.5% males and 52.5% females; juniors consisted of 43.3% males and 56.7% females; 36.8% males and 63.2% females were sophomores; and there were 54.5% males and 45.5% female freshmen. The results of descriptive analyses reported that 77 or 54.6% of the participants were females and 45.4% or 64 were males.

Section Two: Descriptive Analysis of Objective One

In order to answer the first research objective posed in this study, assessment data were gathered and analyzed using the mean, standard deviation, frequency, and percentile statistics. Investigation of Career Decision Scale scores both as a whole and independently was in order, as well as an analysis of the 18 statements described on the CDS assessment. The objective was to uncover commonalties that would enhance the degree of indecision by the group participants.

Career Decision Scale scores were divided into two measures, a Certainty Scale (CS) score and an Indecision Scale (IS) score. A high CS score indicates higher certainty of career and major choice, while a low CS score indicates lower certainty in choice of career and major. Also, there could be a maximum score of eight and a minimum score of two. Items 1 and 2 on the CDS comprised the CS and the results as reported in Table

3, which indicated an overall group mean CS score of 4.99. If we remember the maximum and minimum scores possible, it was found that the average group CS score fell in the middle. This was supported by the data recorded in Table 4, which verified 89 out of 141 (63%) participants fell within the middle range of certainty.

Table 3: Group Mean Certainty Scale (CS) Scores

Grade	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
9	33	4.97	1.55	.27	2	8
10	38	4.58	1.50	.24	2	8
11	30	4.70	2.05	.37	2	8
12	40	5.63	1.73	.27	2	8
Total	141	4.99	1.74	.15	2	8

Table 4: Group Frequency Certainty Scale (CS) Scores

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
2	16	11.3	11.3	11.3
3	10	7.1	7.1	18.4
4	33	23.4	23.4	41.8
5	22	15.6	15.6	57.4
6	34	24.1	24.1	81.6
7	12	8.5	8.5	90.1
8	14	9.9	9.9	100.0
Total	141	100.0	100.0	

On the other hand, high IS scores revealed higher indecision, while low IS scores indicated low indecision with regard to a career and choice of major. The IS scores could have a maximum score of 64 and a minimum score of 16, and Items 3 through 18 on the CDS comprised the IS. Group IS results as reported in Table 5 revealed an average IS of 32.94. It should be noted that the maximum score of 64, which represented the highest certainty rating, was not obtained within the group, and the scores ranged between 16 to 53. As a result, when the multi-modal results are examined in Appendix B, and 40 is assumed as the middle between the maximum (64) and minimum (16), then 116 of the

141 (82.3%) participants fell below what would be considered average indecision. Therefore, based on IS frequencies and percentages, as a group, it had low indecision.

Table 5: Group Mean Indecision (IS) Scores

Grade	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
9	33	34.27	6.15	1.07	18	45
10	38	35.00	6.91	1.12	16	53
11	30	34.07	9.68	1.77	16	51
12	40	29.03	8.74	1.38	16	46
Total	141	32.94	8.26	.70	16	53

Examination of whole group CS and IS scores did not uncover large pockets or patterns of group indecision; however, understanding that overall CS and IS scores are inversely correlated, several common patterns of scores can be anticipated. In general, CS and IS group data revealed that the group had average certainty and low indecision with regard to career choice.

The objective of looking for patterns or commonalties in indecision can further be explored by investigating the individual items that were used to define both CS and IS. The CS is comprised of Items 1 and 2, while the IS is determined by the total ratings for Items 3 through 18.

Item 1 from the CS stated, “I have decided on a career and feel comfortable with it. I also know how to go about implementing my choice.” The results which are reported in Table 6 indicated that 81 out of 141 (57.5%) participants determined that Item 1 was similar to their thoughts and indicated that by selecting 3 or 4 from the Likert Scale.

Item 2 from the CS stated, “I have decided on a major and feel comfortable with it. I also know how to go about implementing my choice.” The results from Table 7

Table 6: Frequencies and Percents for CS Item 1

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	19	13.5	13.5	13.5
2	41	29.1	29.1	42.6
3	60	42.6	42.6	85.1
4	21	14.9	14.9	100.0
Total	141	100.0	100.0	

illustrated that 77 out of 141 (54.6%) participants believed that Item 2 is not similar to how they felt and indicated that by choosing 1 or 2 from the Likert Scale. The data indicated that a majority of the participants had decided on a career and felt comfortable; however, almost the same percent were less certain on a major and did not know how to implement an immediate plan to reach their career choice.

Table 7: Frequencies and Percents for CS Item 2

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	27	19.1	19.1	19.1
2	50	35.5	35.5	54.6
3	44	31.2	31.2	85.8
4	20	14.2	14.2	100.0
Total	141	100.0	100.0	

Additional patterns of indecision can be revealed by examining individual IS items. Item 4 stated, “Several careers have equal appeal to me. I’m having a difficult time deciding among them.” It was revealed that 68 out of 141 (48.3%) participants

Table 8: Frequencies and Percents for IS Item 4

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	30	21.3	21.3	21.3
2	43	30.5	30.5	51.8
3	40	28.4	28.4	80.1
4	28	19.9	19.9	100.0
Total	141	100.0	100.0	

indicated this statement is similar to how they felt (see table 8). Measures of central tendency for Item 4 indicated a mean of 2.47, median of 2.00, mode of 2, and a standard deviation of 1.04, which would support this state of indecision. In essence, even though the scores were distributed around the mean, most of the participant scores (equal mode/median values) were below the mean, which substantiated increased indecision. The indication is that these students were indecisive concerning choice of a career from several options and chose 1 or 2 from the Likert Scale.

Item 15 stated, "So many things interest me, and I know I have the ability to do well regardless of what career I choose. It's hard for me to find just one thing that I would want as a career." The data in Table 9 revealed that 75 out of 141 (53%) believed

Table 9: Frequencies and Percents for IS Item 15

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	27	19.9	19.1	19.1
2	39	27.7	27.7	46.8
3	45	31.9	31.9	78.7
4	30	21.3	21.3	100.0
Total	141	100.0	100.0	

that this statement described their indecision as it related to career choice and, as a result, is worth examining. Analysis of central tendency revealed that Item 15 had a mean of 2.55, mode of 3.00, median of 3, and a standard deviation of 1.02. Increased indecision was determined for this IS item based on students choosing 4 or 5 from the Likert Scale. Therefore, it was reflected in the central tendency values that a greater number of students scored above the mean, which would indicate increased indecision with regard to students having the ability to decide among their interests.

Item 17 of the IS stated, "I need more information about what different occupations are like before I can make a decision." The data in Table 10 illustrated that

Table 10: Frequencies and Percents for IS Item 17

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
1	24	17.0	17.0	17.0
2	38	27.0	27.0	44.0
3	53	37.6	37.6	81.6
4	26	18.4	18.4	100.0
Total	141	100.0	100.0	

79 out of 141 (56%) participants believed that receiving additional career information would reduce their state of indecision. Measures of central tendency disclosed that IS item 17 had a mean score of 2.57, median of 3.00, mode of 3, and a standard deviation of .98. In this instance, data supported indecision as it related to the need for occupational information. Similar to IS item 15, a greater number of students indicated indecision by choosing 3 or 4 on the Likert Scale. It is worth noting that IS Item 17 represented the largest percentage of indecision (56%) that existed among participants in IS items.

To review, the first research objective was to determine if common antecedents of career indecision existed among high school students regardless of grade. Although subtle and regardless of grade, pockets of indecision were uncovered using frequencies, percentages, standard deviation, and mean. After reviewing the CS and IS scores for the entire group, average certainty and low indecision existed, but showed little in the way of common patterns of indecision. When individual CDS statements were analyzed as they related to either CS or IS, it was found that although the group was relatively decided in career choice (Item 1, 57.5%), there existed a majority of indecision in reference to choice of major (Item 2, 54.6%). In addition, it was found that even though the whole

group IS was considered low, when individual statements related to IS were dissected, it revealed the following areas of indecision:

1. Over 48.3% of the participants indicated they were interested in several careers but were having a difficult time decided among them.

2. Fifty-three percent reported an interest in many things, as well as the ability to do well, but they were having a difficult time deciding on one thing for a career.

3. Fifty-six percent of the participants believed additional information would help them decide.

The aforementioned percentages of indecision were substantial when compared to frequency percentages from other IS items. It was found that individual item IS frequency percentages ranged from 12.1%, which indicated that students believed the statement was similar to how they felt to 43.2%, representing that students were beginning to feel increased indecision as it related to the IS Item.

Section Three: Descriptive Analysis of Objective Two

The second research objective was to determine if uncertainty scores were a reflection of student grade level. It was assumed that for research purposes 12^{th} grade would be the most certain group, 11^{th} grade next in certainty and so on. This objective was investigated by using crosstabulation methods, as well as measures of central tendency for each grade as it related to certainty. It is understood that certainty scores of 6, 7, and 8 reflected greater certainty, and certainty scores of 2, 3, and 4 indicated lower certainty. Therefore, using grades as the template, crosstabulation of the certainty data is displayed in Table 11 to help visually represent the findings.

Table 11: Crosstabulation Certainty Data

Grade	Certainty							Total
	2	3	4	5	6	7	8	
9th - Count	3	1	9	8	7	3	2	33
% within grade	9.1%	3.0%	27.3%	24.2%	21.2%	9.1%	6.1%	100%
% within certainty	18.8%	10.0%	27.3%	36.4%	20.6%	25.0%	14.3%	23.4%
% of Total	2.1%	.7%	6.4%	5.7%	5.0%	2.1%	1.4%	23.4%
10th – Count	3	5	13	7	5	4	1	38
% within grade	7.9%	13.2%	34.2%	18.4%	13.2%	10.5%	2.6%	100%
% within certainty	18.8%	50.0%	39.4%	31.8%	14.7%	33.3%	7.1%	27.0%
% of Total	2.1%	3.5%	9.2%	5.0%	3.5%	2.8%	.7%	27.0%
11th – Count	7	1	8	2	6	2	4	30
% within grade	23.3%	3.3%	26.7%	6.7%	20.0%	6.7%	13.3%	100%
% within certainty	43.8%	10.0%	24.2%	9.1%	17.6%	16.7%	28.6%	21.3%
% of Total	5.0%	.7%	5.7%	1.4%	4.3%	1.4%	2.8%	21.3%
12th – Count	3	3	3	5	16	3	7	40
% within grade	7.5%	7.5%	7.5%	12.5%	40.0%	7.5%	17.5%	100%
% within certainty	18.8%	30.0%	9.1%	22.7%	47.1%	25.0%	50.0%	28.4%
% of Total	2.1%	2.1%	2.1%	3.5%	11.3%	2.1%	5.0%	28.4%
Total – Count	16	10	33	22	34	12	14	141
% within grade	11.3%	7.1%	23.4%	15.6%	24.1%	8.5%	9.9%	100%
% within certainty	100%	100%	100%	100%	100%	100%	100%	100%
% of Total	11.3%	7.1%	23.4%	15.6%	24.1%	8.5%	9.9%	100%

Beginning with the most certain score of 8 (Table 11), it was found that of the 14 participants that scored 8, 50% (n=7) were in 12th grade and 28.6% (n=4) were in 11th grade. In addition, it was found that combining 11th and 12th grade revealed that 78.6% (11) of those with the highest certainty scores were upperclassmen. The data also indicated that of the 12 students who scored 7, 25% were in 12th grade. Respectively, the data revealed that of the 34 students who scored 6, 47.1% were in 12th grade. The results also verified that of the 60 students in grades 9-12 who scored 6, 7, or 8, 43% (n=26) were 12th grade students. Thus, for this study, the greatest number of students most certain about career and major were in 12th grade, and therefore, increased certainty is a reflection of grade.

It is worth noting that the percentages of 11th grade students (20%) who scored 6, 7, or 8 were identical to the percentage of 9th grade students (20%). Consequently, the data in Table 11 also exposed that there were a greater percentage of 9th grade students 20.6% (score of 6) and 25.0% (score of 7) respectively that were more certain than 10th (14.7%, score of 6 and 33%, score of 7) or 11th grade students (17.6%, score of 6, and 16.7%, score of 7). This finding calls into question the support for linear progression of certainty by grade.

Investigating the lower end certainty scores of 2, 3, and 4 revealed that of the 59 students who indicated they were less certain, 15.3% (n=9) were in 12th grade, 22.0% (n=13) were 9th grade students, 27.1% (n=16) were in 11h grade, and 35.6% (n=21) were 10th grade students. Interestingly, the data revealed a serious level of uncertainty in that 7 or 23.3% of 11th grade students scored the lowest value of certainty and of the 16 that scored 2, 43.8% were 11th graders. Conversely, the data uncovered that next to the 12th grade students, 9th grade students were the next least certain. Aside from the 12th grade students, statistically speaking, the data indicated that certainty is not clearly a reflection of grade level.

Additional statistical evidence with regard to grade level and certainty can be

Table 12: CS Measures of Central Tendency Per Grade

Grade	N	Mean	Median	Mode	Std. Deviation	Std. Error	Minimum	Maximum
9	33	4.97	5	4	1.55	.27	2	8
10	38	4.58	4	4	1.50	.24	2	8
11	30	4.70	4	4	2.05	.37	2	8
12	40	5.63	6	6	1.73	.27	2	8
Total	141	4.99	5	6	1.74	.15	2	8

explored by reviewing data from Table 12. It was found that identical results were obtained by comparing mean score data for each grade along with grade crosstabulations. The data in Table 12 indicated that 12th graders were most certain (mean score of 5.63), followed by 9th graders (mean score of 4.97), 11th graders (mean score of 4.70), and 10th graders were the least certain (mean score of 4.58).

In addition, examining all measures of central tendency and then comparing to grade crosstabulations (Table 11) provided supporting evidence that uncertainty was not a clear reflection of grade in this study; 12th grade being the only exception, which the data revealed is the least uncertain grade when compared to the group. Statistically the 12th grade students had a mean of 5.63, mode of 6, and a median of 6, which illustrated that the majority of scores were above the mean. Reviewing crosstabulation data also provided supporting evidence where it was found that 33 out of 40 (77.5%) 12th grade students scored above the mean, therefore indicating the most certainty.

Final comparisons to determine if uncertainty reflected grade level began with the 9th grade students who were the next most certain grade. It was found in Table 12 that the 9th grade had a mean of 4.97, a mode of 4, and a median of 5, which revealed scores, on the average, fell below the mean. However, it is interesting to note that although the most frequent score was positioned below the mean, based on the median score and crosstabulation data (Table 11), the distribution of scores hovered around the mean. In other words, statistics revealed that 24 out of 33 (73%) 9th grade students scored 4, 5, or 6 on the certainty scale (Table 11); therefore the next most certain. Reviewing 11th and 12th grade data from Table 12 revealed that based on measures of

central tendency, the majority of scores for both grades fell below the mean (53% of all 11th grade students and 74% of all 10th grade students).

To review, research objective two was to determine if uncertainty scores were a reflection of grade. Working under the assumption that uncertainty decreases with grade level, data indicated that with the exception of 12th grade, uncertainty scores did not reflect student grade level. Supporting evidence gathered from comparisons of central tendency and crosstabulations revealed that next to 12th grade students, the 9th grade was the most certain, followed by 11th grade, and 10th grade students were overall the least certain.

Section Four: Comments

The last section of this chapter described the comments that were written on the assessment instrument from Item 19, which was an open-ended statement. A total of 40 participants (28.37%) added information they believed would assist this researcher in understanding career uncertainty. Seven comments were made by 12th grade males, 9 comments by 12th grade females, 9 by 11th grade males, 8 by 11th females, 1 by a 10th grade male, 1 by a 10th grade female, 4 by 9th grade males, and 1 by a 9th grade female.

Participants read the following statement and then commented on their state of career decidedness: 19) None of the above items describe me. The following would describe me better: (write your response below). Comments were grouped (and labeled according to gender and grade level) to address their relevance to the topics addressed in this study.

Certainty of Career Choice and Major

Fourteen of the 40 comments (35%) written by participants were related to how decided they were about their career choice and major. Of the 14 comments, 9 comments were from 12th grade students: 5 males and 4 females, 4 comments were generated by 11th grade students: 2 males and 2 females, and 1 comment was provided by a 10th grade male student. The majority of these comments expressed participants' overwhelming satisfaction with their choices. It appeared that participants had a clear picture of their immediate career and major.

1. "I know what I'd like to be and I know how to go about it to be that." (12th grade, female)

2. "I know what school I'm going to, my major, and what I want to do for a living. Simley Career Center has been helpful to me." (12th grade, female)

3. "I know what career I want to be in and I know how to get there." (12th grade, female)

4. "I know where I am going to college and have an idea of my intended major and career choice." (12th grade, female)

5. "College already picked and career is pretty solid. Even my schedule is already done." (12th grade, male)

6. "I know what I am going to do!" (12th grade, male)

7. "I know what I want to be, a dentist. I'm worried about my study habits. I strongly believe that once I get into college, my grades in college will be much better than my high school grades. I don't know why I feel this way, I just do. (I am worried that my high school study habits are going to follow me. I don't want them to, and am determined to make sure that they don't.)" (12th grade, male)

8. "I know that I want to be an automotive engineer and a [sic]automotive mechanic and I'm happy about it." (12th grade, male)

9. "Rockstar and ready to make sixteen albums." (12th grade, male)

10. "I have decided on a career, I am happy with my decision. I know what it takes and what I need." (11th grade, male)

11. "I know exactly what I want and I know the schools that interest me." (11th grade, male)

12. "I have decided on my career." (11th grade, female)

13. "I have decided on my major and career." (11th grade, female)

14. "I am a hockey player and my career is in hockey." (10th grade, male)

Somewhat Certain Need More Information

Seventeen of the 40 comments (42.5%) indicated some certainty involving choice of major or career. However, these students expressed a need for additional information and/or guidance before they could make a choice. Of the 17 comments, 5 were from 12th grade: 1 male and 4 females, seven 11th graders commented: 3 males and 4 females, 1 10th grade female responded, and 4 9th grade students expressed their career status: 2 males and 2 females. Their comments were:

1. "I just need to have more info about the profession and decide financial status (success)." (12th grade, male)

2. "I know my major and possibilities I can fall back on. I don't know what career I'd like to do with my options." (12th grade, female)

3. "I know I want to be a nurse but I'm not sure how to go through with it." (12th grade, female)

4. “I know what I want to do and I have some trouble implementing my choice. There are people that can help me with my decisions.” (12th grade, female)

5. “I feel very pressured to make a decision, but I don’t know where to start. I took a survey in the counseling office, but I didn’t get a very strong match-up. I guess I would want more info on a variety of careers.” (12th grade, female)

6. “I would like more information on career choices.” (11th grade, male)

7. “I have several choices in mind, but I’m not sure which to choose. I need to explore them more.” (11th grade, male)

8. “Hunting fool, redneck, outside job, guide or DNR?” (11th grade, male)

9. “I have majors in mind that are conflicting interest and know there is no way to mix the two.” (11th grade, female)

10. “I know what field I want to go into but I need to find the right college to go to excel in that field.” (11th grade, female)

11. “I want to look into teaching and possible physical therapy but I don’t know yet.” (11th grade, female)

12. “I have interests in many different and totally opposite fields. Right now I am trying to decide between an elementary teacher, a professional dancer, and an FBI agent. What do I do?” (11th grade, female)

13. “I know what career I want, but I’m not sure how much I will like it and if I have the ability to do it.” (10th grade, female)

14. “I know what I want I just don’t know what to do to get there.” (9th grade, male)

15. "I have a few careers in mind but I don't know what to major in." (9th grade, male)

16. "I don't know enough about each division of careers to make a choice. I also am interested in many things so it's hard to pick one." (9th grade, female)

17. "I knew [sic] what career I wanted to go into but now things have happened where I changed my mind about what career I want to go into." (9th grade, female)

Extreme Uncertainty About Career Choice and Major

Seven of the participants who added comments on the assessment (17.5%) expressed their personal concern over their inability to decide on a career and major choice. The tone of these comments appears to indicate strong uncertainty and a lack of career direction. Of the 7 comments 1 was from a 12th grade male, and 6 were generated from 11th grade students: 4 males and 2 females. The following are the opinions expressed by these participants:

1. "I don't know what I want to be in the future." (12th grade, male)

2. "I have not a clue on a career for me." (11th grade, male)

3. "I have no clue what I want to do. I haven't looked into anything, and nothing seems appealing." (11th grade, male)

4. "I don't know what to do!" (11th grade, male)

5. "I am talented in many classes but I do not know what I want to do. I do not want to make a final choice." (11th grade, male)

6. "I have no idea what I want to do for a career." (11th grade, female)

7. "Some describe me but this is basically it: I know I'm pretty smart but I just don't know what I'd be good at or if it would make me happy. I don't want advice but I'm basically lost." (11th grade, female)

It should be noted that 2 of the 40 comments (5%) could not be placed into a category. The comments expressed by a 12th grade female and a 9th grade male were non-descriptive regarding certainty of career choice or major. Their comments were:

1. "Some describe me in a way." (12th grade, female)
2. "Some describe me." (9th grade, male)

This chapter provided a detailed account of the results by conducting descriptive analyses on data collected as it related to research objectives one and two. The following chapter offers the researcher's interpretations of these results, conclusions of the study, limitations, implications, and investigation of research objective three, which was to identify recommendations/interventions that will allow counselors to better prepare students for life-long career decision making.

CHAPTER FIVE

Discussion, Conclusions, and Recommendations

Introduction

This chapter will include a discussion of results from the Career Decision Scale (CDS) and will initially focus on the first two research objectives posed in Chapter One. The chapter will conclude with a discussion surrounding the third research objective, which was to identify effective recommendations/interventions that will allow counselors to better prepare students for life-long career decision making.

Discussion Objective One

The results of the group data did not clearly produce commonalties in career indecision. It appears that, as a group, the study indicated that on a Certainty Scale (CS) score of 2 to 8, with 8 representing increased certainty, there existed an average CS score of 4.99 with respect to choice. In addition, if it is assumed that CS and Indecision Scale (IS) scores are inversely correlated (Oispow, 1987), it should be assumed that the group IS score would indicate a lower level of group indecision. The results suggested that this correlation was true as the mean IS score was 32.94 on a scale of 16 to 64. Again, group results indicated few inferences with respect to specific antecedents of career uncertainty.

However, when Items 1 and 2 on the CS and Items 3 through 18 of the IS were separated, patterns or areas of indecision were uncovered. The individual data for Items 1 and 2 on the CS revealed that over half of the students (57.7%) felt they were relatively certain about career choice, but more importantly, there existed almost an equal percentage of students (54.6%) with some confusion or uncertainty surrounding the

choice of major, suggesting those students may not understand that an academic major is a proxy for an occupation or career path (Orndorff & Herr, 1996).

In addition, what remains is that roughly 40% of the sample indicated they were uncertain with both career and major choice. Other studies surrounding high school students suggested varying levels of indecision as it related to choice. In one study, Crites (cited in Zunker, 1994) suggested that 30% of high school students were undecided about a career, while Fottler and Bain (cited in Zunker, 1994) indicated that only 18% of students in their study indicated indecision. The percentage of uncertain students from the current study might seem substantial, but data from additional research indicated this level of uncertainty is not uncommon. For example, when this sample of undecided students was compared to the one million students (10^{th}-12^{th} grade) who took the American College Test assessment in 1999, it was found that over two thirds (66.6%) of the one million students surveyed expressed uncertainty about their career choice (American College Testing Program, 1999). Hayes (1997) indicated that regardless of common percentages, indecision will have accompanied 20% to 60% of students through high school/college and will generally reflect evidence of earlier antecedents.

Consequently, it is the early antecedents hinted at by Hayes (1997) that were revealed within the individual items of the IS. Specifically, in Item 4, 48.3% of the students in the sample indicated that their indecision was based on the fact that they were interested in several careers and had difficulty in deciding among those careers. In Item 15, students continued a similar pattern of indecision having to differentiate among varying interests as they related to choosing a career. Specifically, Item 15 revealed that 53% of the students indicated they found it difficult to sort through interests and then

make the connection to a career. The final item investigated was Item 17, and here again the results reflected a common pattern of group indecision, when 56% of the sample indicated indecision would be reduced if they received more information concerning occupations.

The group belief that additional information would serve to reduce indecision has been supported by a variety of career developmental studies and models that are too numerous to list. However, Peterson, Sampson, Reardon, and Lenz (1996) stated that "undecided individuals have not made a commitment to a specific occupational choice due to gaps in the knowledge necessary for choosing" (p. 447). Additionally, undecided individuals "lack self, occupational, and/or decision-making knowledge" (Chartrand; Fuqua & Hartman; Larson, Heppner, Ham, & Dugan, cited in Peterson et al., 1996, p. 447). Isaacson et al. (2000) identified skills for locating, evaluating, and interpreting information about career opportunities as a competency that is necessary for high school students to move through the decision-making process. Osipow (1997) and Hartung (1995) suggested that all students, regardless of social background, personality, and past experiences, would decrease indecision by having a solid high school educational program and knowledge in how to access career information.

The data revealed that students in this group had difficulty choosing a career among several, and sorting out interests, as well as having general indecision based on inadequate career information. All of these factors implicate common antecedents of indecision within the group.

Discussion Objective Two

It was found that aside from students in the 12th grade who were the most decided of the sample group, the data indicated that certainty was not clearly a reflection of grade level. Using standard deviation (SD) and mean scores for 12th grade students from normative data (Appendix C), we can see that the profile of the 12th grade group was similar to the normative sample. The 12th grade normative mean and SD for the Certainty Scale were 5.92 and 1.59, while the group mean for this study was 5.63 and the SD was 1.73. The Indecision Scale normative mean and SD for 12th grade were 27.89 and 8.41, while the 12th grade group had an Indecision Scale mean of 29.03 and a SD of 8.73. In addition, Staley, Fasko, and Grubb (1996) produced comparable CS (5.92/1.59) results for high school seniors. However, when compared to 12th grade IS results (32.63/9.68) in the Staley et. al (1996) study, this group of 12th grade students had lower indecision scores (29.03/8.73).

In addition, it comes as no surprise that Gray and Herr (1995) concluded high school seniors were mature enough, and a majority of them should be able to make a tentative career decision before leaving high school. They suggested several factors might be interacting in this situation, the most important being parental or teacher expectations and role modeling in the decision-making process. Bandura (cited in Kaplan, 1998) would concur with Gray and Herr (1995) in that this group of seniors have established vocational direction that was stimulated in part on modeling or socialization (Blake, 1995). It appears that certainty was clearly a reflection of grade for this group of seniors, as well as a developmental reflection of students moving along the career decision continuum.

In order, the next most certain group was 9th grade, followed by 11th grade, with 10th grade being the least certain group. Using standard deviation (SD) and mean scores for 9-11 grade students from normative data (Appendix C), it was found that the results from this sample differ from the normative sample. Specifically, the most substantial difference in mean scores lies within the 10th grade sample. It was found that the mean CS score for the normative 10th grade sample was 5.59 compared to 4.58 for this study. In addition, the mean IS score for the normative sample was 31.49 compared to 35.00 for the 10th grade sample. Consequently, the 10th grade group was below the normative CS mean, above the normative IS mean, and represented the least certain group within this study. It was expected that the 10th grade group would be one of the least certain, and therefore, in the case of the 10th grade group, uncertainty did reflect grade level, albeit a more pronounced reflection than was expected.

The two most interesting results with respect to uncertainty and grade level were found within the 9th and 11th sample groups. It will be recalled that the 9th grade group was the next most certain group of the four grades and that the 11th grade sample was next to last in certainty. Examination of the 9th grade results produced a statistical profile that was very different than the norm, which had a mean CS score of 5.21 compared to 4.97 for the 9th grade sample. This suggests that students were less certain in career choice than the normative group. In addition, when compared to the results of Staley, Fasko, and Grubb (1996) which had a mean CS score of 5.81, 9th grade students within this study posted lower certainty scores and yet were some of the most certain within this study.

Surprisingly, the 11th grade group was statistically more similar to the 10th grade sample, and close examination of the normative data would support that observation. The normative mean CS for 10th grade was 5.59 and 5.58 for 11th grade, while the sample mean CS scores were 4.58 for 10th grade and 4.70 for 11th grade. In addition, data revealed a wider range of CS scores within the 11th grade sample (SD of 2.05) compared to the normative group (SD of 1.49). Furthermore, the 11th grade sample had the most severely undecided students (43.8%) of all four groups.

An interesting twist to this portion of the study was that 10th and 11th grade samples were statistically very similar in certainty as it related to choice. Initially, the researcher believed that uncertainty results were not clearly a reflection of 9th-11th grade; however, based on the following discussion, the results might suggest otherwise. Indeed, results indicated that students were much more decided during the 12th grade, and that 9th grade students were more certain than 11th grade, and that 10th and 11th grade were statistically very similar. However, within this study, it is plausible to believe that perhaps 10th and 11th grade represented the developmental battleground hinted at by career and human developmental theorists, where transformation of self-identity, social environment, and future aspirations meet. This is a time when some students within those samples might be developmentally incapable of deciding and/or that some may wish to defer making a decision or that some might be characteristically indecisive.

It appears to be a period when students mature and are faced with realistically exploring their personal and academic strengths, weaknesses, and the career opportunities available as they relate to those factors. Hence, 9th grade students, albeit very certain when compared to other grades, may in fact have not reached a maturation stage that

would allow them to realistically inventory self as it relates to career choices. As a result, the CS and IS scores may reflect students who have not been fully exposed to the dynamics and rigor of the career decision-making process. It would be interesting to survey the 9th grade group as 10th graders to see if they have maintained their certainty status. In support, Gray and Herr (1995) saw career maturity as the ability of a student to move from "fantasy to realism at the time of graduation from high school" (p. 114) and that this transition should be based on a realistic assessment of skills at the time of graduation. In other words, there is a transitional period whereby student's perceptions and reality meet at a strategic point that allows them to solidify their educational aspirations.

Most career developmental theorists would conclude that indecision at these levels would seem developmentally appropriate and should be expected. In support, Krumboltz (1992) cautioned that indecision is not always bad and may be important to keep in mind depending on the developmental stage of the respondent. According to Super (1980), there exists a natural exploratory stage between the ages of 14 to 25 years of age, and it appeared that the 10th and 11th grade groups were thoroughly engaged in the exploratory stage. As a possible explanation, Holland and Holland and Krumboltz (cited in Peterson et. al, 1996) referred to subcategories of indecision and might designate 10th and 11th grade students as "undecided-deferred choice" (p. 447), suggesting that students might be undecided; however, they can refrain from making a decision until later. On the other hand, human developmental theorists such as Erikson might say that the group of 10th –11th grade students were at a crossroad of adolescence and young adulthood which represented a turbulent time and a period in which a sense of integrated self must

be developed in order to be successful in establishing a career choice. This means that uncertainty does not have specific boundaries such as grade level but will closely follow the transitional period experienced by adolescence and young adults.

Conclusions

The results of this study indicated that there existed three common antecedents of uncertainty regardless of grade level: 1) difficulty in deciding among several careers that have equal appeal, 2) difficulty in sorting through interests and understanding the connection to career choice, and 3) difficulty in choosing a career path because of a lack of pertinent occupational information. The results indicated that certainty scores were somewhat related to grade level but were also an indication of overall developmental positioning.

Recommendations for Counselors

The third research objective was to identify effective recommendations and interventions that will allow counselors to better prepare students for life-long career decision making. Overall, the students within this study would benefit from a comprehensive developmental career guidance program that addressed a variety of competencies related to self-evaluation, career exploration/informational gathering, and understanding the connection to the world of work. Specifically, this group of students indicated difficulty in sorting through interests and making a connection of interests to career choices. As a result, interventions should focus on helping students understand their own interests and aptitudes and how they realistically connect with college educational programs that will eventually lead to a desired career path. In addition, this group of students suggested that indecision might be reduced if they had access to

additional career information. Counselors may wish to focus on evaluating current occupational, post-secondary, and assessment information, as well as the delivery models currently used to dispense that information.

A potential tool that could be used to assist all students in sorting through interests, reviewing aptitudes, exploring occupations, and investigating post-secondary options would be the development and use of a career portfolio. The portfolio would be implemented during 9th grade and incorporated into the career guidance curriculum at subsequent grade levels. It would be a universal tool that would mirror specific guidance components used by counselors, teachers, parents, and students to gather pertinent career information and record the student's movement through competencies related to the career decision making process. The portfolio could easily be incorporated into any delivery method (classroom, small group, individual counseling), as well as be used during parent/teacher conferences.

Recommendations for Future Research

In addition to recommending immediate interventions for counselors, future research studies should continue to focus on uncertainty of high school students. Although it might be developmentally appropriate, the implications for future success are staggering, and educators and parents should value the benefits that early career preparation can have on students. The American Counseling Association (1998) emphasized that regardless of where students exist concerning career development and uncertainty, early preparation for the world of work and exposure to making choices is a vital component of life-long career decision making. Isaacson and Brown (2000) suggested that results of early preparation programs would help students focus on goals

and could bring forth benefits to students, parents, and schools with a decline in dropout rates and improved attendance. In addition, the economics of having students be successful as adults is paramount, not only to the individual, but also for society as a whole. Finally, a final career decision may not typically occur during adolescence, and the constructs of uncertainty may be difficult to explain, but initial decisions about careers are, in all likelihood, made during this time.

Therefore, research that can focus and identify specific barriers in the career decision making process could be invaluable to counselors as they attempt to work first hand with students. In addition, research that suggests how uncertainty is distributed and defined along the avenues of gender, ethnic, socioeconomic, special needs, academic, or personality traits would add other dimensions to effective developmental career counseling. In which case, longitudinal research of high school students would provide additional benefits to determine if changes in barriers related to indecision occur or if career aspirations in 9^{th}-12^{th} grade are affected by interventions and/or developmentally change as the student matures. Longitudinal studies could continue to extend into post-secondary endeavors to see whether high school decisions matched actual college choices.

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APPENDIX A
High School Student Normative Data

Males – Total C.S and Percentile

T	9th (n=251)	10th (n=174)	11th (n=163)	12th (n=132)
2	6	3	6	8
3	18	9	19	14
4	35	27	35	27
5	58	52	57	41
6	80	75	80	68
7	91	89	90	83
8	100	100	100	100
Total Indecision Scale				
16	3	1	1	5
17	4	1	2	7
18	6	2	6	11
19	8	5		14
20	10	7	7	19
21	12	11	9	23
22	13	13	12	29
23	16	13	18	33
24	21	17	24	37
25	24	21	28	39
26	26	25	30	42
27	32	25	36	46
28	36	30	39	50
29	39	35	41	55
30	42	39	45	60
31	49	43	48	62
32	54	46	53	66
33	59	51	56	70
34	61	56	60	73
35	64	62	64	78
36	69	66	69	80
37	73	69	75	82
38	76	73	79	86
39	80	76	85	88
40	83	80	88	91
41	86	87	88	92
42	89	89	91	92
43	90	92	93	94
44	92	96	94	95
45	94	97	95	95
46	96	97	98	96
47	96	98	99	97
48	97	99	100	98

Females – Total C.S. and Percentile

T	9th (n=239)	10th (n=171)	11th (n=176)	12th (n=152)
2	4	4	6	4
3	14	12	15	10
4	36	27	32	24
5	60	43	51	36
6	79	68	76	68
7	92	89	89	79
8	100	100	100	100
Total Indecision Scale				
16	3	4	1	6
17	4	6	3	9
18		10	6	12
19	5	13	8	18
20	7	14	13	24
21	8	18	15	27
22	12	22	17	32
23	16	25	24	39
24	19	28	28	43
25	23	32	31	48
26	26	35	35	51
27	31	39	38	55
28	35	43	41	57
29	38	46	44	59
30	41	51	50	62
31	42	56	53	67
32	48	57	56	70
33	53	61	57	74
34	57	64	61	76
35	61	68	69	80
36	66	72	74	82
37	69	74	77	85
38	74	77	80	88
39	77	81	84	
40	80	83	86	91
41	83	85	90	93
42	86	89	90	94
43	88	91	93	96
44	92	93	95	97
45	92	95	97	
46	93	96	97	99
47	95	98	98	
48	96	99		

APPENDIX B
Group Frequency Indecision (IS) Scores

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
16	2	1.4	1.4	4.4
17	5	3.5	3.5	5.0
18	4	2.8	2.8	7.8
19	3	2.1	2.1	9.9
20	3	2.1	2.1	12.1
21	2	1.4	1.4	13.5
23	3	2.1	2.1	15.6
25	3	2.1	2.1	17.7
26	2	1.4	1.4	19.1
27	4	2.8	2.8	22.0
28	6	4.3	4.3	26.2
29	6	4.3	4.3	30.5
30	5	3.5	3.5	34.0
31	10	7.1	7.1	41.1
32	6	4.3	4.3	45.4
33	6	4.3	4.3	49.6
34	10	7.1	7.1	56.7
35	5	3.5	3.5	60.3
36	9	6.4	6.4	66.7
37	6	4.3	4.3	70.9
38	4	2.8	2.8	73.8
39	6	4.3	4.3	78.0
40	6	4.3	4.3	82.3
41	2	1.4	1.4	83.7
42	5	3.5	3.5	87.2
43	2	1.4	1.4	88.7
44	5	3.5	3.5	92.2
45	6	4.3	4.3	96.5
46	1	.7	.7	97.2
47	1	.7	.7	97.9
48	1	.7	.7	98.6
51	1	.7	.7	99.3
53	1	.7	.7	100.0
Total	141	100.0	100.0	

APPENDIX C
Means and Standard Deviations for Scales/Items by Grade
(High School)

	9th (n = 331)		10th (n = 306)		11th (n = 231)		12th (n = 201)	
Item	M	SD	M	SD	M	SD	M	SD
1	2.56	0.91	2.59	0.94	2.58	0.92	2.88	0.90
2	2.66	0.99	3.00	0.88	3.00	0.85	3.04	0.88
3	2.00	0.97	2.17	0.96	2.11	0.96	1.99	0.98
4	2.42	1.13	2.41	1.08	2.27	1.06	2.03	0.99
5	1.55	0.85	1.53	0.79	1.42	0.73	1.39	0.72
6	1.50	0.91	1.57	0.97	1.43	0.83	1.44	0.87
7	1.87	1.00	1.78	0.96	1.67	0.87	1.63	0.87
8	1.89	0.98	1.81	0.92	1.90	0.93	1.88	0.93
9	1.72	0.95	1.72	0.94	1.76	0.95	1.54	0.86
10	1.99	1.05	1.86	0.92	1.82	0.87	1.63	0.81
11	1.90	1.01	1.83	0.98	1.89	0.99	1.81	0.94
12	2.16	1.07	2.11	1.03	1.97	0.98	1.66	0.87
13	2.00	1.03	1.79	0.91	1.79	0.87	1.55	0.79
14	2.03	1.01	1.94	0.96	1.86	1.00	1.68	0.89
15	2.27	1.07	2.19	1.02	2.20	0.94	2.06	0.96
16	2.30	1.07	2.27	1.00	2.26	1.01	1.95	0.95
17	2.40	1.05	2.36	0.99	2.34	1.04	1.99	1.01
18	2.25	0.99	2.14	0.98	2.16	0.93	1.91	0.97
Indecision Scale Total	32.11	8.81	31.49	8.42	30.95	8.03	27.89	8.41
Certainty Scale Total	5.21	1.53	5.59	1.57	5.58	1.49	5.92	1.59

Note: Indecision Scale ANOVA for Grade yields $F = 10.88$, $p < .0001$; Certainty Scale ANOVA for Grade yields $F = 9.49$, $p < .0001$. Mean totals may deviate from column means because of rounding. (Osipow, 1987)