

**AN EXPLORATORY STUDY OF FACTORS INFLUENCING CAREER  
CERTAINTY AND INDECISION OF HIGH SCHOOL STUDENTS  
IN THE BAHAMAS**

by

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## DEDICATION

In loving memory of my parents, Vincent Edward and Gwendolyn Louise Thompson whose Godly principles, strong sense of family values, and high regard for knowledge and learning have been instrumental in my educational and career accomplishments.

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## ABSTRACT

The purpose of the study was to examine the confidence level in career decision-making of Bahamian adolescents in the high schools in Nassau, Bahamas, investigating factors that influence one's level of confidence in career decision-making, and to compare means of Bahamian sample with the high school norms group of the Career Decision Scale (CDS). The study sample consisted of 385 11<sup>th</sup> and 12<sup>th</sup> graders from three high schools (two private and one public) in Nassau, Bahamas. The Career Decision Scale was administered along with a demographic survey to examine 13 factors which might measured the effects and/or interaction effects of influences on confidence in career decision-making. A factorial design was used.

Five MANOVAs and the appropriate follow-up statistics were used to determine differences and interaction effects among the variables measuring the level of career decision-making skills. Additionally, the means of the sample group and the high school norm group were examined by using independent *t*-tests.

The findings of the study indicated that there were significant differences among grade level, type of school, post-secondary plans, a visit to the school guidance counselor, BJC examination passes, and parents' occupation, and one three-way interaction among gender, type of school and grade level. Compared to the high school norm group, the Bahamian high school students demonstrated more certainty and less indecision in career decision-making. Based on the findings of the study the researcher concluded that for Bahamian adolescents the type of school, the grade level, a visit to the school guidance office, BJC passes, and parents' occupation were significant factors that influenced one's level of confidence in career decision-making. A replication of the study

with a larger sample size or from more high schools throughout The Bahamas would revealed a more accurate status of adolescents' confidence in career decision-making as well as the influences that were significant in determining the level of confidence in career decision-making.

**DISSERTATION DIRECTOR: Dr. Margaret Z. Burggraf**

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## ABSTRACT

### AN EXPLORATORY STUDY OF FACTORS INFLUENCING CAREER CERTAINTY AND INDECISION OF HIGH SCHOOL STUDENTS IN THE BAHAMAS

KAREN DENISE THOMPSON

The purpose of the study was to examine the confidence level in career decision-making of Bahamian adolescents in the high schools in Nassau, Bahamas, investigating factors that influence one's level of confidence in career decision-making, and to compare means of Bahamian sample with the high school norms group of the Career Decision Scale (CDS). The study sample consisted of 385, 11<sup>th</sup> and 12<sup>th</sup> graders from three high schools (two private and one public) in Nassau, Bahamas. The Career Decision Scale was administered along with a demographic survey to examine 13 factors which measured the effects and/or interaction effects of influences on confidence in career decision-making. MANOVAs, ANOVAs and Tukey's HSD post hoc tests were used to determine differences and interaction effects among the variables measuring the level of career decision-making skills. Additionally, the means of the sample group and the high school norm group were examined by using independent *t*-tests. The findings of the study indicated that there were significant differences among grade level, type of school, post-secondary plans, a visit to the school guidance counselor, BJC examination passes, and parents' occupation, and one three-way interaction among gender, type of school and grade level. Compared to the high school norm group, the Bahamian high school students demonstrated more certainty and less indecision in career decision-making. Based on the findings of the study the researcher concluded that for Bahamian adolescents the type of

school, the grade level, a visit to the school guidance office, BJC passes, and parents' occupation were significant factors that influenced one's level of confidence in career decision-making. A replication of the study with a larger sample size and/or from more high schools throughout The Bahamas would revealed a more accurate status of adolescents' confidence in career decision-making as well as the influences that were significant in determining the level of confidence in career decision-making.

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## CHAPTER ONE

### Introduction

There is widespread agreement that the high school years are crucial ones for adolescents to become prepared to transition from school to work. This preparation involves making choices about a future career. Career decision-making includes a process by which one selects an occupation (Zunker, 1994). Brown, Brooks, and Associates (1996) defined career decision-making as “the thought processes by which an individual integrates self-knowledge and occupational knowledge to arrive at an occupational choice” (p. 426). It also involves making a commitment and carrying out the actions necessary to implement the choice (Isaacson & Brown, 1997). Career decision-making skills of adolescents have been the subject of considerable research over the past three decades.

#### Career Decision-Making Historical Background

Adolescent career development and decision-making became a focus of research and practice in the American counseling profession at the turn of the 20<sup>th</sup> century when the industrial revolution in the United States of America (USA) brought about many demographic changes throughout the country (Neukrug, 1997; Zunker, 1994). Neukrug (1997) stated that this change brought about a large influx of people settling into urban areas, thus causing an increase in the number of children attending city school. Shifts in the types of jobs available as well as the need to assist the new city dwellers and the students in their vocational development led to the beginnings of the systematic

vocational guidance movement, one of the first attempts to help people make vocational decisions (Neukrug, 1999).

Frank Parson was one of the first persons to be credited with developing a systematic approach to career guidance and his theory is considered to be the fore-runner of modern theories of career development and counseling (Issacson & Brown, 1997; Osipow, 1996; Zunker, 1994). Parson's theory published in 1909 was a three-step process for vocational guidance; knowing oneself, knowing the job characteristics, and making a match between the two through "true reasoning" (Parson, 1909, p.5). The "true reasoning" was considered the decision-making process. This tripartite model laid the foundation for the trait-factor theory, which advocated matching a person with a job by assessing the person's traits, such as interests and aptitude, that could be profiled to represent the individual's potential (Herr & Cramer, 1992). Occupations were evaluated according to the traits they required, thus a fit could be established between the individual and the job (Herr & Cramer, 1992). The trait-factor theory stimulated interest in research as well as the development of assessment instruments to measure individual differences and occupations (Osipow, 1996).

Other career theorists began examining and modifying Parson's model in career decision-making (Bordin, 1946; Roger, 1942; Williamson, 1939). Williamson (1939), a member of the trait-factor school of thought, advocated directive counseling, while Rogers (1942) advocated a nondirective approach in counseling, rejecting the impersonal features of the trait-factor approach and focusing on the affective and motivational behavior of the client. However, during the 1950's the approach to career development and decision-making witnessed a new direction in career counseling. Ginzberg, Ginsburg,

Axelrad, and Herma (1951) and Donald Super (1957) introduced career development and decision-making from a developmental approach. The developmentalists viewed career choice as occurring in a series of stages (Brown, Brooks & Associates, 1996). Ginzberg et al. (1951) stated that “occupational choice is a developmental process; it is not a single decision, but a series of decisions made over a period of years” (p. 185). Ginzberg et al. (1951) schema for career choice consisted of three stages: fantasy, tentative, and realistic. Super (1957), also a career development theorist, presented a much more differentiated and complex schema of career development. Many of his ideas were based on his classic study of ninth grade, European American boys in Massachusetts. A presentation of Super’s theory as it pertains to adolescents will be discussed later in the chapter.

The 1950’s also saw the beginning of John Holland’s work in the area of career choice theory (Holland, 1966). Similar to Super’s theory, Holland’s theory of vocational personalities and work environments contributions to career counseling has become the basis for a vast amount of research and debate that are currently, on-going (Arbona, 2000; Fouad, 1994; Meir, 1991; Walsh & Srsic, 1995). Holland’s approach emphasized the importance of behavioral style or personality type in the career decision-making process. He proposed that there were six types of personalities as well as six kinds of environments (realistic, investigative, artistic, social, enterprising, and conventional); and that occupational achievement, stability, and satisfaction depend on congruence between one’s personality and the job environment (Holland, 1997). Holland’s concept of congruence/incongruence has become a popular method of explaining success or failure in the career choice process. “Incongruence occurs when a type lives in an environment that provides opportunities and rewards foreign to the person’s preferences and abilities –

for instance, a realistic type in a social environment” (Holland, 1997, p. 5). In addition to his theoretical contributions, Holland and his associates have produced some of the most popular instruments in the career guidance field, the Strong Interest Inventory, the Vocational Preference Inventory, My Vocational Situation, and the Self-Directed Search, which provide measurement of constructs used in his theoretical approach (Hood & Johnson, 1997; Kapes, Moran-Mastie, & Whitfield, 1994).

As the information on career decision-making grew, researchers began to realize that the process was complex as well as different for each individual. Career decision-making became the study of a process rather than the analysis of one event (Zunker, 1994). Career theorists continued to expand their approach on the decision-making process and have developed theories that address career development and choice from a number of different perspective, such as Krumboltz, Mitchell and Jones’ Social Learning Theory of Career Choice and Counseling, Gottfredson’s Theory of Circumscription and Compromise, and Brown’s Values-Based Holistic Model of Career and Life-Role Choices and Satisfaction (Brown, Brooks & Associates, 1996).

Despite this attention to adolescent career development and decision-making, many of the theories were developed from a European American male, middle-class perspective. As women began working outside the home and people of color began migrating to the USA, career experts and researchers were challenged to examine the cultural differences inherent in these populations and create models for assisting these groups in career decision-making. Farmer (1985) proposed a model of career motivation for working with females. Her model combines background factors (such as gender, race, age, SES, ability), personal characteristics (such as academic self-esteem, independence,

values, attributions), and environmental variables (such as parental and teacher support) in an individual differences-type model that attempts to predict career and achievement motivation. Others, such as Betz, Fitzgerald, and Fassinger's model of Career Choice Realism (1987), and Hackett and Betz's Self-Efficacy Approach to Women's Career Development along with Leong (1995) and Fouad and Bingham's (1995) focus on diversity in career counseling have sparked researchers to examine similarities and differences when studying a diverse population.

This multicultural awareness in the counseling profession has now brought focus to females and minorities in most career development theories. For example, Super has revised his theory to include a different type of career path for men (linear) than for women (cyclic), while Gottfredson incorporated gender roles in her theory (Zunker, 1994; Gottfredson, 1981). Additionally, the National Career Development Association (NCDA) Career Counseling Competencies (1992), the Council for the Advancement of Standards (CAS) Career Planning and Placement guidelines (1988), and the Association for Multicultural Counseling and Development's (AMCD) Operationalization of the Multicultural Counseling Competencies (1996) require practitioners to consider gender and ethnic differences in career counseling and education. Today, the annual reviews of the literature on research, as well as, textbooks on career development and choice devote entire sections or chapters to women and special groups (Arbona, 2000; Fouad, 1994; Meir, 1991; Walsh & Srsic, 1995). Many individuals who have contributed to the literature on career decision-making have come to see it as continually expanding due to the complexity of individual's choice process. Vondracek (1990) concluded that the study

of career development and decision-making means the study of “a moving target within a changing and complex context” (p. 38).

### Theoretical Framework

If we are to understand the probability of adolescents pursuing and obtaining careers that are personally successful, we must have an understanding of the dynamics of career development during adolescence. Swanson and Fouad (1999) stated that the hallmark of Super’s Life Span Life Space theory is that career development is a process of making several decisions, which culminate in career choice that represent an implementation of the self-concept. Super’s theory defined career development as a lifelong behavioral process that progresses through five life stages: growth, exploration, establishment, maintenance, and disengagement (Super, 1953). Each stage has identified descriptors specific to chronological age in the process of career development. Each stage also confronts the individual with developmental tasks arising from chronological age and social expectations. The developmental tasks are crystallization, specification, implementation, stabilization, and consolidation. The concept of stages provides insight into the developmental abilities, interests, and values, as well as the interaction between the individual and the environment (Brown, et al, 1996). Although the stages are described as being predictable, Super believed that not everyone progresses through these stages in the same manner or at fixed ages.

Adolescents are said to be at Super’s exploration stage working on accomplishing crystallization and specification developmental tasks, which spans the years between 14 and 24. Adolescents in the exploratory stage are characterized as having developed attitudes, interests, and needs associated with the career self-concept accomplished during

the growth stage and currently working on formulating and narrowing career choices. The developmental task of crystallization is considered to be a cognitive process characterized by a period of formulating a general career goal through awareness of resources, contingencies, interests, values, and planning for a preferred occupation. Adolescents performing at the specification task are engaged in moving from a tentative career preference towards a more specific career choice. During this stage adolescents begin to devise career plans that become more specific as resources are made available and utilized. Super believed that the completion of the appropriate tasks at each level was an indication of career maturity (career attitudes and competencies related to effective career growth). The concept of career maturity is not only concerned with the accomplishment of developmental tasks but also with the readiness of individuals to enter various career-related activities for career decision-making (Zunker, 1994).

#### Rationale for the Study

A review of the empirical literature on adolescents' career decision-making revealed that no cross-cultural study has been done using a sample from The Bahamas. In The Bahamas, the need for a reliable measure for assessing the status of students in the career decision-making process is paramount, especially as career counseling for this community is in a stage of infancy and Bahamian adolescents are increasingly choosing to pursue postsecondary education (Hanna, 1993). Approximately 19% of Bahamian high school graduates are currently attending institutions of higher learning in the USA while 33% are attending colleges locally (Ministry of Education, 1998). As career programs are increasingly being developed to address the needs of the population of students, a suitable measure for evaluating the outcome of these programs requires some attention.

Moreover, it is important that Bahamian educators have a clear understanding of the current status of Bahamian adolescents in the career decision-making process in order to design, develop, and implement appropriate career counseling and development programs.

Career theorists have agreed that the process of career development and decision-making for adolescents requires a level of career maturity (attitude and competency) that is characterized by an exploration of one's ability, knowledge of available careers, employment, and training opportunities (Super, Crites, Hummel, Moser, Overstreet, & Warnath, 1957; Gottfredson, 1981). Researchers also have identified and studied specific factors related to adolescents' career indecisiveness. Factors such as interests, aptitude, career guidance services and planning, parental influence, socio-economic status, salary, conditions of employment, and prestige influenced high school adolescents' career decision-making skills (Fisher & Griggs, 1995; Otto, 2000; Prediger & Sawyer, 1985).

Gysbers (1996) stated that most children and adolescents are unable to make intelligent career decisions based only on life experiences. They require support and exploration in the form of curriculum offerings and guidance programs to help guide them towards a career direction. In addition to other factors, such as family, significant others and community influences, the adult's ability to learn to make career decisions should stem from the preparation one could receive in high school. It is at this developmental stage that one can learn the career development process, career decision-making skills, and prepare to make those career transitions later in life.

Most children and adolescents are at a disadvantage when it comes to opportunities for developing their career (self) identities because they have limited access

to role models of different careers (Fisher & Griggs, 1995; Gysbers, 1996). Therefore, school counselors are challenged to do as much as possible in educating students about career options and exposing them to a wide variety of occupations.

In 1988 the CAS published its standards and guidelines, and in 1992 the NCDA published the first set of guidelines (revised in 1994) for professionals practicing career counseling. These guidelines were instrumental in providing more effective career development programs for school and college career centers in the United States of America (USA). Similarly, in The Bahamas, the White Paper on Education (1997) outlined the government's policies and guidelines for guidance and counseling specifying career program development as one of the nine broad areas of services to students in kindergarten through twelfth grade. It is the Ministry of Education's goal that the White Paper on Education would serve as an important source in guiding counselor educators and professional counselors in providing effective career programs in the Bahamian schools and college career centers.

In her career theory of Circumscription and Compromise, Linda Gottfredson (1981) described the process of career development for adolescents at the high school level as a time when students' focus should be on continued discovery and development of their interests and abilities, assessing their compatibility with different occupations, and thinking about priorities in making compromises. Gottfredson (1981) further described an educational program aimed at teaching and preparing students of all ages for their chosen career.

Exploring, discovering, assessing, and thinking are activities in which adolescents are endeavoring to engage when making career decisions (Convoy, 1997). Convoy

described the types of choices that adolescents are required to make such as high school courses, plans after graduation, and college majors. These decisions can affect future outcomes and, when wrong, there can be a limitation of job earnings and status, the ability to work, and job satisfaction (Convoy, 1997). Convoy believed that individuals' decision-making abilities and the choices they make contribute to self-knowledge and a sense of a "future self" (p.3) and that it is imperative that educational and vocational programs for adolescents expose them to careers while instilling the ability to make confident decisions.

Prior to the 1970's limited information on adolescents' career development and decision-making skills is available on ethnic minority groups in America as well as internationally. High schools in The Bahamas have had career guidance and counseling services since 1968 with the initiation of the Guidance and Counselling Program for the Ministry of Education secondary schools (Hanna, 1993). However a review of the literature available in college and public libraries and government archival documents in Nassau, Bahamas has revealed that there is no research information on the career development and decision-making skills of adolescents in the Bahamian high schools. With the increase of technological advances and the creation of new occupations in the Americas, the 4000 students graduating from Bahamian high schools (Ministry of Education, 1998), like their counterparts in the USA will need to prepare to face the challenge of making relevant career choices.

Clearly career decision-making in the life of high school adolescents is a justifiable area of concern. Researchers have identified factors (such as skills, aptitude, interests, values, achievement, personality characteristics, and maturity) that are essential

in making appropriate career decisions for high school adolescents (Zunker, 1994). These factors have helped in defining the various constructs of the career decision-making process, which in turn have been used to create assessment instruments to measure aspects of career decision-making. Such instruments as the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1987), My Vocational Situation (MVS; Holland, Daiger, & Power, 1980), Assessment of Career Decision Making (ACDM; Buck Daniel, 1985), the Career Development Inventory (CDI; Super, Thompson, Lindeman, Jordaan, & Myers, 1981), Career Maturity Inventory (CMI; Crites, 1978), and the Coping With Career Indecision Scale (CCIS; Blustein, Ellis, & Devenis, 1989) have been used with positive results with adolescents from a diverse population. Research on career decision-making has identified and defined diverse populations as individuals from ethnic minority groups, with physical disabilities, from different socio-economic status groups, of different academic abilities, from different geographic locations, and different countries (Fouad, 1994).

This study will explore the confidence level of career decision-making skills in Bahamian adolescents examining the role of gender, type of school, grade level, a visit to the school counselor, job shadow experience, part-time work experience, post-secondary plans, grade point average, Bahamas Junior Certificate examination passes, mother's/father's education level, and mother's/father's occupation on career decision-making. Additionally, the study will compare the level of confidence in career decision making of Bahamian adolescents with the means established as norms in the high school norm referenced group in the Career Decision Scale.

### Significance of the Study

The type of school adolescents attend may have direct influences on their career development and decision-making. Private schools currently enjoy some advantages over public schools that may directly influence adolescents' career decision-making. Martinez, Godwin, Kemerer, and Perna (1995) found that on average, parents of American private school students were better educated, had more stable homes, valued education more, gave greater attention to learning, and had higher educational and vocational goals for their children than parents of public school students. Johnson and Anderson (1992) stated that African American parents who sent their children to private schools do so for the purpose of exerting more control over their children's educational and vocational destinies to ensure successes for their children academically, economically/vocationally, socially, interpersonally, and otherwise. Because of these advantages, it is expected that students at private schools would be more prepared in making career choices than those at public schools.

The type of school adolescents attend has received criticism in preparing students in making career decisions for the future. Bottoms, Presson, & Johnson (1992) criticized the general school program in the USA for not preparing students adequately for the world of work or postsecondary education. On the other hand, Zaffrann (1985) stated that American private schools, in particular, Catholic secondary schools' guidance counseling programs are not addressing students' career developmental needs, particularly career decision-making. Zaffrann (1985) also called for the private schools to design and implement a new guidance curriculum that reflected the developmental needs associated with students in the secondary schools similar to the ones used in the public schools. The

type of school adolescents attend has also been addressed in the career research literature according to geographic location (such as urban, suburban and rural) (Brown, Darden, Shelton, & Dipoto, 1999), SES groups (Roker & Banks, 1993), and ethnic groups (Lee, 1984).

The assessment instrument used in a significant number of studies pertaining to adolescents' career decision-making skills has been the CDS. Meier (1991, p. 160) described the CDS as the "...premier scale in the indecision literature". An advantage of the instrument is that, because it is not associated with any one career theory, it could be used in the context of many theories (Osipow & Winer, 1996). Osipow and Winer's (1996) described the extensive cross-cultural use of the CDS in English-speaking countries including Canada, Australia, South Africa, and Great Britain as well as its translation and adaptation for use in French, Korean, Portuguese, Spanish, Chinese and Swedish-speaking countries. This broad use of the instrument serves as one reason for using this assessment instrument with a Bahamian high school population. The authors conclude that, "it would appear that the concept of career indecision and its resulting problems are of widespread interest and open to measurement using the CDS technique" (p. 125).

This study will provide preliminary data on the current confidence level of career decision-making skills of adolescents in eleventh and twelfth grades in public and private schools in Nassau, Bahamas. A measure of the level of career certainty and indecision will determine an adolescent's confidence level for career decision-making. The career certainty and indecision levels of the study participants will be compared with the means established as norms for the high school norm-referenced group in the CDS for the

purpose of determining the psychometric properties of the CDS for a sample of Bahamian adolescents and to add evidence of the instrument's cross-cultural applicability. Another purpose is to provide a source of information for guidance and direction in implementing The Bahamas White Paper on Education policy for the Ministry of Education Guidance and Counselling Services in career education, counseling and development programs in the schools (grades K-12).

### Research Questions

This study will address seven research questions regarding the confidence level of career decision-making (career certainty and indecision) of Bahamian adolescents. A null hypothesis is stated for each question.

Question 1 - Will there be a significant main or interaction effect for gender, type of school or grade level on the level of career certainty and indecision of Bahamian high school adolescents?

Hypothesis 1 - There will be no significant main or interaction effects for gender, type of school, or grade level on the level of career certainty and indecision of Bahamian high school adolescents

Question 2 - Will there be a significant main or interaction effect for a visit to the school counselor, job shadow experience, or part-time work experience on the level of career certainty and indecision of Bahamian high school adolescents?

Hypothesis 2 - There will be no significant main or interaction effects for a visit to the school counselor, job shadow experience, or part-time work experience on the level of career certainty and indecision of Bahamian high school adolescents.

Question 3 - Will there be a significant main or interaction effect for post secondary plans, grade point average, or Bahamas Junior Certificate passes on the level of career certainty and indecision of Bahamian high school adolescents?

Hypothesis 3 - There will be no significant main or interaction effect for post secondary plans, grade point average, or Bahamas Junior Certificate passes on the level of career certainty and indecision of Bahamian high school adolescents.

Question 4 - Will there be a significant main or interaction effect for mother's education and mother's occupation on the level of career certainty and indecision of Bahamian high school adolescents?

Hypothesis 4 - There will be no significant main or interaction effects for mother's education and mother's occupation on the level of career certainty and indecision of Bahamian high school adolescents.

Question 5 - Will there be a significant main or interaction effect for father's education and father's occupation on the level of career certainty and indecision of Bahamian high school adolescents?

Hypothesis 5 - There will be no significant main or interaction effects for father's education and father's occupation on the level of career certainty and indecision of Bahamian high school adolescents.

Question 6 - Do the means for career Certainty and Indecision scales for Bahamian high school males and females differ significantly from the means established as norms for the CDS?

Hypothesis 6 - The means for career Certainty and Indecision scales for Bahamian high school males and females do not differ significantly from the means established as norms for the CDS.

Question 7 - Do the means for career Certainty and Indecision scales for Bahamian high school students in 11<sup>th</sup> and 12<sup>th</sup> grades differ significantly from the means established as norms for the CDS?

Hypothesis 7 - The means for career Certainty and Indecision scales for Bahamian high school students in 11<sup>th</sup> and 12<sup>th</sup> grades do not differ significantly from the means established as norms for the CDS.

#### Definition of Variables

The independent variables in the study are gender, type of school, grade level, a visit to the school counselor, job shadow experience, part-time work experience, post-secondary plans, grade point average, BJC examination passes, mother's education, mother's occupation, father's education, and father's occupation. The dependent variable is confidence level of career decision-making. The definitions of the variables and other terms used throughout are provided for clarity.

Gender – the sex (male or female) of each student participating in the study.

Type of School – the type of school each participant attends. These schools are classified according to payment of fees for attendance. Public high school is an institution totally funded by The Bahamas government where students do not pay fees for attendance and is also referred to as a government school. Private high school is an institution that could be partially funded by The Bahamas government where students pay tuition fees for attendance. It is also referred to as an independent school. The type of school also

indicates one's socioeconomic status (SES). Attendance in a public school indicates that one is from a lower SES group than someone attending a private school. Attendance at a particular private school indicates whether one is from a middle or upper SES group. The four private schools in this study represent both middle and upper SES groups.

Grade Level – the class or year a participant is currently in at school. Students in 11<sup>th</sup> grade ages range from 15 years to 17 years old, while those in 12<sup>th</sup> grade ages range from 16 years to 19 years old.

Visit to the School Counselor – a student meeting with the school guidance counselor, individually or in a group at least one time to discuss his or her future plans in terms of career choice and/or post-secondary plans.

Job Shadow – the individual visit by a student to a specific place of employment to gain first-hand knowledge and insight into a field in which the student is interested. This visit, arranged by the school guidance counselor or a teacher, is usually for one entire working day where the student is assigned to one worker with whom the entire day is spent.

Part-time Work – employment that is not full-time. It involves doing a job for pay after school, on the weekend, and/or during school vacation periods (Easter, Summer, Christmas).

Post-Secondary Plans – career or job-related and/or college plans to fulfill immediately after high school.

Grade Point Average – the average of all grades earned in a school's term. Grade point averages are recorded on a student's progress report card for the current term.

Level of Education – the highest degree earned. For the purpose of this study it is recorded as high school diploma or college degree.

Occupation – the principal work activity to which a person devotes himself or herself in most cases for a salary.

Confidence Level of Career Decision-Making – a participant’s total raw scores on the Career Decision Scale. The scores from the certainty scale and the indecision scale will be used to indicate one’s confidence level in career decision-making. The certainty scale consists of 2 items and the indecision scale consists of 16 items, where a participant is required to respond to a question on a Likert scale with responses ranging from “exactly like me” to “not at all like me”. More certainty in career choice and less indecision indicate greater confidence in career decision-making.

The Ministry of Education – the office responsible for the administration of education services in The Bahamas. The Minister of Education, a politically-appointed official, and the Director of Education, an education specialist appointed by the Minister of Education for the daily operations of the schools, head this office.

The Bahamas Junior Certificate (BJC) – An examination of individual subjects (academic and technical) taken at the end of junior high school (9<sup>th</sup> grade). Private schools require their students to pass at least five subjects with a “C” grade or above (English language and Mathematics included) before moving into the 10<sup>th</sup> grade. Public schools, on the other hand, place their 10<sup>th</sup> grade students in academic ability classes based on the number and grade level of subjects passed. Both private and public schools use placement (entrance) exams as a supplement to the BJCs for placement in high school.

The Bahamas General Certificate of Secondary Education (BGCSE) – An examination of individual subjects (academic and technical) taken at the end of 12<sup>th</sup> grade. Students must successfully pass five or more subjects at a “C” grade or higher (English language and

Mathematics included) in order to enter The College of The Bahamas or be accepted for entry-level employment at most white-collar jobs (for example, banks, government offices, accounting firms, hotel administrative offices).

### Delimitations of the Study

A few factors that may be related to or can have an effect on a student's confidence level in career decision-making are not used in the research design for a number of reasons but information is gathered and reported in the data analysis. These factors are socio-economic status (SES), and ethnicity. Socio-economic status (SES) is not included as a research variable in this study because the type of school is a strong indication of a student's SES. Therefore, it will be examined indirectly. No attempt is made to assess the effect of ethnic group on confidence level in career decision-making. Ethnicity is not an independent variable for the following reasons: it is not reported in the high school norm groups for the CDS; it was not included on the 1990 and 2000 Bahamas National Census form; the percentage of students in other racial or ethnic groups other than Black would be so minuscule that inferences could not be made to the population of Bahamian high school students; and the majority of White Bahamians live on only three of the Bahama Islands (Abaco, Eleuthera and Long Island). The sample for this study does not include students from any of those islands.

### Limitations of the Study

The seven schools are randomly selected, however, the students are not randomly selected (see chapter three). The sample, taken from schools in Nassau only, restricts the population to 11<sup>th</sup> and 12<sup>th</sup> grade students. The study participants will comprise a convenience sample chosen by the school principal or an administrator and parental

consent as well as individual consent will be obtained. Therefore, the results of this study will not be generalized to other high schools in The Bahamas.

Finally, the research design of this study is limited in identifying causation of an individual's confidence level in career decision-making because the independent variables are not being manipulated. This is a causal-comparative research study. Fraenkel and Wallen (1996) defined causal-comparative research as an investigation that attempts "... to determine the cause or consequences of differences that already exist between or among groups of individuals" (p. 341). The group difference variable is either a variable that cannot be manipulated (such as gender) or one that could be manipulated but for one reason or another (usually ethical constraints as in medical studies) has not been manipulated. "Causal-comparative investigations often identify relationships that later are studied experimentally" (p. 343).

### Summary

Chapter one outlined the rationale for this study, the significance of researching Bahamian students' confidence level in career decision-making, and the cross-cultural use of the CDS. The research questions were introduced, the definitions provided, and the limitations and delimitations of the study discussed.

Chapter two consists of a discussion of the literature review on confidence level in career decision-making of adolescents, gender and grade level factors in adolescents' career decision-making, the type of school related to adolescent career decision-making, career planning activities and adolescent career decision-making, academic ability in adolescents' career decision-making, and parental influence and adolescent career decision-making. Chapter three provides a description of the method of this study,

including hypotheses, sample, design, instrumentation, data collection procedures, and data analysis. Chapter four presents a complete report of the results of the study in descriptive and inferential analyses. Chapter five includes a discussion of the results and a summarization of the findings with recommendations for future research.

## CHAPTER TWO

### Review of Literature

This review of the literature on adolescent career decision-making is an attempt to reflect the present state of the body of knowledge. An attempt is made to review the variables separately, however it is important to point out that many of the reviewed studies overlap. For example, gender and grade level might be studied in conjunction with ethnicity, SES and/or type of school on the level of career decidedness. Many of the studies in this review have also used the CDS as the instrument to measure levels of career decision-making. Therefore, the use of the CDS in research on adolescent career decision-making will be examined in each section in conjunction with the variables of interest.

The review has six foci: adolescent confidence in career decision-making, gender and grade level factors in adolescent career decision-making, type of school factors in career decision-making, career planning activity factors in career decision-making, academic ability factors in career decision-making, and parental influence and adolescent career decision-making.

#### Adolescent Career Decision-Making

Currently, the professional body of knowledge is vast in the area of adolescent career development and decision-making. The challenges specific to adolescent career decision-making are addressed in the literature from a variety of topics. Empirical studies have identified a number of factors in addition to those relevant to this study that are

related to adolescent career decision-making with differing results. Some of these factors include: the different types of decision-making styles which correlate with levels of career decidedness and maturity (Faqua, Blum & Hartman, 1988; Gati, Krausz & Osipow, 1996; Multon, Heppner & Lapan; Rojewski, 1994); the correlations of anxiety with career indecision (Hartman, Fuqua & Blum, 1985; Emmett & Minor, 1993), locus of control with career indecision (Cellini, 1978; Cellini & Kantorowski, 1984; Jones, 1980; Taylor, 1982), self-efficacy with career indecision (Taylor & Betz 1983; Taylor & Popma, 1990); the effectiveness of employment on adolescent career decisions (Bluestein, Phillips, Jobin-Davis, Finkelberg & Roake, 1997; Carr, Wright & Brody, 1996; Gilbert & Robbins, 1998; Herr & Niles, 1997; 1997 Mael, Morath & McLellan, 1997; Meeus, Dokovic & Iedema, 1997; Skorikov & Vondracek, 1997); and issues related to urban, suburban and rural adolescents (Brown, Darden, Shelton & Dipoto, 1999; Ladany, Melincoff, Constantine & Love, 1997; Rojewski, 1994), as well as ethnic or racial group and adolescent career decision-making (Hauser & Anderson, 1991; Westbrook & Sanford, 1991).

### Adolescent Confidence in Career Decision-Making

Choosing and preparing for an occupation or a career is considered to be one of the major tasks faced by adolescents during the high school and college years. This process of career decision-making involves adolescents actively engaging in career awareness, exploration, and motivation (Hoyt, 1974; Zunker, 1994). Adolescents who are engaging successfully in the decision-making process are described as being decided on a career or achieving high levels of confidence in career decisiveness. Hoyt (1974) stated that, career decision-making encourages adolescents to answer three questions: a) what is

important to me, b) what is possible for me, and c) what is probable for me (p. 143). The ability to clarify one's career goals which includes assessing one's level of career certainty or indecision has received some attention from researchers interested in career development, decision-making and counseling.

Kush and Cochran (1993) examined the effectiveness of a career program for parents to help their adolescents develop a greater sense of confidence and self-determination regarding a career choice. Using a pretest-posttest control group wait-list design, 64 volunteered twelfth graders from three high schools in Vancouver, British Columbia, Canada were randomly assigned to an experimental or a control group. Both scales (career certainty and indecision) of the CDS were used to measure the participants' level of confidence in career decision-making; Career Self-Efficacy Scale (used to measure confidence in performing job duties), the Career Salience Scale, the Ego Identity Scale, and the Alienation Test were administered before and after the five weeks program. The parents of all students in the experimental group received instructions and were provided with a Parent Career Guidance Manual and workbook (created by Cochran) to assist their adolescents in career decision-making for the five-weeks program. Results revealed a significant effect for groups over time indicating that students in the experimental group demonstrated greater confidence in career choice and motivation for self-determination. The students in this group became more certain and less indecisive, regarded career as more salient in their lives, and experienced a stronger sense of ego identity.

Dorn (1987) also used both scales of the CDS in identifying adolescents' level of confidence in career decision-making. Ten males and ten females (five of each gender in

one of two groups) from one hundred college freshmen who sought services at the career center were chosen to participate in a four-hours (two two-hour sessions) career counseling program using concepts from social influence theory (perceived need, counselor interpretation, and encouragement for reattribution). The purpose of the study was to examine the effectiveness of the counseling sessions on participants' level of confidence in career decisiveness. Two counseling psychologists (a male and female) served as the facilitators for the groups. The Counselor Rating Form was administered at the end of the treatment and the CDS was administered before and after the treatment. The results revealed no significant differences in counselor gender although the female participants rated both counselors higher than the males did on expertness, trustworthiness, and attractiveness. The results of the ANCOVA on the CDS scales revealed that scores decreased significantly on the indecision scale and increased significantly on the certainty scale. Both male and female participants were more certain about selecting a college major and a career and less indecisive in career decision-making, thus demonstrating greater confidence in making career choices.

Peng and Herr (1999) examined the effects of two approaches to career education courses on career beliefs and decision-making of Taiwanese adolescents in a Taiwan business college (a five-year junior college where students began their studies at a point equivalent to that of a 10<sup>th</sup> grade student in a U.S. or Bahamian high school). Four hundred and ninety-five students (417 females, 78 males) from the second- to fifth-year classes (ages 15 years to 20 years old) were conveniently placed in one of two treatment groups and a control group. Both treatment groups were career education courses focusing on an exploration of personal values, interests, and abilities and relating these to

academic and career decisions. The teaching approach in the treatment group one was an emphasis on interpersonal relationships within the group as well as in the workplace and in the home. In the treatment group two students were exposed to a traditional lecture style approach with group discussions included throughout the lecture. The focus was on experiential activities such as test taking, watching career related videos, and writing assignments. The students in the control group were not exposed to any career education course. Chinese versions (translated from English to Chinese) of the CDS and the Career Beliefs Checklist were administered before and after the treatment in a pre-test posttest design. The three-way ANCOVA revealed that there was no significant difference between the three groups as well as no significant change among the three groups in career beliefs. However, the results of the ANCOVA revealed significant treatment main effects on the two scales (career certainty and indecision) of the CDS. The career education course was effective in raising the Taiwanese adolescents' level of confidence in career decision-making only for those in the treatment groups. Students in the career education course scored significantly higher on the certainty scale and lower on the indecision scale than those in the control group. There was no significant difference between the two treatment groups. There was also no significant difference between genders, however the results indicated that confidence in career decision-making increased with age. The authors concluded that the results of this study indicated cross-cultural applicability of the two assessment instruments.

Glaize and Myrick (1984) examined the effects of group counseling and computers on adolescents' level of career decidedness. One hundred and four high school juniors ( 87% European American and 13% African American and Hispanic) from five

schools in Orange County, Florida were randomly assigned to either the computer (DISCOVER program), the vocational exploration group (VEG), both DISCOVER and VEG group, or a control group for a period of nine weeks. The results revealed significant difference for the three treatment groups when compared to the control group in the level of career decidedness as measured by the CDS, as well as increased career maturity as measured by the Career Maturity Inventory.

Hartman and Hartman (1982) administered the CDS to 206 high school seniors from one school in a Chicago suburban to test differences in career/vocation indecision for five groups. This study was designed to assess the concurrent and predictive validity of the CDS. The groups were those who planned to work full-time and not enroll in college after graduation, those who plan to attend college full-time, those who plan to enroll part-time in college and work, and those who plan to go into the military or were undecided. No significant difference in students' level of career decisiveness was found between groups. A phone survey, a year later confirmed that the subjects' level of career decision-making had remained basically the same.

Cooper's (1986) study demonstrated that adolescents' level in career decidedness could increase after participating in individual and group counseling. Twenty-four college freshmen who indicated that they were undecided about a career were administered the CDS and the Personal Decisiveness Scale (PDS) and were placed into one of two treatment groups (group counseling or individual counseling). The participants were assigned to a treatment group by matching on the level of career certainty as measured by the first two items on the CDS. Both groups received identical training in career decision-making and career exploration with the group counseling

participants engaging in extensive use of group interaction with both members and therapists/facilitators. The results of the study revealed no significant difference in participants' confidence level in career decision-making for the treatment group. However, there was a decrease in the participants' mean CDS (career indecision scale) and PDS scores indicating an increase in confidence level in career decision-making as well as level of personal decisiveness.

Faqua, Blum and Hartman (1988) proposed that there are different types of career indecision. Their study to test this possibility was done with 155 high school juniors and seniors in a suburban Chicago school. The results of this study showed that adolescents may fall into any of four levels of career indecision with the levels being broken down into two dimensions of decidedness and anxiety. Included in the analysis were factors such as adolescent's sense of identity, locus of control, and level of confidence in a career choice, which were found to be related to the different levels of confidence, career concern, indifference, and anxiousness. The researchers stated that the findings strongly suggest that the different levels and the factors that contribute to career indecision relate to confidence levels of adolescents in career decision-making. They further stated that counselors should consider these factors when implementing career counseling and interventions with this population.

Guerra and Braungart-Rieker (1999) used the CDS to measure college students' level of career indecision in relation to the roles of identity formation and parental relationships. The authors used 169 college undergraduates, 89 males and 80 females (over 40% were freshmen with mean age of 18.9 years), 84% European American, 8% Hispanic, 4% Asian American, and 3% African American as participants in this study.

The participants were administered the CDS, the Mother-Father-Peer Scale and the Extended Objective Measure of Ego Identity Status assessment instruments and the results were analyzed using ANOVA and multiple regression. The results revealed that level of career indecision decreased with age, the freshmen were significantly more undecided than upper-class students. There were no significant gender or racial differences found in level of career indecision. The multiple regression analysis used to explain the model in predicting career indecision indicated that moratorium (a stage of active exploration of career choices but no decision has been made) explained the greatest proportion of variance in level of career indecision (.59) followed by diffusion (a stage where a career crisis period has not occurred because the individual is not interested in career exploration), mother's encouragement of independence, and the year in school. The authors concluded that students who score high in moratorium and/or diffusion subscales, who are experiencing their mother as less encouraging of independence and who were probably a freshmen or sophomore, would demonstrate a high level of career indecision.

Learning and utilizing career decision-making skills are essential when adolescents are planning their future careers. The studies above are relevant to this study because they provide useful and distinct information regarding the confidence level of career decision- making of adolescents.

#### Gender and Grade Level Factors in Career Decision-Making

Since the 1960s, career development theorists began examining the needs of females in counseling. Many of these theorists stated that the results of studies with male subjects were being applied to females, thus overlooking some of the unique needs of this

population. Studies identifying and describing the unique needs of females (Farmer, 1976; Harmon, 1997; Swanson, & Fouad, 1999) have encouraged career theorists to develop or revise current theories incorporating gender differences.

Zunker (1994) described Super's revision on his theory distinguishing the different developmental patterns of males and females. Super divided women's career development patterns into seven separate categories: stable homemaking, conventional, stable working, double track, interrupted, unstable, and multiple trial, emphasizing women's struggle with their balance of work and home. Super described men's career patterns as consisting of four types: stable career, conventional career, unstable career, and multiple trial pattern (Zunker, 1994).

The studies in this section focus on the relationship of gender and grade level or age to adolescent career decision-making. Research using the CDS and other measures of career assessment to examine the relationship between gender and age with career decision-making has continued to grow. Studies have found that as age increases so does the level of career decidedness (Niece & Bradley, 1979; Rogers & Westbrook, 1983), while others have found that age is not related to career decision-making (Brown, Darden, Shelton & Dipoto, 1999; Powell & Luzzo, 1998).

Kraus and Hughey 's (1999) study examined five research questions relating to how career choice competencies can raise the level of career decision-making self-efficacy in high school adolescents. Sixty high school juniors from an urban comprehensive high school were randomly assigned to an experimental or control group. The ethnic make-up of the study participants included 60% European American, 27% African American, 7% Asian American, 4% Hispanic, and 2% Native American. After

completion of the eight-weeks career-guidance intervention, all subjects were administered the Career Decision-Making Self-Efficacy Scale-Short Form and the CDS. A posttest-only delayed posttest control group design revealed no significant difference in career decision-making self-efficacy and level of career indecision between the treatment and control groups at both testing periods. However, the treatment by gender interaction was significant. The males in the control group demonstrated higher levels of career decision-making self-efficacy and career decision-making skills than the females in the control group.

Rojewski and Hill (1998) examined the influence of gender and academic risk status on career decision and occupational aspirations and expectations of adolescents in 9<sup>th</sup> – 12<sup>th</sup> grade from one urban school taking a career exploration class. One hundred thirty-two adolescents, 94 females and 38 males from different ethnic groups participated in the study. Sixty-six percent of the participants were African American, 24% were European American, 2% Asian American, 2% Hispanic and 6% other with 31% being classified as demonstrating a high degree of risk for school failure. The Risk Behavior Scale was used to classify participants into one of three academic risk groups (minimal, moderate and substantial) the CDS were used to measure the level of career decision-making, and an occupational aspirations and expectations' questionnaire (coded using the socioeconomic index codes) was used to determine the prestige of the occupation. Results of the MANOVA revealed no significant differences for the interaction of gender and academic risk status but significant differences in level of career decision-making for gender and academic risk status. Females demonstrated a significantly higher level of career decision-making than the males, and adolescents with minimal and moderate

academic risk status demonstrated significantly higher levels of career decision-making than those classified as having a substantial academic risk status for school failure. Two-way ANOVAs revealed no significant differences for gender and academic risk status on occupational aspirations and expectations.

Kelly and Cobb (1991) also found differences in gender career decision-making and planning. The purpose of their study was to gather baseline information from a group of highly talented adolescents on their cognitive resources for career decision-making and career planning involvement. The sample consisted of 107 adolescents, 38 females and 69 males between the ages of 11 and 14 years. The subjects' score on the Career Development Inventory (CDI) School Form were compared to the norm group of the CDI testing for cognitive resources for decision-making differences. Results revealed significant gender differences where the gifted group scored higher than both the 9<sup>th</sup> and 12<sup>th</sup> grade norm group, and the females' scores were higher than the males' scores. More students selected higher-paying occupations, while a greater proportion of males than females indicated a preference for occupations that promised reliable and great economic rewards.

Powell and Luzzo's (1998) study examined the degree to which career maturity varies on the basis of sex, class standing, ethnicity, and type of curriculum (college preparatory vs. standard) and to evaluate the relationship between career maturity and career decision-making attributional style for an ethnically diverse high school sample. The two hundred and fifty-four students provided information about sex, age, class standing, ethnic background, type of diploma sought, career goals, and grade point average on a demographics questionnaire designed for the study and also completed two

career instruments, the Assessment of Attributions for Career Decision-Making and the revised Career Maturity Inventory. Analyses of the data revealed a significant, positive relationship between career maturity and an optimistic attributional style. Gender differences showed that males perceived more control over their career decision-making than did females. However, the effect of career maturity with class standing (sophomores, juniors and seniors) was not significant. The authors suggested that counselors provide continual exposure of non-traditional models and school subjects to female students while continuing to expose students at all levels in the high school to career decision-making activities.

Niece and Bradley (1979) investigated the relationship of age, gender, and educational group to career decisiveness. The sample of 378 adolescents from high school freshmen to college juniors responded to the Career Decision Questionnaire (the forerunner of the CDS). The participants were from five different educational groups, (1) college students seeking help deciding on a major, (2) high school history students, (3) high school vocational students, (4) educational psychology students, and (5) ninth graders. They revealed that gender was not significant in career decisiveness and that individuals become more “career-wise” with increasing age. The study also showed that students in the educational psychology group were more career decided and the college students who were seeking help deciding on a major were the most undecided. The authors concluded that career interventions for adolescents must be age appropriate.

Erb (1983) investigated the career preferences of early adolescents by examining the effects of age and sex differences. The Career Preference Scale was administered to 1224 participants between the ages of ten to sixteen years old (613 males and 611

females). The results of the 2 x 7 factorial ANOVA revealed significant sex differences but no significant age differences in career decision and career preference.

A study that provided conflicting results regarding gender differences in adolescents' career development and decision-making was conducted by Brown, Darden, Shelton, & Dipoto (1999). The authors investigated the career exploration and career decision-making self-efficacy of urban and suburban high school students as well as the relationship of career exploration to career decision-making self-efficacy between school type and gender. The ethnically diverse sample comprised of 381 high school juniors and seniors from five high schools (two urban and three suburban). The findings, using the Career Decision-Making Self-Efficacy scale and the Career Exploration Survey, revealed no significant differences for gender or grade level. However, the study reported an interaction between ethnicity and setting, where urban minorities reported the greatest amount of confidence in their career decision-making skills. Participants' belief about their exploratory behavior was a significant predictor of career decision-making self-efficacy.

In related research, the data are inconclusive regarding differences between males and females on career maturity levels. Some studies reported that females had higher levels of career maturity than males (Jyung & Miller, 1990; Kelly, 1992; Lunneborg, 1978; Neely, 1980), while others found that males had higher aspirations and scored higher on levels of career maturity (Chester, 1983; Thompson & Lindeman, 1981). On the other hand, Lawrence and Brown (1976), Lee (1984), Luzzo (1995), and Rojewski (1994) found no significant difference in levels of career maturity for gender. Despite the

beliefs of career theorists that males and females differ in their career decision-making skills, empirical studies provide conflicting results.

### Adolescents and Type of School in Career Decision-Making

A careful examination of the literature reveals that the research on career development and decision-making skills of adolescents in different types of school is very limited. Such investigations are essential because in the next few decade shifts in the makeup and composition of the economy and workforce will have a direct impact on adolescent career development and, subsequently, career choice.

Roker and Banks (1993) investigated the relationship of adolescent identity status (based on the Eriksonian view of identity development) and politics and occupations between girls from private schools and state schools in Britain. The results revealed that the adolescents from the private schools showed a greater level of commitment to an occupational plan with more private school girls showing plans to follow similar career paths through college and professional careers.

Lee (1984) investigated the relationship between selected psychological variables and one aspect of career development in rural high school students' attitudes toward career choice processes. His study revealed that parental influence on adolescent career development appeared to be a more important factor in the development of career choice attitude for rural blacks than for rural whites.

Dillard (1976) studied a sample of 252 pre-adolescent black males from two large urban and ten suburban schools in one state. He concluded that socialization or vocationalization processes rather than ability differences accounted for the career

maturity differences in this population. There was a significant difference between the urban and the suburban males in the level of career maturity.

### Career Planning Activity Factors in Career Decision-Making

Career development and decision-making require opportunities for constructive and appropriate experiences so adolescents can gain a sense of responsibility and purpose and a feeling that they are participating meaningfully in the broader society (Herr & Cramer, 1996). Young people need a chance to learn about vocational possibilities, develop their interest, and test their skills and talents against the demands of the “real” world if they are to develop normal career interests (Hoyt, 1974). “If a child is to become a responsible person, he/she must not only be exposed to adults engaged in demanding tasks, but must him/herself participate in such tasks” (Bonfenbrenner, 1974, p. 60). If adolescents are not exposed to work-related tasks then they may find themselves not adequately prepared to make career choices that would lead to personal satisfaction (Gilbert & Robbins, 1998). Poorly prepared high school students may leave school, but are still faced with the high demands of present day society, such as, making a living and interpersonal relationships (Gilbert & Robbins, 1998). The effects of work and other career planning related activities, such as, job shadowing and discussing career plans with a counselor have received some attention in the literature.

Perkins (1994) study examined the level of career indecision of high school seniors in two vocational programs, a tech prep program (designed to prepare students who were planning on entering the work force immediately after high school) and a general education program. Sixty-four high school seniors were administered the CDS Indecision Scale to determine their career decision-making confidence levels. The results

of the study revealed that adolescents who were in the tech prep program scores were significantly lower than those in the general education program. The results indicated that the tech prep program was more effective in preparing the students for career decision-making than the general education program.

Mael, Morath, and McLellan (1997) examined the relationship of working adolescents and the influence on school work and future career choice. The sample consisted of 2,540 entering military academy students (81.5% male, 12.5% female, 63% European American, and 7% African American) and 2,310 high school seniors who were members of the ROTC (63% male, 27% female, 63% European American, and 7% African American) who were compared on a variety of measures including work and academic achievements. The results revealed that adolescent employment influenced work motivation, non-academic performance and career choice. No significant differences on gender and race, and a low positive relationship between benefits of employment and academic performance were also revealed.

Gilbert and Robbins' (1998) qualitative research with a working high school student named Bodzewski, revealed that part-time work during school was related to career decision-making. Bodzewski reported that his experience with employment was beneficial to him in that it offered him responsibility, time management skills, commitment to the classroom and homework because he was able to have a clear understanding of the role of work and his future career.

Bluestein, Phillips, Jobin-Davis, Finkelberb, and Roake (1997) found in a study with 16 – 29 year old participants, focusing on the school-to-work transition, that those dissatisfied with jobs during and after high school also had a high correlation with having

a hard time making job-related decisions. The dissatisfied participants reported limited information when considering job alternatives and self-reported that they did not adapt well to their decision-making process. The study also showed that positive experiences with school guidance counselors was associated with job satisfaction ( $r = .36$ ).

Emmett and Minor's (1993) study offers conflicting results. The researchers studied a group of high school seniors enrolled in a gifted program. The participants were interviewed to discuss the types of career decisions made, such as college attendance, choice of major, career field selection, job decisions, and options for graduate school. The authors concluded that these gifted adolescents were overwhelmed by their many options and as a result experienced high levels of anxiety when making career decisions. Much of this anxiety came from the pressure of perfectionism, which made career decision-making challenging.

#### Academic Ability Factors in Career Decision-Making

One of the factors that would seem to have an obvious relevance to career decision-making is academic ability and achievement. Researchers have examined academic ability in career decision-making and have found significant results. Many of the literature reviewed also examined the difference in gender and academic ability on levels of career decision-making.

McWhirter (1992) studied Mexican American high school sophomore, junior and senior girls and found that academic achievement accounted for significant amounts of variance in career aspirations and choice. Farmer (1985) also studied young women and found that math and verbal ability scores were significantly related to educational and career aspirations and choice.

Kelly's (1997) study with adolescents from 11 – 17 years old revealed that adolescent boys' academic ability was significantly related to their level of career decidedness and aspirations. For the girls in the study, the relationship between academic ability and career decidedness was not significant. The study also revealed that as the boys got older, the relationship between academic ability and career decision-making became stronger, they became more career decided, and aspired to higher status occupations. However, for the girls the reverse was found. For the girls, the relationship between academic ability and career decision-making was greater at age 14 years than at age 17 years, with high ability girls appearing to lower their career aspirations.

#### Parental Influence and Adolescent Career Decision-Making

The study of parental influence on adolescents' career choice and decision-making has been examined with a variety of different related factors. In addition to investigating the relationship or influence of parental education and employment on adolescent career decision-making other factors studied include, parental support and adolescent career aspirations and choice (Farmer, 1985; Kelly & Cobb, 1991; Marjoribanks, 1988), parental attitudes, and behavior and adolescent career decision-making (Buri, 1989; Gecas & Schwalbe, 1986), and parental belief system, expectations, styles and behavior patterns and adolescent career decision-making (Dornbusch, Ritter, Leiderman, Roberts & Fraleigh, 1987; Grolnick & Ryan, 1989; Grolnick, Ryan & Deci, 1991).

Otto's (2000) study with 362 juniors from two county school systems in North Carolina revealed that 82% of the study participants self-reported that their career choice was very similar to their parents' occupation. Eighty-one percent of the juniors also

reported that their mother mostly influenced their career decision, and ideas on how to prepare for entering those careers were discussed with both parents. Fifty-five percent reported discussing their career plans and making decisions after having spoken with the school counselor.

Hodkinson (1998) conducted a qualitative study with 115 (89 in the 11<sup>th</sup> grade and 26 in the 12<sup>th</sup> grade, 59 males and 56 females) high school students in England to investigate how adolescents make career decisions. The participants were asked open-ended questions on how they decided on a particular career-planning course. The results of the study showed that the adolescents chose occupations similar to those of their parents or close relatives. Explanations such as “I want to be a light vehicle mechanic ... most of my family have done it already - my dad, my brother, my granddad and people like that.” The study results also revealed that work experience strongly influenced many of the participants in their career decision-making skills. The adolescents reported that they learned to identify and develop their interests, to enjoy their jobs, to become independent thinkers, and to handle job responsibility. The author concluded that the adolescents’ decision-making was rational, pragmatic and could not be separated from family background, culture, and life histories, therefore school guidance counselors in working with these adolescents should consider their (adolescents) past, present and future in career planning.

### Summary

The review of the literature associated with adolescent career decision-making skills as measured by the CDS and other related assessment instruments offer conflicting results. Some studies suggest that there are differences among the variables of gender

and/or school type on the level of career decision and planning for adolescents, while others do not. Additionally, the scarcity of research on adolescent decision-making skills with regard to school type is a gap in the research on this topic. Clearly this area must be further investigated. The literature review also revealed that the CDS is effective in measuring levels of career decision-making cross-culturally (nationally and internationally). The review of the literature also showed that school guidance counselors, part-time work experience, and parental or family background (such as, occupation and level of education) influence adolescents' career decision-making skills. Finally, literature review also revealed that there is a need for more empirical studies with adolescents preparing to make the transition from school to work or post secondary education.

## CHAPTER THREE

### Methodology

This chapter will focus on the methodology and procedures of the study. It is organized into six main sections along with a chapter summary. The sections consist of statements of the research hypotheses, a description of the sample, the research design, the instrumentation, the procedures for collecting the data, the data analysis, and the chapter summary.

#### Research Hypotheses

This causal-comparative research study will measure differences in confidence level of career decision-making skills (as measured by the career certainty and indecision total scores on the CDS) of high school 11<sup>th</sup> and 12<sup>th</sup> grade students from public and private schools in Nassau, Bahamas. The following null hypotheses will be tested in this study:

Hypothesis 1 - There will be no significant main or interaction effects for gender, type of school, or grade level on the level of career certainty and indecision of Bahamian high school adolescents

Hypothesis 2 - There will be no significant main or interaction effects for a visit to the school counselor, job shadow/internship experience, or part-time work experience on the level of career certainty and indecision of Bahamian high school adolescents.

Hypothesis 3 - There will be no significant main or interaction effect for post secondary plans, grade point average, or Bahamas Junior Certificate passes on the level of career certainty and indecision of Bahamian high school adolescents.

Hypothesis 4 - There will be no significant main or interaction effects for mother's education and mother's occupation on the level of career certainty and indecision of Bahamian high school adolescents.

Hypothesis 5 - There will be no significant main or interaction effects for father's education and father's occupation on the level of career certainty and indecision of Bahamian high school adolescents.

Hypothesis 6 - The means for career Certainty and Indecision scales for Bahamian high school males and females do not differ significantly from the means established as norms for the CDS.

Hypothesis 7 - The means for career Certainty and Indecision scales for Bahamian high school students in 11<sup>th</sup> and 12<sup>th</sup> grades do not differ significantly from the means established as norms for the CDS.

#### Sample Description

The sample for this study consists of 11<sup>th</sup> and 12<sup>th</sup> grade students from two private and one public high school in Nassau, Bahamas. Four private and three public schools were randomly selected from a total of fifteen private and seven public high schools using the Statistical Package for the Social Science (SPSS) Graduate Pack 9.0 random table (SPSS, 1999). The private schools were Saint (St.) Andrew's School, Saint (St.) Augustine's College, Saint (St.) John's College, and Temple Christian Schools, and the public schools were C. C. Sweeting Senior High School, C. I. Gibson Senior High

School, and R. M. Bailey Senior High School. However, two of the private schools decline participation and the Director of Education gave permission for only one public school to participate in the study; R. M. Bailey Senior High School. St. Augustine's College 12<sup>th</sup> graders were preparing for external examinations and St. John's College principal and high school counselor were attending a professional conference during the proposed time of the test administration and data collection, therefore these schools were not able to participate in the study.

The Bahamas Handbook (Dupuch, 2000) reported that the population for the 15 private high schools is 5,104 students and 12,838 for the 7 public high schools. A school administrator selected the students from each school with parental/guardian and individual student consents (Appendixes A and B) giving a total of 385 for the study. A description of the three schools is provided.

#### Description of Private Schools

1. **Saint Andrew's School** is a private nondenominational school that has a pre-kindergarten, an elementary, and high school sections. There are three semesters in a school year, with a tuition range from \$1,600 - \$2,800 per semester plus books, equipment and school uniform fees. Students are required to take BJC, BGCSE, Preliminary Scholastic Aptitude Test (PSAT), and Scholastic Assessment Test (SAT-I) examinations. Saint Andrew's has the highest school tuition in the country with the majority of the students coming from homes with the highest SES in the country. St. Andrew's has a total of 750 students, 300 are in the high school (grades 7 – 12). Fifty-four students from two classes are in the 11<sup>th</sup> grade, 27 or 50% are females and 27 or 50% are males. Forty-six students from two classes are in the 12<sup>th</sup> grade, 29

(63%) females and 17 (37%) males. All students at both grade levels were selected by the guidance director to participate in this study. Information regarding the ethnicity of these students was unavailable because it is not required or provided on any student record.

2. **Temple Christian Schools** comprise a pre-kindergarten, elementary, and high school (grades 7 – 12) sections. The school was established and is governed by Evangelistic Temple Assemblies of God church. There are three semesters in a school year where high school students pay tuition of \$830 per semester plus a \$50 seat fee per year, books, equipment and school uniform fees. Students are required to take BJC, BGCSE, PSAT, and SAT or ACT examinations. Temple Christian Schools has a total of 1, 097 students, 355 are in the high school. Sixty-four students from three classes are in the 11<sup>th</sup> grade, 40 (63%) females and 24 (37%) males. Fifty-nine students from two classes are in the 12<sup>th</sup> grade, 30 (51%) females and 29 (49%) males. All students at both grade levels were selected by the school principal to participate in this study. Information regarding the ethnicity of these students was unavailable because it is not required or provided on any student record.

#### Description of Public School

The Ministry of Education public high schools are divided into districts by geographic locations supervised by a superintendent, a senior education officer at the Ministry of Education. There are four districts in Nassau: Northwest, Northeast, Southwest, and Southeast. Students are placed into a school according to their residence. Students are prepared to take BJC and BGCSE examinations but are not required to do so. Students are also provided financial assistance to take BJC and BGCSE examinations

when needed. The school selected by the Director of Education was R. M. Bailey Senior High from the southeast district.

3. **R. M. Bailey Senior High** has students in tenth through twelfth grades, with a total student population of 1,100 and 70 teachers. Three hundred and fifty seven students from ten classes are in the 11<sup>th</sup> grade, 249 (69%) females and 108 (31%) males. There are 339 students (from nine classes) in the 12<sup>th</sup> grade, 210 (62%) females and 129 (38%) males. All students from the Business Math classes were chosen by the school principal to participate in this study. The Business Math classes were chosen because it is an elective course that all students are allowed to choose unlike the cores subjects of English (Language and Literature), Mathematics (Algebra and Calculus), Biology, Chemistry, Physics and Spanish where students are placed according to academic ability. A total of eighty-one 11<sup>th</sup> graders from three classes, 54 (67%) females and 27 (33%) males, and ninety-five 12<sup>th</sup> graders also from three classes, 57 (60%) females and 38 (40%) males were currently registered for Business Math. Information regarding the ethnicity of these students was unavailable because it is not required or provided on any student record.

### Research Design

The research design used in this study is a factorial design. Heppner, Kivlighan and Wampold (1999) stated that factorial designs should be used in a study when two or more independent variables are “employed simultaneously” to examine their independent and interactive effects on a dependent variable. Factorial designs are an efficient way to study several relationships with one set of data, with their greatest virtue being that they enable a researcher to study interactions between variables (Fraenkel & Wallen, 1996)

### Instrumentation

Both a demographic survey (Appendix C) and the Career Decision Scale (CDS) (Appendix D) were administered to each student in the sample. Information on the demographic survey was selected based on a review of similar studies addressing career decision-making levels and maturity levels of adolescents (Fawcett, 1999; Gaffney, 1995; Perkins, 1994; Touma, 1997). The purpose of the demographic survey was to gain knowledge about the characteristics of the Bahamian adolescents sample. Information obtained from the demographic survey included specific facts on each participant. Included were the type of school attending, gender, grade level, ethnic/racial group, current grade point average, number and grade achieved on Bahamian national examinations, parental/guardian occupation and level of education completed, and use of school career counseling related services and activities such as a career counseling session with a school counselor, participation in a job shadow or internship experience and part-time and/or school vacation job experience.

The CDS by Osipow, Carney, Winer, Yanico, and Koschier (1987) is published by Psychological Assessment Resources, Inc. and has been widely used since its inception in 1976. The current version along with the manual (Osipow, 1987) was revised in 1987 with the inclusion of a second norming sample of high school students. The CDS was designed for high school and college male and female students to determine their place in the career decision-making process. Levinson, Ohler, Caswell, and Kiewra (1998) stated that, “the purposes of the CDS are to estimate career indecision and to assess the effect of career development interventions on high school and college

students” (p. 475). The CDS manual contains normative data for high school males and females in the ninth to twelfth grades including the age range.

The CDS consists of 19 items (18 self-rating and one open-ended). A response to each of the 18 self-rating items is made on a Likert type scale. The Likert self-ratings range from 1 (“not at all like me”) to 4 (“exactly like me”). The statements on the CDS state direct thoughts and feelings that are related to confidence in career decision-making. Examples of items include “ I have decided on a career and feel comfortable with it. I also know how to go about implementing my choice”; “Several careers have equal appeal to me. I’m having a difficult time deciding among them”; and “Until now, I haven’t given much thought to choosing a career. I feel lost when I think about it because I haven’t had many experiences in making decisions on my own and I don’t have enough information to make a career decision right now”. Item 19, the open-ended question, “provides the student with an opportunity to clarify or expand on prior items” (Osipow, 1987, p. 1). Item 19 will not be included in this study.

The instrument consists of two scales, a Certainty Scale and an Indecision Scale. The Certainty Scale, items 1 and 2, measures certainty of educational and vocational choice; the Indecision Scale, items 3 through 19, measures the antecedents of educational and vocational indecision (Chartrand & Robbins, 1990).

A high certainty score indicates certainty of career choice or college major. A high indecision score indicates indecision in regards to career choice. The Certainty and Indecision scales are inversely correlated. Osipow (1987) provides interpretations of the percentile scores on the inversely correlated scales. Students whose raw scores correspond to a normative indecision score below the 16<sup>th</sup> percentile and a certainty score

above the 84<sup>th</sup> percentile are considered to have high levels of confidence in career decisiveness and need minimal intervention. Students whose raw scores correspond to a normative indecision score between the 16<sup>th</sup> and 84<sup>th</sup> percentiles and certainty score is also between the 16<sup>th</sup> and 84<sup>th</sup> percentiles are considered to have moderate levels of confidence in career decisiveness and need further assessment. Follow-up with these students may include a more detailed career counseling interview or utilization of additional career decision assessments. Students whose raw scores correspond to a normative indecision score above the 84<sup>th</sup> percentile and a certainty score below the 16<sup>th</sup> percentile are considered to have low levels of confidence in career decisiveness and have a high need for career intervention. Raw scores that correspond to a normative indecision score above the 84<sup>th</sup> percentile and certainty score also above the 84<sup>th</sup> percentile, or indecision score below the 16<sup>th</sup> percentile and certainty score also below the 16<sup>th</sup> percentile are considered as possible invalid test data. The CDS can be administered individually or in groups in about 15 minutes, and the scoring can be accomplished in about five minutes.

The original purpose of the CDS was to indicate particular counseling interventions (Rogers & Westbrook, 1983). In the original studies to validate the CDS, the 16 indecision items were factor analyzed resulting with four factors accounting for over 81% of the total variance. The first factor reflected elements involving lack of structure and confidence in vocational decision-making. The second factor represented perceived external barriers to a preferred choice and questions regarding alternatives. The third factor represented having too many alternatives, and the fourth factor implied personal conflicts in decision-making. Subsequent studies (Hartman & Hartman, 1982;

Kazin, 1976; Rogers & Westbrook, 1983; Shimizu, Vondracek, Schulenberg, & Hostetler, 1988; Slaney, Palko-Nonemaker, & Alexander, 1981; Slaney, 1985; Stead & Watson, 1993)) found different factors or items loading differently; therefore Osipow (1987) suggested that the total scale scores instead of the factors be used for test interpretation.

Discussion of the reliability and validity of the instrument is included in the CDS manual. Osipow (1987) cited two studies in the manual that provided data for the reliability of the instrument. Two test retest correlations of .90 and .82 are reported for the Indecision Scale for two separate samples of college students, while item correlations for the Certainty and Indecision Scales ranged from .34 to .82 with the majority of correlations falling in the .60 to .80 range. Test-retest reliabilities over a six-week period for both scales items correlations ranged from .19 to .70 with total CDS scores yielding a correlation of .70.

Predictive validity, construct validity, and concurrent validity have been shown through studies that have used American (Harmon, 1985; Hartman & Hartman, 1982; Kraus & Hughey, 1999) as well as international (Watson, Foxcroft, & Stead, 1991) populations for the samples.

Kraus and Hughey's (1999) study confirmed the construct validity and the predictive validity of the CDS with high school students. The authors used high school juniors from European American (67%), African American (27%), Asian American (7%), Hispanics (4%), and Native American (2%) groups to examine the impact of a career choice competencies intervention on the level of career decision-making self-efficacy and career indecision of high school adolescents. The results of the study revealed that

the participants in the career education treatment group's level of career decision-making remained significantly higher than those in the control group immediately after the treatment and 4 weeks later. This study also revealed a significant correlation, ( $r = -.40$ ,  $p < .01$ ) between the CDS and the Career Decision-Making Self-Efficacy Scale-Short Form.

Harmon's (1985) study addressed the predictive validity of the CDS. The researcher reported an increased level of career decidedness in participants after career planning sessions. In a study comparing treatment and control group test scores, "Pre- and posttest measures over eight months showed the career planning group to be initially less decided... and to have become significantly more decided. After the intervention they were no different from the initially more decided control group" (Harmon, 1985, p. 270). Harmon (1985) also reported validity and test-retest reliability with excellent effect size significance.

In a group comparison, Osipow & Schweikert (1981) explored the relationship of scores between the CDS and the Assessment of Career Decision Making (ACDM) to test the construct validity. It was predicted that the Indecision Scale scores would be inversely related to the ACDM scores. College freshmen living in a residence hall with a focus on career exploration were administered the instruments during a two-day period before the semester began. A significant correlation ( $r = -.265$ ,  $p < .004$ ) was found in the expected direction between the Indecision scores and the ACDM.

Watson, Foxcroft and Stead (1991) used a factor analysis on a sample of 312 White South African, English speaking students in 11<sup>th</sup> and 12<sup>th</sup> grades to determine the construct validity of the CDS. Coefficients presented in the findings are consistent with other studies to which Watson et. al., was comparing. The coefficients for Factor I in the

current study were: .94, .06, .36, and .79 respectively. Coefficients for Factor II were: .10, .95, .41, and -.13. The high correlation of Factor I in this study with that of other studies (Shimizu, Vondracek, Schulenberg, & Hostetler, 1988; Rogers & Westbrook, 1983) indicated that Factor I effectively measures the constructs of lack of structure and confidence. The CDS was also found to be able to differentiate decided from undecided college students in terms of career choice (Limburg, 1980).

A study to determine the concurrent validity of the CDS was conducted by Slaney (1980) using a sample of 232 male and female college students. Osipow (1987) also reported this study in the CDS manual. The CDS and the Occupational Alternatives Question (OAQ) were administered to the students. The results indicated that the CDS and the OAQ were comparable in determining scores of clearly differentiated students who had a career choice and those who had a first career choice and some alternatives, and also differentiated both of those groups from students who had no career choice.

Concurrent validity of the CDS was determined in Westbrook, Simonson, & Arcia's, (1978) study with college students. The CDS was found to be more highly correlated with the Attitude Scale of the Career Maturity Inventory (CMI) than it did with various scholastic aptitude measures (Westbrook, Simonson, & Arcia, 1978). High career maturity is associated with a high level of confidence in career decision-making (low career indecision and high career certainty). The authors concluded that the CDS and the CMI have more in common with each other than they do with other instruments. The study revealed a significant relationship between the two instruments.

Hartman and Hartman's (1982) study addressed the concurrent and predictive validity of the CDS. The 206 suburban, Chicago high school students (201 European

Americans, 4 African Americans) were administered the CDS during their senior year and asked to write a statement describing their current career decision. They were again administered the CDS a year later. Pearson correlations between the two raters and the total test scores (for the first administration) revealed a significant correlation for rater one ( $r = .57, p < .001$ ) and  $r = .59, p < .001$  for rater 2. A discriminate analysis was calculated to classify students as decided-no change or undecided-still undecided groups and the predicted group membership was compared with the actual group membership by observing the proportion of correct classifications. The authors reported that the predictive validity demonstrated that the CDS scores predicted the likely behavior of students after high school graduation on the basis of their scores taken during high school.

Slaney (1985) reported that the CDS is useful for counselors, teachers, and researchers, while Harmon (1985) emphasized its use in research for program development. Harmon (1985) also stated that the instructions of the CDS are clear and it is unusual to have questions raised about how to respond. It is highly recommended as a counseling tool or as an instrument to use to evaluate programs in career counseling, and it can also compare levels of career decision-making across cultural and gender groups to see if there are differences among those groups (Osipow & Winer, 1996).

### Procedures

The following procedures were followed in order to implement the study. A list of all the high schools in Nassau, Bahamas was obtained from the Ministry of Education and placed in categories of public or private, computed in SPSS for a random selection of four private and three public schools. Once the schools were selected, the researcher

included the list in the research proposal for approval from the College of Education Ethics Subcommittee.

A letter was sent to the four school principals at the private schools and to the Director of Education for the public schools. After the researcher's doctoral committee and the College of Education Ethics Subcommittee had approved the research proposal and permission to proceed with the study, the researcher contacted (via phone communication) each private school and the Director of Education at the Ministry of Education (for the public schools) for confirmation of involvement in the study and to arrange the date and time for test administration and data collection. It was during these individual phone contacts that the researcher learned that the two private schools, St. Augustine's College and St. John's College would not be participating and that only one public school (R. M. Bailey Senior High) was chosen for this research study. The researcher was directed to call the school principal at R. M. Bailey Senior High to arrange the specific day and time of the test administration. The researcher promised to provide each school with a copy of the dissertation upon completion. The researcher was also provided with information on the demographic make-up of the students participating in the study.

Two days before the test administration the researcher delivered the letters for the parents or guardians for parental/guardian consent to each participating school principal's office for distribution. The parental/guardian letter contained the Nassau and South Carolina address of the researcher in order for a parent or guardian to contact her to answer any questions regarding the study. A research packet was also prepared and given

to the school counselor on the day of the test administration. One class period (approximately 35 minutes at each school) was granted to conduct the research study.

At the test administration each student received a research packet, which consisted of a student consent form to sign individual agreement to participate in the study, a demographic survey, and the CDS. Each research packet was coded with a letter representing the high school and a number representing the participant. For example, for Saint Andrew's Schools, the code on this school's research packets ranged from A001 – A100. The purpose of the study and instructions for completing the demographic survey and CDS (Appendix F) was stated to each group of students (at each school) before the test administration and data collection. The test administration took 25 minutes at all three of the schools. For Question 11 on the Demographic survey there were at least five students at each of the schools that informed the researcher that they knew how many BJC passes with "C" and above that they had obtained but could not remember the exact grade achieved for each subject. No other comments were made during the test administration. When students were finished they waited for directives from the school guidance counselor at St. Andrew's and Temple Christian Schools and the Business Math coordinator at R. M. Bailey Senior High. All 11<sup>th</sup> and 12<sup>th</sup> graders were assembled in the school's auditorium at St. Andrew's and R. M. Bailey Senior High schools and in the cafeteria at Temple Christian Schools. The Business Math coordinator and two teachers were present in the auditorium at R. M. Bailey Senior High and the school guidance counselors at both St. Andrew's and Temple Christian Schools were present and remained in the room throughout the test administration and data collection. The researcher completed the data collection in one test administration at each of the schools.

The data collected will be kept in a lock file in the researcher's home for a period of two years for confidentiality and future manuscripts.

### Data Analysis

A measure of career decision-making confidence levels (certainty and indecision scale scores) was made of the entire sample of juniors and seniors in this study. The data obtained from the demographic survey and the scores from the CDS was analyzed in descriptive and inferential statistics. An alpha level of .05 is chosen for the level of significance for the entire study.

Levels on some of independent variables reported on the demographic survey were reduced in order to construct a model for the inferential analysis. The following independent variables with categories reduced included, post-secondary plans, grade point average (GPA), mother and father's education, mother and father's occupation, and BJC passes. Queen (1999) and Bowers (1994) reduced the levels on their independent variables – parents' education level, employment status, and grade point averages – to “control the numbers of predictor variables in the model” (Bowers, 1994; p. 48). The levels for BJC examination passes were reduced to two levels (5 – 8 and 0 – 4) because there are currently only eight BJC subjects examination and students are placed in high schools according to the number of subjects passed with a “C” grade or higher.

### Descriptive Data Analysis

Information obtained from the demographic survey was explained and illustrated in the descriptive statistics as mean, standard deviation, and frequency tables and graphs. The total number of students and their gender in each of the two types of schools and grade levels was reported in frequency tables and graphs. Participants' self-reported

grade point average and the number and grade obtained for the BJC examinations were reported in means and standard deviations by the type of school, gender, and grade level. The participants' gender, grade level, and the type of school they are attending were displayed in a frequency table. Parents or guardians' occupation was reported and students' experience in career related activities (such as a visit to the school counselor to discuss career plans, a job shadow or part-time work experience) were described and reported in frequency tables. The occupations were classified according to The Bahamas Department of Statistics Occupational Groups (Ministry of Economic Development, 1998) (Appendix G). Total scores for each scale on the CDS were also reported in frequency tables and illustrated in graphs.

#### Inferential Data Analysis

Five multivariate analysis of variance (MANOVA) were conducted to test hypotheses one through five to obtain an F-value for each independent variable and the interactions on career certainty and indecision. For hypotheses six and seven independent *t*-tests were performed to obtain a critical value  $t^*$  for means on career certainty and indecision for Bahamian students and those established as norms for the CDS.

#### Summary

The null hypotheses for the study were stated and the description of the instrument for this study was examined noting the predictive, construct and concurrent validity, while the procedure for data collection was itemized and explained. The analysis of the demographic survey and research questions being investigated were discussed as descriptive and inferential statistics.

## CHAPTER FOUR

### Analysis of the Data

This chapter presents the analysis of the data obtained for the study. The results of the data analysis are presented in two sections: descriptive statistics, and inferential statistics. The report of the descriptive statistics includes a discussion of the statistical demographics of the sample and a report on the means (career certainty and indecision scales) CDS scores. The section on inferential statistics report relevant analysis for each of the seven null hypotheses tested. A summary concludes the chapter.

#### Descriptive Statistics

The sample in this study consisted of a total of 385 eleventh and twelfth graders from three randomly selected schools (two private and one public) in Nassau, Bahamas. Two hundred thirty (60%) were females and 155 (40%) were males with 197 (51%) from the 11<sup>th</sup> grade and 188 (49%) from the 12<sup>th</sup> grade. Two hundred fifteen (56%) were from the two private schools (Saint Andrew's and Temple Christian Schools) and 170 (44%) were from the public school (R. M. Bailey Senior High School).

One hundred seventy six students at the public school from the six Business Math classes (3 eleventh grades and 3 twelfth grades) were invited to participate (173 parental/guardian consent letters were returned). However, one female and four males from the 12<sup>th</sup> grade and two males from the 11<sup>th</sup> grade were absent from school on the day of the test administration and data collection leaving a total of 169 students 110 (65%) females (54 (49%) from the 11<sup>th</sup> grade and 56 (51%) from the 12<sup>th</sup> grade) and 59

(35%) males (25 (42%) from the 11<sup>th</sup> grade and 34 (58%) from the 12<sup>th</sup> grade). There was a total of 80 (47%) 11<sup>th</sup> graders and 90 (53%) 12<sup>th</sup> graders.

At each of the private schools the entire classes of 11<sup>th</sup> and 12<sup>th</sup> graders (100 students, 2 eleventh grades and 2 twelfth grades at St. Andrews' and 123 students, 3 eleventh grades and 2 twelfth grades at Temple Christian Schools) were invited to participate and returned completed parental/guardian consent letters. At both private schools there were a few students who were not included in the data analysis for the following reasons. At St. Andrews' one female from the 12<sup>th</sup> grade was absent from school on the day of the test administration and data collection and one 12<sup>th</sup> grade male did not complete the CDS. At Temple Christian Schools 3 females from the 12<sup>th</sup> grade were absent from school on the day of the test administration and data collection and two females also from the 12<sup>th</sup> grade did not complete the CDS and the demographic survey, leaving a total of 215 students, 118 (55%) females (66 (56%) from the 11<sup>th</sup> grade and 52 (44%) from the 12<sup>th</sup> grade) and 97 (45%) males (51 (53%) from the 11<sup>th</sup> grade and 46 (47%) from the 12<sup>th</sup> grade). There was a total of 119 (55%) 11<sup>th</sup> graders and 97 (45%) 12<sup>th</sup> graders.

The ethnic distribution for the sample comprised, 285 (74%) Black (159 representing 94% of the public school and 126 representing 58% of the private schools), 67 (17%) Caucasian (all from the private schools representing 31% within the private schools), 25 (7%) bi/multi-racial (10 representing 6% of the public school and 15 representing 7% of the private schools), 5 (1%) Hispanic (all from the private schools representing 2%), and 3 (less than 1%) Asian (all from the private schools representing 1% of the private school) (see Appendix G, Table G1). The average age for the sample

was 15.9 years with a standard deviation of .86 years. Thirteen (3%) students were 14 years old, 125 (33%) were 15 years old, 155 (40%) were 16 years old, 84 (22%) were 17 years old, and 8 (2%) were 18 years old (see Appendix H, Table H2).

**Table 1. CDS Scores for Bahamian High School Students**

CDS subscale Scores for Bahamian Students

	STUDENTS _____					
	M	SD	Min	Total Max	Range	n
Career Certainty Scale	5.09	1.52	2.00	8.00	6.00	385
Career Indecision Scale	34.3	8.83	16.00	60.00	44.00	385

The mean CDS career certainty score for the entire sample was 5.09 with a standard deviation of 1.52. The Bahamian adolescents scores were as low as 2 (the lowest score possible) to as high as 8 (the highest score possible) with a range of 6. The mean career indecision score was 34.26 with a standard deviation of 8.83. Adolescents scores were as low as 16 (the lowest score possible) to as high as 60 with a range of 44.

The remainder of the descriptive statistics will illustrate and explain information on the independent variables (gender, type of school, grade level, visit to the counselor, job shadow experience, part-time work experience, post-secondary plans, GPA, BJC examination passes, mother’s level of education, father’s level of education, mother’s occupation, and father’s occupation) along with the group means and standard deviations of the CDS for each variable. Frequency tables for each one are provided. (See Appendix H).

Gender

For the females, the mean career certainty score was 5.07 with a standard deviation of 1.50 and the mean career indecision score was 33.98 with a standard

deviation of 8.54. For the males, the mean career certainty score was slightly higher than the females at 5.11 with a standard deviation of 1.54 and the mean career indecision score for the males was 34.68, with a standard deviation of 9.25.

### Type of School

The descriptive statistics for type of school revealed that for career certainty in the private schools, the average score was 5.43 with a standard deviation of 1.35. In the public school the mean score was 4.66 and the standard deviation was 1.61. For the career indecision scale, in the private schools, the mean score was 32.38 with a standard deviation of 7.88 and in the public school, the mean score was 36.67, three points higher than the private schools. The standard deviation was 9.42.

### Grade Level

The average career certainty score for the 197 (51%) 11<sup>th</sup> graders was 4.62 with a standard deviation of 1.49. For the 188 (49%) 12<sup>th</sup> graders, the mean was 5.58 with a standard deviation of 1.39. For the career indecision scores, in the 11<sup>th</sup> grade the mean score was 35.50 with a standard deviation of 8.76. In the 12<sup>th</sup> grade the mean career indecision score was 33.00, 2 points lower than the 11<sup>th</sup> graders. The standard deviation was 8.73.

### Visit to the School Counselor

Two hundred twenty-nine students (60%) reported that they had visited the school guidance counselor to discuss their career/college plans, while 156 (40%) indicated that they did not. The average career certainty score was 5.52 with a standard deviation of 1.34, and the average career indecision score was 32.45 with a standard deviation of 7.94. For those students who reported that they had not visited their school guidance counselor,

the mean career certainty score was 4.45 with a standard deviation of 1.54 and the mean career indecision score was 36.92 with a standard deviation of 9.40.

#### Job Shadow Experience

For the entire sample, 99 (26%) students self-reported that they had participated in a job shadow experience, while 286 (74%) stated that they had not done so. The mean career certainty score for those responding “yes” was 5.73 with a standard deviation of 1.41, while those who responded “no” had an average score of only 4.87 with a standard deviation of 1.52. The mean career indecision score for those responding “yes” was 31.90 with a standard deviation of 8.31, and those responding “no” mean career indecision score was 35.08 with a standard deviation of 8.87.

#### Part-time Work Experience

Of the 385 research participants, 329 (85.5%) stated that they had some part-time work experience while, 56 (14.5%) reported that they did not. Those responding “yes” had a mean career certainty score of 5.18 with a standard deviation of 1.51, while those responding “no” had a mean score of 4.54 with a standard deviation of 1.44. For career indecision those responding “yes”, average score was 33.95 with a standard deviation of 8.88, while those responding “no” average score was 36.11, almost 3 points higher than the students with some part-time work experience. The standard deviation was 8.38.

#### Post-Secondary Plans

Three hundred and eleven students (81%) reported that their plans were to pursue post-secondary education either at a 4-year institution or a 2-year institution. For this group, the mean career certainty score was 5.30 with a standard deviation of 1.44 and the mean career indecision score was 33.40 with a standard deviation of 8.48. There were 51

(13%) students who reported that their post-secondary plans were to seek employment. The mean career certainty score for this group was 3.88 with a standard deviation of 1.40, and the mean career indecision score was 39.96 with a standard deviation of 8.91. Twenty-three (6%) students reported being undecided regarding their post-secondary plans. The mean career certainty score for this group of students was 4.91 with a standard deviation of 1.65 and the mean career indecision score was 33.87 with a standard deviation of 8.94.

### Grade Point Average

One hundred seventy-four (45%) students reported having a GPA of 3.00 – 4.00, 183 (48%) students reported having a GPA of 2.00 – 2.99, and 28 (7%) reported having a GPA of below 2.0. The average career certainty score for those students reporting the highest GPA was 5.28 with a standard deviation of 1.51 and an average career indecision score of 32.96 with a standard deviation of 8.60. The average career certainty score for those with GPAs of 2.00 – 2.99 was 4.92 with a standard deviation of 1.52 and an average career indecision score of 34.86 with a standard deviation of 8.61. Those students reporting having GPAs of below 2.00 average career certainty score was 4.96, slightly above the average of those with GPAs of 2.00 – 2.99. The standard deviation was 1.45 and the average career indecision score was 38.46 with a standard deviation of 10.14.

### BJC Examination Passes

Two hundred seventy-four (71%) students reported having successfully passed 5 to 8 BJC subjects with a “C” grade or above, while 111 (29%) students reported passing between 0 – 4 subjects successfully. The average career certainty score for those 274 students was 5.42 with a standard deviation of 1.40 and, an average career indecision

score of 32.48 with a standard deviation of 8.17. The average career certainty score for those 111 students was 4.26 with a standard deviation of 1.48 and, an average career indecision score of 38.68 with a standard deviation of 8.87.

#### Mother's Level of Education

For the 385 students in the sample, 164 (43%) reported that their mother's education was at the college level, either as a college graduate or currently attending college, 213 (55%) reported that their mother's education was at the high school level, and 8 (2%) reported not knowing the level of their mother's education.

The mean career certainty score for the adolescents whose mother's education was at the college level was 5.31 with a standard deviation of 1.40 and a mean career indecision score of 32.96 with a standard deviation of 7.81. The mean career certainty score for the adolescents whose mother's education was at the high school level was 4.95 with a standard deviation of 1.58 and a mean career indecision score of 35.19 with a standard deviation of 9.44. For the 8 students who reported not knowing their mother's level of education, their mean career certainty score was 4.25 with a standard deviation of 1.67 and a mean career indecision score of 36.38 with a standard deviation of 9.21.

#### Father's Level of Education

One hundred thirty-seven students (36%) reported that their father's education was at the college level, either as a college graduate or currently attending college, 206 (54%) reported that their father's education was at the high school level, and 42 (11%) reported not knowing the level of their father's education.

The mean career certainty score for the adolescents whose father's education was at the college level was 5.39 with a standard deviation of 1.43 and a mean career

indecision score of 33.06 with a standard deviation of 7.96. The mean career certainty score for the adolescents whose father's education was at the high school level was 4.88 with a standard deviation of 1.59 and a mean career indecision score of 34.96 with a standard deviation of 9.06. For the 42 students who reported not knowing their father's level of education, their mean career certainty score was 5.10 and the standard deviation was 1.30. The mean career indecision score was 34.79 with a standard deviation of 10.11.

### Mother's Occupation

Twenty-eight percent (109) of the sample reported that their mother's job fit into the top occupational classification (legislators, senior officials, professionals), 34% (131) reported that their mother's job fit into the second highest occupational classification (clerks, service & sales workers, skilled technicians), 22% (84) reported that their mother's job fit into the third occupational classification (agricultural, machinery, fishery, craft, and janitorial workers), and 16% (61) of the sample reported that their mother was either a homemaker or unemployed.

Students whose mother's occupation fit into the top classification had a mean career certainty score of 5.30 with a standard deviation of 1.39, and a mean career indecision score of 33.33 with a standard deviation of 7.63. Students whose mother's occupation fit into the second top classification had a mean career certainty score of 5.20 with a standard deviation of 1.51, and a mean career indecision score of 33.70 with a standard deviation of 8.35. Students whose mother's occupation fit into the third classification had a mean career certainty score of 4.56 with a standard deviation of 1.67, and a mean career indecision score of 35.95 with a standard deviation of 10.0. Students who reported that their mother was a homemaker or unemployed had a mean career

certainty score of 5.20 with a standard deviation of 1.40, and a mean career indecision score of 34.82 with a standard deviation of 9.90.

### Father's Occupation

Thirty-one percent (120) of the sample reported that their father's job fit into the top occupational classification (legislators, senior officials, professionals), 27% (103) reported that their father's job fit into the second highest occupational classification (clerks, service & sales workers, skilled technicians), 23% (89) reported that their father's job fit into the third occupational classification (agricultural, machinery, fishery, craft, and janitorial workers), and 19% (73) of the sample reported that their father was either a homemaker or unemployed.

Students whose father's occupation fit into the top classification had a mean career certainty score of 5.30 with a standard deviation of 1.40, and a mean career indecision score of 33.14 with a standard deviation of 7.28. Students whose father's occupation fit into the second top classification had a mean career certainty score of 5.45 with a standard deviation of 1.36, and a mean career indecision score of 33.01 with a standard deviation of 9.05. Students whose father's occupation fit into the third classification had a mean career certainty score of 4.58 with a standard deviation of 1.72, and a mean career indecision score of 36.05 with a standard deviation of 9.45. Students who reported that their father was a homemaker or unemployed had a mean career certainty score of 4.85 with a standard deviation of 1.48, and a mean career indecision score of 35.70 with a standard deviation of 9.62.

## Inferential Statistics

In this section the data was analyzed in three stages; multivariate analysis of variance (MANOVA), followed by univariate F-tests (ANOVA), and Tukey's Honestly Significant Difference (HSD) post hoc to test all pairwise comparisons. Profile plots are also included to display the interaction effects of the independent variables.

### Hypothesis 1

The first null hypothesis stated that there would be no significant main or interaction effects for gender, type of school, or grade level on the levels of career certainty and indecision. The results of the analyses are presented in table 1.

Table 2. MANOVA for Gender, Type of School, Grade Level

#### **Multivariate Analysis of Variance (between subjects)**

<u>Effect</u>	<u>df</u>	<u>F</u>	<u>Sig.</u>
GENDER	2, 376	1.641	.195
SCHOOL	2, 376	18.498	.000
GRADE	2, 376	27.001	.000
GENDER * GRADE	2, 376	3.440	.033
GENDER * SCHOOL	2, 376	.182	.834
GRADE * SCHOOL	2, 376	2.962	.053
GENDER * GRADE * SCHOOL	2, 376	8.619	.000

F = Wilks' Lambda

Table 3. Univariate F-Tests for Gender, Type of School, Grade Level

**Univariate F-tests (within subjects)**

Source	Dependent Variable	df	F	Sig.
GENDER	Career Certainty Scale	1	.229	.633
	Career Indecision Scale	1	2.426	.120
SCHOOL	Career Certainty Scale	1	35.13	.000
	Career Indecision Scale	1	27.51	.000
GRADE	Career Certainty Scale	1	51.98	.000
	Career Indecision Scale	1	17.46	.000
GENDER * GRADE	Career Certainty Scale	1	.458	.499
	Career Indecision Scale	1	5.047	.025
GENDER * SCHOOL	Career Certainty Scale	1	.258	.612
	Career Indecision Scale	1	.352	.554
GRADE * SCHOOL	Career Certainty Scale	1	.704	.402
	Career Indecision Scale	1	4.798	.029
GENDER * GRADE * SCHOOL	Career Certainty Scale	1	.271	.603
	Career Indecision Scale	1	6.164	.013
Error	Career Certainty Scale	377	(1.91)	
	Career Indecision Scale	377	(69.92)	

Note. Values enclosed in parentheses represent mean square errors.

The MANOVA revealed statistically significant main effects for type of school ( $F = 18.50, p < .05$ ), and grade level,  $F = 27.001, p < .05$ . The three-way interaction effect, gender by grade level by school, was statistically significant,  $F = 8.62, p < .05$ . There were no statistically significant two-way interaction effects.

Because some statistically significant results were discovered, the univariate  $F$ -tests were undertaken for each dependent variable. The ANOVAs using the scores on the career certainty and indecision scales of the CDS revealed several significant main effects and two interaction effects. Both career certainty and career indecision were statistically significant for type of school ( $F = 35.13, p < .05$ ;  $F = 27.51, p < .05$  respectively) and grade level ( $F = 51.98, p < .05$ ;  $F = 17.46, p < .05$  respectively). Career indecision was statistically significant for the two-way interaction effect, gender by grade level ( $F = 5.05, p < .05$ ) and the three-way interaction, gender by grade level by type of school ( $F = 6.16, p < .05$ ). Since there were only two levels to each of the independent variables,

Tukey's HSD post hoc was not computed, however profile plots (figures 1, 2, 3, 4) were constructed to illustrate the interaction effects.

The profile plots illustrated the interactions of the three independent variables, gender, type of school, and grade level on the dependent variable scales, career certainty and indecision. Figure 1 showed that although both males and females in the private school were more certain in their career decision-making skills as the grade level increased, the males experienced a significant increase than their female counterpart. In the 11<sup>th</sup> grade the males' level of career certainty was much lower than the females' but in the 12<sup>th</sup> grade the males demonstrated a slightly higher level of career certainty than their female counterpart. Figure 2 illustrate that although both males and females public school level of career certainty were similar at the 11<sup>th</sup> grade, however, in 12<sup>th</sup> grade the boys were more certain than the girls in career decision-making.

Figure 1. Career Certainty: Gender by Grade Level for Private School

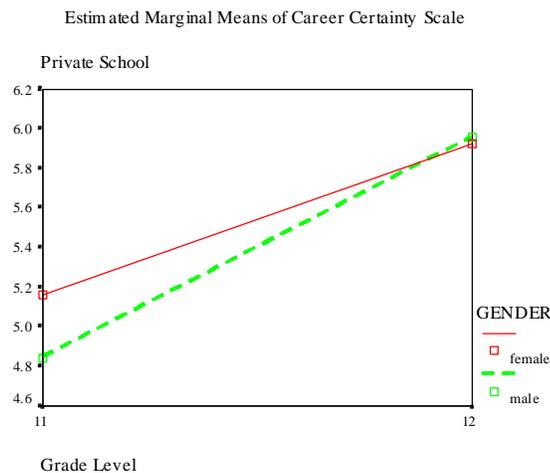


Figure 2. Career Certainty: Gender by Grade Level for Public School

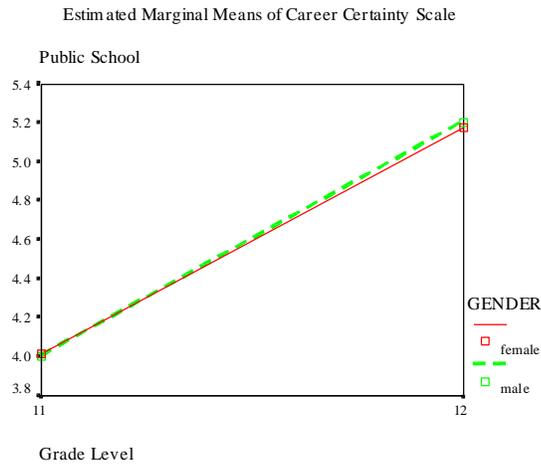


Figure 3 illustrated the males at the private and public schools level of career indecision were not significantly different, however the females at the private schools level of career indecision was much lower than their peers in the public school, thus accounting for the significant difference in the three-way interaction on career indecision. In the public school the males experience a greater decrease in career indecision from 11<sup>th</sup> grade to 12<sup>th</sup> grade than the females did (figure 4).

Figure 3. Career Indecision: Gender by Type of School for 12<sup>th</sup> Grade

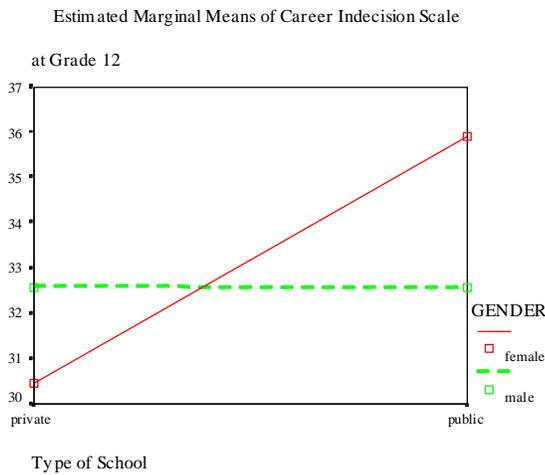
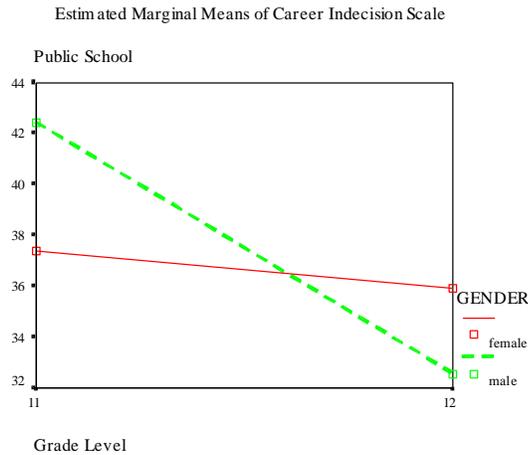


Figure 4. Career Indecision: Gender by Grade Level for Public School



Hypothesis 2

The second null hypothesis stated that there were no significant main or interaction effects for a visit to the school counselor, a job shadow experience, or a part-time work experience on career certainty and indecision levels. However, a complete report was not generated due to some of the cells being empty (see the Crosstabulation in Appendix G, Table G3). There were no students in the sample who reported “no” for a job shadow experience and also “no” to a part-time work experience.

Table 4. MANOVA for Visit to the Counselor, Job Shadow, Part-time Work Experience

**Multivariate Tests (between subjects)**

Effect	F	df	Sig.
GUIDANCE	8.605	2, 378	.000
JSHADOW	2.162	2, 378	.117
WORK	1.532	2, 378	.218
GUIDANCE * WORK	.903	2, 378	.406
JSHADOW * WORK	.	0, 378.5	.
GUIDANCE * JSHADOW	1.335	2, 378	.264
GUIDANCE * JSHADOW * WORK	.	0, 378.5	.

F = Wilks' Lambda

Table 5. Univariate F-Tests: Visit to Counselor, Job Shadow, Work Experience

**Univariate F-tests (within subjects)**

Source	Dependent Variable	df	F	Sig.
GUIDANCE	Career Certainty Scale	1	15.454	.000
	Career Indecision Scale	1	3.447	.064
JSHADOW	Career Certainty Scale	1	4.188	.041
	Career Indecision Scale	1	2.982	.085
WORK	Career Certainty Scale	1	2.823	.094
	Career Indecision Scale	1	.717	.398
GUIDANCE * WORK	Career Certainty Scale	1	.355	.552
	Career Indecision Scale	1	1.617	.204
JSHADOW * WORK	Career Certainty Scale	0	.	.
	Career Indecision Scale	0	.	.
GUIDANCE * JSHADOW	Career Certainty Scale	1	.025	.875
	Career Indecision Scale	1	1.063	.303
GUIDANCE * JSHADOW * WORK	Career Certainty Scale	0	.	.
	Career Indecision Scale	0	.	.
Error	Career Certainty Scale	379	(1.98)	
	Career Indecision Scale	379	(72.92)	

~~Note. Values enclosed in parentheses represent mean square errors.~~

The MANOVA revealed statistically significant main effect for a visit to the school guidance counselor,  $F = 8.61, p = .001$ . There were no two- or three-way significant interaction effects. The Univariate tests performed revealed one significant main effect, a visit to the school guidance counselor on career certainty ( $F = 15.45, p < .05$ ).

### Hypothesis 3

The third null hypothesis stated that there would be no significant main or interaction effects for post-secondary plans, GPA, or BJC examination passes on levels of career certainty and indecision.

Table 6. MANOVA for Post-Secondary Plans, GPA, BJC Examination Passes

**Multivariate Tests (between subjects)**

Effect	F	df	Sig.
PLAN	2.103	4, 738	.079
GPA	2.253	4, 738	.062
BJC	6.893	2, 369	.001
PLAN * GPA	.555	8, 738	.815
PLAN * BJC	.571	4, 738	.684
GPA * BJC	.976	4, 738	.420
PLAN * GPA * BJC	1.547	2, 369	.214

F = Wilks' Lambda

Table 7. Univariate F-Tests for Post Secondary Plans, GPA, BJC Examination Passes

**Univariate F-tests (within subjects)**

Source	Dependent Variable	df	F	Sig.
PLAN	Career Certainty Scale	2	3.867	.022
	Career Indecision Scale	2	1.520	.220
GPA	Career Certainty Scale	2	.990	.373
	Career Indecision Scale	2	1.505	.223
BJC	Career Certainty Scale	1	13.212	.000
	Career Indecision Scale	1	9.725	.002
PLAN * GPA	Career Certainty Scale	4	.424	.791
	Career Indecision Scale	4	.446	.775
PLAN * BJC	Career Certainty Scale	2	1.073	.343
	Career Indecision Scale	2	.566	.568
GPA * BJC	Career Certainty Scale	2	.122	.885
	Career Indecision Scale	2	.793	.453
PLAN * GPA * BJC	Career Certainty Scale	1	.242	.623
	Career Indecision Scale	1	2.389	.123
Error	Career Certainty Scale	370	(1.97)	
	Career Indecision Scale	370	(69.86)	

Note. Values enclosed in parentheses represent mean square errors.

Table 8. Tukey HSD for Post-Secondary Plans

**Multiple Comparisons for Post-Secondary Plans**

Test: Tukey HSD

	(I) Post-Secondary Plans	(J) Post-Secondary Plans	Mean Difference (I-J)	Sig.
Career Certainty Scale	work	post-secondary education	-1.417*	.000
		undecided	-1.031*	.010
Career Indecision Scale	work	post-secondary education	6.604*	.000
		undecided	6.091*	.010

\* significant at the .05 level

The MANOVA revealed statistically significant main effects for BJC examination passes ( $F = 6.98, p = .001$ ). There were no statistically significant two- or three-way interaction effects. Because a statistically significant result was discovered, the univariate  $F$ -tests were undertaken for each dependent variable. The ANOVAs using the scores on the career certainty and indecision scales of the CDS revealed several significant main effects. Both career certainty and career indecision were statistically significant for BJC examination passes ( $F = 13.21, p < .05$ ;  $F = 9.73, p < .05$  respectively), and career certainty was statistically significant for post-secondary plans ( $F = 3.87, p < .05$ ). In order to discover the exact nature of the differences among the three types of post-secondary plans, a Tukey HSD post hoc test was performed and profile plots were constructed to examine whether there were any interactions between the two levels of BJC examination passes.

The Tukey HSD post hoc test revealed that a career certainty mean difference of 1.42 between students with post-secondary education plans and those with plans to work immediately after high school was significant at a .001 level. The career certainty mean difference of 1.03 between undecided students and those planning on seeking

employment immediately after high school was also significant at a .01 level. Students whose plans were post-secondary education, average level of career indecision was 6.60 points less than that of those whose plans were to work, this was also significant at a .001 level. Undecided students mean career indecision scores were also significantly different than those who were planning on going to work, the mean difference was  $-6.09$  points at a .01 level. No other mean difference was significant.

The profile plots displayed, illustrated the interactions of the three independent variables, post-secondary plans, GPA, and BJC examination passes on the dependent variable scales, career certainty and indecision. There was an interaction on the career certainty and also the career indecision levels between students with 5 – 8 BJC passes, their post-secondary plans and their GPA. For career certainty, students who had post-secondary education plans and those who were undecided with GPAs between 3.00 – 4.00 and 2.00 – 2.99 mean level of career certainty were quite similar, with those with the highest GPA and those being undecided in their post-secondary plans showing a slightly higher level of career certainty. However, those reporting the lowest GPA (below 2.00) with plans to seek post-secondary education, level of career certainty increased while those who were undecided decreased. For this same group of students, an interaction on the level of career indecision also occurred. While the average career indecision scores of students with undecided post-secondary plans increased as the GPA decreased, those with post-secondary education plans average career indecision scores decreased as the GPA decreased. Explanation for this trend will be discussed in chapter 5. There were no interactions on levels of career indecision for students with 0 – 4 BJC examination passes.

Figure 5. Career Certainty: BJC Examination Passes (5 – 8 subjects)

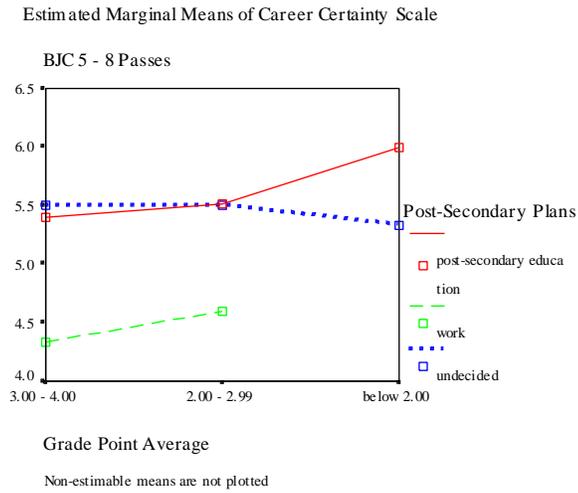
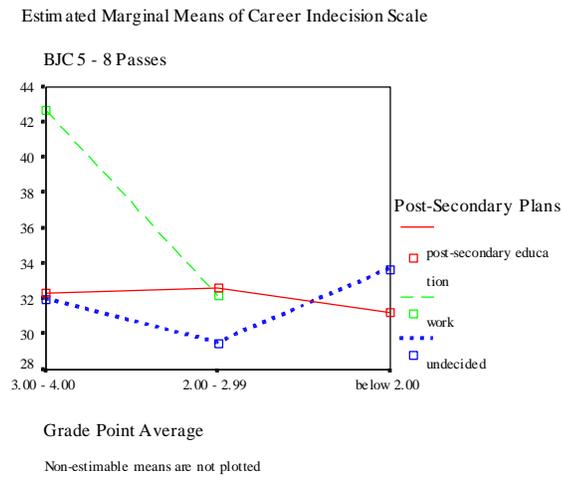


Figure 6. Career Indecision: BJC Examination Passes (5 – 8 subjects)



Hypothesis 4

The report of the analysis for the fourth hypothesis which tested for no significant main or interaction effects for mother’s level of education and mother’s occupation on the level of career certainty and indecision is displayed in the MANOVA table (8).

Table 9. MANOVA: Mother's Level of Education, Mother's Occupation

**Multi variate Tests (between subjects)**

Effect	F	df	Sig.
MOTHER	2.694	4, 746	.030
MJOB	3.256	6, 746	.004
MOTHER * MJOB	1.453	10, 746	.153

F = Wilks' Lambda

Table 10. Univariate F-Tests: Mother's Level of Education, Mother's Occupation

**Univariate F-tests (within subjects)**

Source	Dependent Variable	df	F	Sig.
MOTHER	Career Certainty Scale	2	1.602	.203
	Career Indecision Scale	2	4.253	.015
MJOB	Career Certainty Scale	3	3.487	.016
	Career Indecision Scale	3	3.120	.026
MOTHER * MJOB	Career Certainty Scale	5	2.007	.077
	Career Indecision Scale	5	2.136	.061
Error	Career Certainty Scale	374	(2.21)	
	Career Indecision Scale	374	(75.96)	

Note. Values enclosed in parentheses represent mean square errors.

Only the main effect of mother's occupation was significant at the alpha level of .05 ( $F = 3.26, p = .004$ ). The two-way interaction was not significant,  $\alpha .153$ . The univariate F-tests performed for hypothesis 4 revealed a significant main effect (.015) on career indecision for mother's level of education ( $F = 4.25, p < .05$ ), and a significant main effect (.016) on career certainty for mother's occupation ( $F = 3.49, p < .05$ ). The main effect of mother's occupation was one point away from being significant at .026.

Table 11. Tukey HSD for Mother's Level of Education

**Multiple Comparisons for Mother's Level of Education**

Tukey HSD

	(I) Mother's Education	(J) Mother's Education	Mean Difference (I-J)	Sig.
Career Indecision Scale	high school education	college education	2.230*	.037
		do not know	-1.1870	.924

\* significant at the .05 level

Table 12. Tukey HSD for Mother's Occupation

**Multiple Comparisons for Mother's Occupation**

Tukey HSD

	(I) Mother's Occupation	(J) Mother's Occupation	Mean Difference (I-J)	Sig.
Career Certainty Scale	Agricultural, Machinery, Fishery, Craft, Janitorial	Legislators, Senior Officials, & Professionals	-0.743*	.003
		Clerks, Service, & Sales Workers, Technicians	-0.639*	.011
		Homemaker/Unemployed	-.6370	.053

\* significant at the .05 level

The Tukey HSD post hoc identified the students whose mothers' level of education was at a high school education, level of career indecision was at least 2.23 points higher than those students whose mothers' level of education was a college education. This career indecision mean difference was significant at .04. No other mean differences were significant. The Tukey HSD post hoc test for mother's level of education revealed significant main difference between groups of students only on career certainty. Students whose parents occupation fit into the category of legislators, senior

officials, and professionals, mean career certainty score was less than 1 point (.74) higher than those whose parents occupations were in the agricultural, machinery, fishery, craft, and janitorial. The mean difference was significant at .003 level. Students whose parents occupation were clerks, service and sales workers, and technicians, mean career certainty score was also less than 1 point (.64) higher than those whose parents occupations were in the agricultural, machinery, fishery, craft, and janitorial. The mean difference was significant at .011 level. No other mean difference was significant.

### Hypothesis 5

The report of the analysis for hypothesis 5 which tested for no significant main or interaction effects for father's level of education and father's occupation on the level of career certainty and indecision is displayed in the MANOVA table (12).

Table 13. MANOVA for Father's Level of Education, Father's Occupation

<b>Multivariate Tests (between subjects)</b>			
Effect	F	df	Sig.
FATHER	1.220	4, 748	.301
FJOB	4.238	6, 748	.000
FATHER * FJOB	2.492	8, 748	.011

F = Wilks' Lambda

Table 14. Univariate F-Tests for Father's Level of Education, Father's Occupation

<b>Univariate F-tests (within subjects)</b>				
Source	Dependent Variable	df	F	Sig.
FATHER	Career Certainty Scale	2	.385	.681
	Career Indecision Scale	2	.486	.616
FJOB	Career Certainty Scale	3	6.200	.000
	Career Indecision Scale	3	4.591	.004
FATHER * FJOB	Career Certainty Scale	4	2.780	.027
	Career Indecision Scale	4	2.253	.063
Error	Career Certainty Scale	375	(2.14)	
	Career Indecision Scale	375	(75.76)	

Note. Values enclosed in parentheses represent mean square errors.

The main effect of father's occupation was significant at the alpha level of .05 ( $F = 4.24, p = .001$ ). The two-way interaction was significant,  $F = 4.29, p = .011$ . The univariate F-tests performed for hypothesis 5 revealed a significant main effect (.001) on career certainty for father's occupation ( $F = 6.20, p < .05$ ), and a significant main effect (.004) on career indecision for father's occupation ( $F = 4.51, p < .05$ ). The main effect for the two-way interaction on career certainty was two points away from being significant at .027.

Table 15. Tukey HSD for Father's Occupation

**Multiple Comparisons for Father's Occupation**

Tukey HSD

	(I) Father's Occupation	(J) Father's Occupation	Mean Difference (I-J)	Sig.
Career Certainty Scale	Legislators, Senior Officials, Professionals	Clerks, Service & Sales Workers, Technicians	-.1466	.881
		Agricultural, Machinery, Fishery, Craft, Janitorial	0.7157*	.003
		Homemaker/Unemployed	.4507	.168
	Clerks, Service & Sales Workers, Technicians	Legislators, Senior Officials, Professionals	.1466	.881
		Agricultural, Machinery, Fishery, Craft, Janitorial	0.8623*	.000
		Homemaker/Unemployed	0.5974*	.041

\* significant at the .05 level

The Tukey HSD post hoc test for father's occupation revealed significant main difference between groups of students only on career certainty. Students whose fathers' occupation fit into the category of legislators, senior officials, and professionals, mean career certainty score was less than 1 point (.72) higher than those whose fathers' occupations were in the agricultural, machinery, fishery, craft, and janitorial classification. The mean difference was significant at .003 level. Students whose fathers' occupation were clerks, service and sales workers, and technicians, mean career certainty

score was also less than 1 point (.82) higher than those whose fathers' occupations were in the agricultural, machinery, fishery, craft, and janitorial category. The mean difference was significant at .001 level. There was also a significant mean difference in career certainty scores between the students whose fathers' occupations were classified as clerks, service and sales workers, and technicians than those whose fathers' were classified as homemaker or unemployed, .60 with a .04 significance level. No other mean difference was significant.

Hypothesis 6

The sixth hypothesis stated that the means for career certainty and indecision scales for the Bahamian high school males and females sample do not differ significantly from the means established as norms for the CDS. Tables 15 and 16 described the statistics for both groups including the confidence interval for the males and females in the Bahamian sample.

Table 16. CDS Descriptive Statistics for Gender

	CDS Summaries for Gender			
	Bahamian Adolescents		CDS NormHigh School	
	Gender		Gender	
	Males	Females	Males	Females
<b>n</b>	155	230	231	242
M Certainty	5.11	5.07	4.85	4.72
SD Certainty	1.54	1.50	1.77	1.73
M Indecision	34.68	33.98	37.38	37.20
SD Indecision	9.25	8.54	7.23	8.33

Table 17. Confidence Interval for Gender

		Descriptives by Gender		Statistic
	Gender			
Career Certainty Scale	female	Mean		5.0739
		95% Confidence Interval for Mean	Lower Bound	4.8786
			Upper Bound	5.2693
	male	Std. Deviation		1.5036
		Mean		5.1097
			95% Confidence Interval for Mean	Lower Bound
		Upper Bound		5.3547
Career Indecision Scale	female	Std. Deviation		1.5440
		Mean		33.9826
			95% Confidence Interval for Mean	Lower Bound
				Upper Bound
	male	Std. Deviation		8.5381
		Mean		34.6774
			95% Confidence Interval for Mean	Lower Bound
				Upper Bound
			Std. Deviation	

The statistics shown in table 15 revealed that the adolescents in the Bahamian sample career certainty mean score was higher and career indecision mean score was lower than that of the norm group, Sample W, presented in the Career Decision Scale Manual. A 95% confidence interval was generated for each of the CDS scales by gender for the Bahamian sample (table 16) to determine whether the norm group's CDS scales scores would be included in this interval. Since neither of the CDS scales scores for the norm group was included in the confidence interval, a hypothesis test for each gender was performed to test for no significant difference.

Hypothesis Test for Males: Career Certainty

Ho:  $\mu_1 - \mu_2 = 0$

Ha:  $\mu_1 - \mu_2 \neq 0$

$t^* = t_{154} (.025) = 1.984$  (from the T- table)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{5.11 - 4.85}{\sqrt{\frac{(1.54)^2}{155} + \frac{(1.77)^2}{231}}} = \frac{.26}{.17} = 1.53$$

Since the test statistic  $t = 1.53 < 1.984$  the null hypothesis can not be rejected. It is quite possible, with 95% confidence that the means for career certainty for the Bahamian males and the males in the norm group for the CDS do not differ.

#### Hypothesis Test for Males: Career Indecision

Ho:  $\mu_1 - \mu_2 = 0$

Ha:  $\mu_1 - \mu_2 \neq 0$

$t^* = t_{154} (.025) = -1.984$  (from the T- table)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{34.68 - 37.38}{\sqrt{\frac{(9.25)^2}{155} + \frac{(7.23)^2}{231}}} = \frac{-2.70}{.88} = -3.06$$

Since the test statistic  $t = -3.06 < -1.984$  the null hypothesis was rejected. On average the high school males in the CDS norm group career indecision scores were 2.06 points higher than the Bahamian high school males average scores.

#### Hypothesis Test for Females: Career Certainty

Ho:  $\mu_1 - \mu_2 = 0$

Ha:  $\mu_1 - \mu_2 \neq 0$

$t^* = t_{229} (.025) = 1.984$  (from the T- table)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{5.07 - 4.72}{\sqrt{\frac{(1.50)^2}{230} + \frac{(1.73)^2}{242}}} = \frac{.35}{.15} = 2.33$$

Since the test statistic  $t = 2.33 > 1.984$  the null hypothesis was rejected. The difference between the means for career certainty for the Bahamian females and the females in the norm group for the CDS was .35.

Hypothesis Test for Females: Career Indecision

Ho:  $\mu_1 - \mu_2 = 0$

Ha:  $\mu_1 - \mu_2 \neq 0$

$t^* = t_{229} (.025) = -1.984$  (from the T- table)

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{33.98 - 37.20}{\sqrt{\frac{(8.54)^2}{230} + \frac{(8.33)^2}{242}}} = \frac{-3.22}{.78} = -4.13$$

Since the test statistic  $t = -4.13 < -1.984$  the null hypothesis was rejected. On average the high school females in the CDS norm group career indecision scores were 3.22 points higher than the Bahamian high school females average scores.

Hypothesis 7

The seventh hypothesis stated that the means for career certainty and indecision scales for the Bahamian students in 11<sup>th</sup> and 12<sup>th</sup> grades do not differ significantly from the means established as norms for the CDS. Tables 17 and 18 described the statistics for both groups including the confidence interval for the males and females in the Bahamian sample.

Table 18. CDS Descriptive Statistics for Grade Level

	Bahamian Adolescents		CDS High School Norm	
	Grade Level		Grade Level	
	11	12	11	12
<b>n</b>	197	188	128	98
M Certainty	4.61	5.57	4.45	4.96
SD Certainty	1.49	1.40	1.80	1.89
M Indecision	35.50	32.97	36.56	34.95
SD Indecision	8.76	8.73	8.04	8.33

Table 19. Confidence Interval for Grade Level

Descriptives by Grade Level				
	Grade Level			Statistic
Career Certainty Scale	11	Mean		4.6193
		95% Confidence Interval for Mean	Lower Bound Upper Bound	4.4106 4.8280
		Std. Deviation		1.4854
	12	Mean		5.5798
		95% Confidence Interval for Mean	Lower Bound Upper Bound	5.3791 5.7805
Career Indecision Scale	11	Std. Deviation		1.3948
		Mean		35.4975
	95% Confidence Interval for Mean	Lower Bound Upper Bound	34.2662 36.7288	
	12	Std. Deviation		8.7631
		Mean		32.9681
	95% Confidence Interval for Mean	Lower Bound Upper Bound	31.7118 34.2244	
		Std. Deviation		8.7318

The statistics shown in table 32 revealed that the adolescents in the Bahamian sample career certainty mean score was higher and career indecision mean score was lower than that of the norm group, Sample W presented in the Career Decision Scale Manual. A 95% confidence interval was generated for each of the CDS scales by grade level for the Bahamian sample (table 18) to determine whether the norm group's CDS scales scores would be included in this interval. The means for both career certainty and indecision for the 11<sup>th</sup> grade norm group were included in the confidence interval, therefore indicating no significant difference between the 11<sup>th</sup> grade Bahamian adolescents and the 11<sup>th</sup> grade norm group. Because the CDS scales scores for the 12<sup>th</sup> grade norm group was not included in the confidence interval, a hypothesis test was performed to test for no significant difference.

### Hypothesis Test for 12<sup>th</sup> grade: Career Certainty

$$H_0: \mu_1 - \mu_2 = 0$$

$$H_a: \mu_1 - \mu_2 \neq 0$$

$$t^* = t_{97} (.025) = 1.984 \text{ (from the T- table)}$$

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{5.57 - 4.96}{\sqrt{\frac{(1.40)^2}{188} + \frac{(1.89)^2}{98}}} = \frac{.61}{.22} = 2.77$$

Since the test statistic  $t = 2.77 > 1.984$  the null hypothesis was rejected. The difference between the means for career certainty for the 12<sup>th</sup> grade Bahamian students and the 12<sup>th</sup> graders in the norm group for the CDS was .61.

### Hypothesis Test for 12<sup>th</sup> grade: Career Indecision

$$H_0: \mu_1 - \mu_2 = 0$$

$$H_a: \mu_1 - \mu_2 \neq 0$$

$$t^* = t_{97} (.025) = -1.984 \text{ (from the T- table)}$$

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{32.97 - 34.95}{\sqrt{\frac{(8.73)^2}{188} + \frac{(8.33)^2}{98}}} = \frac{-1.98}{1.05} = -1.89$$

Since the test statistic  $t = -1.89 < -1.984$  the null hypothesis can not be rejected. It is quite possible, with 95% confidence that the means for career indecision for the 12<sup>th</sup> grade Bahamian students and the 12<sup>th</sup> graders in the norm group for the CDS do not differ.

### Summary

The analyses of the data collected revealed significant main and interaction effects for many of the independent variables examined. Additionally, the results also

revealed some significant differences between Bahamian adolescents and the high school norm-referenced group in the CDS. A complete discussion of these findings, summary and recommendations for further study will be discussed in Chapter five.

## CHAPTER FIVE

### Summary, Discussion, and Recommendations

This chapter provides a summary of the research describing the conclusions reached, a discussion of the research, and recommendations for further research and practice.

#### Summary

This study investigated influences on adolescents' confidence level in career decision-making by examining the role of gender, type of school, grade level, a visit to the school guidance counselor, job shadow experience, part-time work experience, post-secondary plans, GPA, BJC examination passes, mother's level of education, father's level of education, mother's occupation, and father's occupation. Additionally, the means for career certainty and indecision levels of the study participants were compared with the means established as norms for the high school norm-referenced group in the CDS for gender and grade level. A measure of the level of career certainty and indecision on the CDS determined an adolescent's confidence level in career decision-making. Seven research questions were investigated through seven null hypotheses. The results and conclusions for each hypothesis are discussed below.

Because of the nature of self-reported information, caution is given in making inferences to the population of high school students in Nassau, Bahamas. A replication of the study with a different group of students is recommended before inferences should be made to the population.

## Hypothesis 1

Hypothesis 1 sought to identify significant differences and interaction effects in confidence level in career decision-making skills as measured by career certainty and indecision among gender, type of school and grade level. A 2 X 2 X 2 factorial design was used and conclusions were drawn based on comparison of group means. In the sample, the males, on average were more certain in their career decision-making and showed less career indecision than the females, students in the private schools had a higher level of confidence in career decision-making than those at the public school, and the students in the 12<sup>th</sup> grade showed more confidence in their career decision-making skills than those in the 11<sup>th</sup> grade.

The results of the MANOVA revealed that there was not enough evidence to conclude that gender would make a difference in confidence level in career decision-making of high school students. However, students in the private schools, confidence level in career decision-making were significantly greater than students in the public school, and students in the 12<sup>th</sup> grade, on average, confidence level in career decision-making were significantly higher than students in the 11<sup>th</sup> grade.

The MANOVA also revealed that a significant interaction occurred between gender and grade level, and between gender, type of school and grade level only in career indecision. This signified that the level of career indecision would be significantly different for high school adolescents in Nassau, Bahamas when males and females are observed within grade level, and when males and females are observed within private and public schools within grade level.

The results clearly point out that for students in Nassau, the type of school adolescents attend as well as the grade level will influence confidence level in career decision-making. Private school students on average, will experienced more confidence in career decision-making (higher career certainty and lower career indecision) than public school students and, similar to Niece and Bradley (1979), the results also indicated that as grade level increase so will one's level in career certainty and indecision.

### Hypothesis 2

Hypothesis 2 sought to identify significant differences and interaction effects in confidence level in career decision-making skills as measured by career certainty and indecision for a visit to the school guidance counselor, a job shadow, and a part-time work experience. A 2 X 2 X 2 factorial design was used and conclusions were drawn based on comparison of group means. In the sample students who reported that they had visited their school guidance counselor to discuss their career or college plans, those who had a job shadow experience, and those who had part-time work experience were shown to have a higher level of confidence in career decision-making than those who reported that they had not visited the school guidance counselor, did not have any job shadow experience, and had no part-time work experience.

A full report of the MANOVA was not generated due to some of the cells being empty. Since there were no students in the sample who reported "no" for a job shadow experience and also "no" to a part-time work experience, it could not be determined whether there was an interaction between job shadow and part-time work experience, or between a visit to the school guidance counselor, job shadow and part-time work experience. The results however, revealed that in the high schools in Nassau, Bahamas

students who visit their school guidance counselor to discuss career or college plans will on average, show more confidence in their career decision-making skills than those students who do not visit their school guidance counselor. Although the high school students in the sample who reported having a job shadow experience and/or a part-time work experience were more confident in their career decision-making, there was not enough evidence to state that all high school students with a job shadow experience and/or a part-time work experience will have a higher confidence level in career decision-making than those without these experiences.

The results of this study suggested that visiting the school guidance counselor to discuss future plans is a significant influence on adolescents' confidence level in career decision-making, particularly in the area of career certainty. The results also implied that a larger sample size or students from more than three schools was needed in the sample in order to determine whether a significant interaction does occur between the three career counseling related activities.

### Hypothesis 3

Hypothesis 3 sought to identify significant differences and interaction effects in confidence level in career decision-making skills as measured by career certainty and indecision for post-secondary plans, grade point average, and BJC examination passes. A 3 X 3 X 2 factorial design was used and conclusions were drawn based on comparison of group means.

In the sample students with plans to pursue post-secondary education were more confident in career decision-making than those who were planning on working, or those who were undecided regarding their post-secondary plans. Students who reported being

undecided on their post-secondary plans had a higher level of confidence in career decision-making than those who reported planning on seeking employment immediately after high school. Students who stated having a GPA of 3.00 – 4.00, had a higher level of confidence in career decision-making than those who reported having a GPA of 2.00 – 2.99 and below 2.00. There was no difference in the level of career certainty between students with reported GPAs of 2.00 – 2.99 and below 2.00, however, students with the lowest GPA experienced a higher level of career indecision. Similar to GPA, the BJC examination passes also had a positive effect on students' confidence level in career decision-making. The students who stated that they had 5 – 8 BJC passes, were more confident in their career decision-making skills than those who stated that they had 0 – 4 passes.

Although in the sample, the students with differing GPA level of confidence in career decision-making was different, the results of the MANOVA revealed that there was not enough evidence to state that a difference exist in the population of high school students in Nassau, Bahamas, the results were not significant. However, it can be stated that post-secondary plans and the BJC examination passes have a significant influences on high school students' level of confidence in career decision-making. Bahamian high school adolescents with plans to pursue post-secondary education as well as those with undecided post-secondary plans will on average, be more confident in career decision-making than those adolescents with plans to work immediately after high school.

A significant interaction effect on the confidence level in career decision-making will occur for Bahamian adolescents with 5 – 8 BJC passes, their post-secondary plans and their GPA. Students with plans to work, with the highest GPA, on average will

demonstrate less career certainty and more indecision in their career decision-making, while those who are undecided, will demonstrate more career certainty and less indecision in their career decision-making.

The results for this study suggested that post-secondary plans was a significant influence on Bahamian adolescents' career certainty but not indecision, and that BJC examination passes was also a significant influence on their confidence level in career decision-making. The results also implied that Bahamian adolescents who have made plans to work immediately after high school will on average have the lowest confidence level in career decision-making skills and will therefore have a greater need for career intervention.

#### Hypothesis 4

Hypothesis 4 sought to identify significant differences and interaction effects in confidence level in career decision-making skills as measured by career certainty and indecision for mother's level of education and mother's occupation. A 3 X 4 factorial design was used and conclusions were drawn based on comparison of group means.

For the sample, the high school students whose mother's education was at the college level were more confident in their career decision-making than those whose mother's education was at the high school level, or whose mother's education were unknown. Likewise, students whose mother's education was at the high school level, confidence in career decision-making was slightly higher than those whose mother's education was unknown. Also for the sample, it appeared that mother's occupation did not make a difference in adolescents' confidence in career decision-making, the difference between each groups of students in both career certainty and indecision were

one point to less than one point. However, students whose mother's occupation were in the top occupational group (legislators, senior officials, and professionals) showed the highest level of confidence in their career decision-making skills, while those whose mothers were in the lowest occupational group (agricultural, machinery, fishery, craft, and janitorial workers) showed the lowest level of confidence in career decision-making.

The results of the MANOVA revealed that the mother's occupation of high school adolescents was significant in influencing students' confidence level. The post hoc test showed that this significant difference occurred between students whose mother's occupation was in the lowest occupational group and those in the top group, as well as with those in the middle occupational group (clerks, service and sales workers, and technicians). High school adolescents whose mother work in the agricultural, machinery, fishery, craft, and janitorial occupation group will on average, demonstrate less certainty in career decision-making than those whose mother's occupation falls in the legislator, senior official, and professional group, or the clerks, service and sales workers, and technicians group. There was not enough evidence to state that a significant difference will be seen in the level of career indecision between these groups of students. The results also revealed that on average, high school students in Nassau, Bahamas whose mothers had a college level education, level of career indecision would be at least 2 points lower than those whose mothers had a high school education.

The results indicated that mother's occupation will be a significant influence on adolescents' level of career certainty and not indecision, and also that there was not enough evidence to conclude that mother's level of education will be an influence on adolescents' confidence in career decision-making.

## Hypothesis 5

Hypothesis 5 sought to identify significant differences and interaction effects in confidence level in career decision-making skills as measured by career certainty and indecision for father's level of education and father's occupation. A 3 X 4 factorial design was used and conclusions were drawn based on comparison of group means.

The adolescents in the sample whose father's education was at the college level were more confident in their career decision-making than those whose father's education was at the high school level, or whose father's education were unknown. Students who reported not knowing their father's level of education, confidence in career decision-making was less than one point higher than those whose father's education was at the high school level. Also for the sample, it appeared that father's occupation did not make a difference in adolescents' confidence in career decision-making, the difference between each groups of students in both career certainty and indecision were one point to less than one point. An exception is that for the level of career indecision, the students whose father's occupation was in the legislators, senior officials, and professionals group demonstrated 2 points less indecision than those whose father's occupation was in the agricultural, machinery, fishery, craft and janitorial workers group. However, students whose father's occupation was in the top occupational group (legislators, senior officials, and professionals) showed the highest level of confidence in their career decision-making skills, while those whose fathers were in the lowest occupational group (agricultural, machinery, fishery, craft, and janitorial workers) showed the lowest level of confidence in career decision-making.

The results of the MANOVA revealed that the father's occupation of high school adolescents in Nassau, Bahamas was significant in influencing students' confidence level in career decision-making. The post hoc test showed that this significant difference occurred between students whose father's occupation was in the lowest occupational group and those in the top group, as well as with those in the middle occupational group (clerks, service and sales workers, and technicians). High school adolescents whose fathers work in the agricultural, machinery, fishery, craft, and janitorial occupation group will on average, demonstrate less certainty in career decision-making than those whose father's occupation falls in the legislator, senior official, and professional group, or the clerks, service and sales workers, and technicians group. There is not enough evidence to conclude that a significant difference will be seen in the level of career indecision between these groups of students.

The results of this study demonstrated that father's occupation will be significant influence on adolescents' level of career certainty and not indecision, and also that there was not enough evidence to conclude that father's level of education will be an influence on adolescents' confidence in career decision-making.

#### Hypothesis 6

Hypothesis 6 sought to identify significant differences in the means for career certainty and indecision for Bahamian high school males and females and those established as norms for the CDS. An independent *t*-test was used and conclusions were drawn based on comparison of group means. A comparison of mean scores showed that the Bahamian adolescents average scores were higher in career certainty and lower in career indecision than the high school norm group, therefore, indicating that the

adolescents in this sample had a higher level of confidence in career decision-making than those in the CDS norm group.

The hypothesis test for each gender with each scale of the CDS revealed similar results. The Bahamian high school females' average level of career certainty and indecision, and the Bahamian high school males' average level of career indecision were significantly different from the high school norm groups of the CDS. On the level of career certainty for high school males, it is quite possible that Bahamian high school males, on average do not differ significantly from the high school males in the norm group of the CDS.

#### Hypothesis 7

Hypothesis 7 sought to identify significant differences in the means for career certainty and indecision for Bahamian high school students in 11<sup>th</sup> and 12<sup>th</sup> grades and those established as norms for the CDS. An independent *t*-test was used and conclusions were drawn based on comparison of group means. A comparison of mean scores showed that the Bahamian 11<sup>th</sup> and 12<sup>th</sup> graders average scores were higher in career certainty and lower in career indecision than the high school norm group, therefore, indicating that the adolescents in this sample had a higher level of confidence in career decision-making than those in the CDS norm group.

The hypothesis test for each grade level with each scale of the CDS revealed the following results; the Bahamian 12<sup>th</sup> graders' average level of career certainty was significantly different from the high school norm group of the CDS, however on the level of career indecision for 12<sup>th</sup> graders, and the levels of career certainty and indecision for

11<sup>th</sup> graders, it is quite possible that Bahamian adolescents, on average do not differ significantly from the 11<sup>th</sup> and 12<sup>th</sup> graders in the norm group of the CDS.

### Discussion

If both the Bahamian education community and the public at large are concerned with creating productive students who can become responsible adults function as effective family members, and be productive citizens and members of the work force, it is crucial to examine all influences that affect adolescents' career decisions. Based on the results of the study, there are important considerations for counseling professionals working with Bahamian high school students. The implications of the influences on career decision-making skills of adolescents are discussed.

Although no significant difference was found for gender, it is important for counselor educators and school guidance counselors to understand the career development of both males and females. Currently, established and new career theories are incorporating the unique needs of females (Zunker, 1994) based on results of studies where gender differences have been significant (Kelly & Cobb, 1991; Kraus & Hughey, 1999; Powell & Luzzo, 1998). Mason (1994) found that gender differences in career aspirations and work values were significantly related to occupational level, the higher the occupational level the less differences noted between gender, the lower the occupational level the greater the differences, with more females aspiring to lower occupational levels. This suggests that the career counseling techniques used for females might be the same for males but delivered with a greater degree of intensity. Such techniques as networking, peer counseling and professional support, are useful for females. Higgins (1986) noted that relaxation and assertiveness training were effective in

reducing stress among females who experienced conflict due to career decisions and multiple role demands. The results of this study however, do support Brown, Darden, Shelton, & Dipoto (1999) who found no significant difference between genders in career decision-making.

The study's results clearly point out that the type of school adolescents attend in Nassau, Bahamas does influence their career decision-making skills. Studies examining adolescents' career decision-making in different types of school are very limited. Roker and Banks (1993) found that adolescent girls from a private high school in Britain showed a greater level of commitment to an occupational plan than the girls from the public or state school.

Considering the aforementioned information, students in private and public high schools in Nassau differ where private school adolescents are more confident in their career decision-making skills than public school adolescents. This suggests that the Ministry of Education must design and implement career guidance activity programs in the public high schools. The guidance programs must emphasize planning and awareness of life roles. Program goals should include those similar to the National Occupational Information Coordinating Committee's (1989), which included an exploration of self-knowledge, educational and occupational exploration, and career planning.

In this study grade level was a significant influence on career decision-making skills of adolescents. Niece and Bradley (1979), and Rogers and Westbrook (1983) found that as age increased so did the level of career certainty among high school and college students. In The Bahamas, since one's grade level is directly related to one's age, the results of this study support this finding. Implications for the influence of grade level on

career decision-making skills include the importance of taking developmental level into consideration when planning and designing counseling interventions to improve career decision-making skills. Erickson (1994) suggested that strategies that include parental involvement may be more effective when began in the early grades, such as junior high or tenth grade, while peers, parents, teachers, and role models in the community may be more effective with older adolescents (Paa & McWhirter, 2000). The results of this study clearly suggest that career decision-making skills should be addressed from the early grades.

In examining the influences of career counseling activities such as a visit to the school guidance counselor, a job shadow experience, and a part-time work experience, the results of this study revealed that a visit to the school guidance counselor was the only significant influence on adolescents' level in career decision-making. Johnson's (1992) study supports the results of this study. She found that high school students' job satisfaction and career decisions were related to positive experiences with their school guidance counselors indicating that visiting the school guidance office was effective in achieving job satisfaction and career decisions (1992).

Based on the results of this study, The Bahamas White Paper on Education (1997) policy for the Ministry of Education Guidance and Counselling Services for career development and planning is achieving limited success. The Bahamas White Paper on Education outlined that career counseling program planning at the high schools incorporate direct counseling, career planning activities such a mentoring program, job shadowing, and encouragement to seek part-time work to learn employment responsibility (1997). Given that 59% of the students in the sample reported that they had

visited their school guidance counselor to discuss future career plans, and 26% had at least one job shadow experience, it appears that the school guidance department need to become more aggressive in involving high school students in these career counseling activities to improve their career decision-making skills. The CACREP standards (2001) for school counseling require that school guidance counselors acquire knowledge and skills in identifying student career competencies and learning how to implement activities to assist students in achieving these competencies. It is recommended that The Bahamas White on Education policy implement standards similar to the CACREP standards to ensure that counseling professionals in the schools are learning the necessary skills and strategies for implementing them in the schools to assist all students in making effective career decisions.

Post-secondary plans along with BJC examination passes were significant in influencing the career decision levels of high school students. Grade point average was not significant. Students with plans to seek post-secondary education were more confident in their career decision-making than those who were undecided or with plans to seek employment immediately after high school. This suggest that school counselors need to be intentional in focusing on those students who are undecided as well as those who are planning on working. Career program planning should not only address college advisement but also knowledge and awareness of self, personal interest, goal setting, and job-seeking skills to meet the needs of all groups of students.

Several studies have found academic ability such as GPA (Marjoribank, 1991, Kelly & Cobb, 1991) and math and verbal scores on achievement and aptitude tests (Farmer, 1985; McWhirter, 1992) to be significantly related to career decision-making,

aspiration, and attainment. The fact that GPA was not significantly related to confidence level of career decision-making might be attributed to the nature of self-reported information. Students may have not been honest in reporting a GPA or may have forgotten and reported a guess of their GPA. However, despite this fact the information obtained from this study can be useful in program planning. Students of all academic ability should be exposed to all types of careers, encouraged to identify their areas of strength and incorporate these with their personal interest in exploring career options. The high schools may need to invest in obtaining all types of learning tools to accommodate the different learning levels of students. These tools should include computer program such as SIGI Plus, DISCOVER, card sorts, paper and computerized career assessment tests, videos, cassette, CDs, and books.

Parents have great influence on the career development of their children (Bratcher, 1982, Palmer & Cochran, 1988). The results of this study show that both mother and father's occupation were significant influences on adolescents' career decision-making, while parents' education level were not as significant. The results lend partial support for other studies that have found significant effects of parental influence on adolescents' career decision-making skills (Buri, 1989; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Grolnick, Ryan, & Deci, 1991; Farmer, 1985; Marijoribank, 1988).

Implications of the results for career counseling in The Bahamas are that counseling professionals should seek the help of parental support for career in program planning. Activities may include utilizing parents as guest speakers for career day, inviting parents to become mentors for some students, using working parents as role

models for a job shadow experience, and/or providing parents jobs as student internship worksites.

The results for hypotheses 6 and 7 indicated that the CDS was reliable in identifying this sample of Bahamian adolescents' level of career certainty and indecision. Although some Bahamian groups appeared to be significantly different from the high school norm group, there were some groups that were not significant. Because the sample was taken from only three high schools on one island in The Bahamas the results are not representative of the country and is generalized to high schools only in Nassau. A sample comprising students from more high schools in Nassau and throughout the country is suggested to be used in a replicated study or a follow-up study to established a Bahamian high school norm-referenced group for the CDS.

It is important to note that for the sample in this study, the scores on both the career certainty and indecision scales indicated that the majority of the students would require as suggested by Osipow (1987) in the CDS manual, a need for further career assessment. Two hundred twenty-one (57%) students' career certainty score and 374 (97%) career indecision score were identified as scores that indicated that the test taker is in need of further career assessment and intervention. Effective intervention strategies for adolescent career decision-making need to be implemented by professionals who have direct contact with students. School guidance counselors, teachers, and administrators should attempt to expose high school students to various career opportunities and set goals to achieve employment and/or post-secondary education successfully. Although some may look to counseling as a solution, there are some issues that could be included,

such as the involvement of parents since parents' occupation and level of education were significant influences on adolescents' career decision-making skills.

### Recommendations

The following recommendations are offered for further research and practice in the area of career decision-making skills and behavior among high school Bahamian adolescents.

### Research

1. A replication of this study using a larger sample size in order to fully examine all possible variables that might influence Bahamian adolescents' confidence level in career decision-making would provide useful information for career counseling researchers and practitioners in program planning and implementation.
2. A replication of this study using Bahamian adolescents who reside in other islands of The Bahamas may add to the generalizable nature of the results to determine Bahamian high school students' level of confidence in career decision-making and would also provide CDS norms for the high school population in the country.
3. A replication of this study examining students in different educational programs similar to the American high schools' general education and tech prep programs to determine if certain educational programs are more effective in assisting adolescents in career decision-making. Fawcett (1999) found that high school seniors in Columbia, SC who were enrolled in the tech prep program, level of career indecision was significantly lower than those enrolled in the general education program.
4. A study using a pre and posttest experimental design where an intervention (incorporating some of the independent variables) is provided to a randomly selected

experimental group with the results of the CDS compared to a control group should be undertaken to observe the effects the intervention may have on adolescents' career decision-making.

5. It would be useful to examine the influences on career decision-making that were significant in this study (parents' occupation, type of school, grade level, a visit to the school counselor, BJC passes) using a regression model to determine which variables are more influential in predicting an adolescent's level of confidence in career decision-making.
6. It would also be useful to complete a longitudinal study, following a group of students beginning at the elementary level through high school in order to determine at what point in the educational process these students become decided on a career choice and how and when do they make their choices.
7. Osipow (1987) recommended strengthening studies of career decision-making by combining other decision-making, career self-efficacy, career maturity instruments with the CDS to assist in understanding types of career indecision and/or barriers to career decision-making. It is recommended that a replication of this study include another instrument in order to have more information on Bahamian adolescents' confidence level in career decision-making identifying the types of indecision and barriers to career decision-making for specific career program planning.

#### Practice

8. The CDS appeared to be a good quality instrument for high school students in The Bahamas. Students were able to complete the test within the time, recommended in the manual, without any concerns or questions. The instrument's length, reliability,

and validity make it appropriate for most high school students. An examination of the findings indicate that many Bahamian high school students are in need of career counseling and could benefit from an appropriate intervention. Therefore, it is recommended that the CDS be used in high school career counseling centers to identify students who are undecided about a career choice and need assistance. Once these students are identified, appropriate interventions could be offered to diminish their career indecision and increase their career certainty. In some cases, the process of taking the CDS and discussing the meaning of the results may be helpful.

9. This study identified public high school adolescents as having a lower level of confidence in career decision-making than private high school adolescents. It is recommended that students in the public schools be offered a high school curriculum that provides opportunities for exposure to career related activities such as required job shadowing, internship and/or co-op experiences, regular visits to the school guidance office for career counseling assistance and an introduction to new careers and career technology programs (SIGI Plus, DISCOVER, etc.), guest speakers, and mentoring so that students may become aware of employment opportunities within the local community and gradually become aware of the education/training needed for various positions.
10. Based upon the findings of this study that public high school students' level of confidence in career decision-making was significantly lower than that of the private high school students, it may be useful to utilize individual and group career counseling with this public high school students to assist them with goal setting and development of their career decision-making skills.

11. Although the results of this study found no significant difference among gender, it is recommended that school faculty members provide opportunities for male and female high school students to be exposed to all kinds of careers, carefully identifying role models in traditional and nontraditional careers.
12. Studies reported in the literature review suggested that minority students, with characteristics similar to Bahamian public high school students, have difficulty in the career decision-making process because of limited career opportunities and exposure. It would be beneficial to begin career exploration in the elementary grades so students will be come aware of personal interest, values, career interest, career technology, and current career needs and opportunities which will improve their career decision-making skills and abilities.
13. Given the relationship between parental education level and occupation and career decision-making skills of adolescents, it may be useful for school guidance counselors and school administrators to educate parents through evening workshops on communicating with and helping their adolescents in career exploration and decision-making.
14. Studies have indicated that career indecision can create barriers in student preparation for future careers. Therefore, it is recommended that all high school faculty members recognize the importance of getting to know their students and their students' future goals. School guidance counselors can facilitate in this endeavor by providing inservice for the school's faculty to describe factors that may influence students' career choices, and counselor educators can provide training for school guidance counselors in designing and conducting such workshops. In this way all school

educators may participate in a united effort to meet the needs of adolescents as they make important career decisions in the Bahamian high schools.

### Conclusion

Chapter Five discussed the results of the study with implications for practice and recommendations for research and practice. The results of this study revealed that adolescents in public and private high schools from the 11<sup>th</sup> and 12<sup>th</sup> grades in Nassau, Bahamas confidence level in career decision-making skills are influenced by a number of factors. The factors identified as being significant influences have been investigated with adolescents from other countries, of other ethnic origins and of different ages with results similar to those found in this study. The CDS was used, for the first time with a Bahamian sample and was found to be reliable in identifying levels of career certainty and career indecision for this sample. The researcher suggest that a replication of the study using a larger sample from more than three schools and from more than one island in The Bahamas be used in order to establish local norms for this population, and/or to make generalizations to the population of high school students in the country.

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## Appendix A

### Parental Consent Form

Dear Sir/Madam:

My name is Karen Thompson. I am currently on study leave from The College of The Bahamas completing a doctorate degree in Counselor Education at the University of South Carolina in Columbia, SC. I write to request permission for your child/children to participate in my research project.

As a participant in this study, your child/children will be administered the Career Decision Scale, an instrument providing status on one's level of career certainty and indecision, and a demographic survey. This study will provide information on career decision-making of high school students from government and independent schools in Nassau. The results of this study would not only be beneficial for me but also for the career guidance program in the high schools. I assure you that your child/children's identity will be confidential and no harm is expected as a result of this activity.

In order to have your child/children participate, I need your signature as proof of permission that you allow your child/children's involvement in my study. Please return the signed form to the school's office or \_\_\_\_\_, the school guidance counsellor.

I look forward to your cooperation in this educational endeavor and progress for all those involved. Also note that a copy of my dissertation will be in The College of The Bahamas library upon completion.

If you have any questions, please contact me at (803) 777-1387 or you may leave a message for me at (242) 393-9004. Thank you in advance for your assistance.

Sincerely,

Karen D. Thompson.

**My signature below acknowledges that I agree to allow my child/children to participate in the described study.**

---

**Parent's Signature**

**Date**

Appendix B

Student Informed Consent Form

For participation in a study assessing the effects of gender, school type and grade level on career decision-making of high school students.

Conducted by

**Karen D. Thompson, doctoral candidate  
The University of South Carolina**

This form acts as informed consent for participation in a dissertation research project conducted by Karen D. Thompson. My signature on this form acts as acknowledgment that I understand the boundaries of this research and that I am acting of free will and no element of coercion and constraint is being permitted in obtaining this consent to participate.

I am aware that this project involves completion of the Career Decision Scale and a demographic survey. These inventories will be coded only by the data collected to provide protection by anonymity.

At the conclusion of the research project, the information gained from the data collected for this study will be published and presented in professional journals and meetings. I understand that I will have the opportunity to request the results. I am aware that the researcher is obligated to answer any questions concerning the research study. Should I have any questions, I am aware that I direct them to:

Karen D. Thompson  
1215 Blossom Street  
Sims – RHD Apt.110  
Columbia, SC 29208  
Ph: (803) 777-1387

or

#24 Highbury Park  
P. O. Box CR 55798  
Nassau, Bahamas  
Ph: (242) 393-9004

**My signature below acknowledges that I have read, reviewed, and is in agreement with the above consent statements, and that I have received a copy of this informed consent.**

---

**Student Signature**

**Date**

## Appendix C

### Demographic Survey

#### Directions

Please read the following questions and write in your response to each one.

School name: \_\_\_\_\_ Grade: \_\_\_\_\_

Gender: \_\_\_ Male \_\_\_ Female Age: \_\_\_\_\_

1. Circle your ethnic/racial group
  - a: Black                      b: White
  - c: Asian                      d: Hispanic
  - e: other (please specify) \_\_\_\_\_
2. Have you visited your school guidance counselor to discuss your career/college plans?
  - a: yes
  - b: no
3. Have you ever been involved in a job shadow experience?
  - a: yes
  - b: no
4. Have you ever worked for pay (part time, summer, Christmas, etc.)?
  - a: yes
  - b: no
5. What are your plans after high school?
  - a: attend a 4-year college
  - b: attend a 2-year college or technical college
  - c: work
  - d: undecided
6. What is your grade point average (GPA)?
  - a: between 4.00 – 3.50
  - b: between 3.49 – 3.00
  - c: between 2.99 – 2.50
  - d: between 2.49 – 2.00
  - e: below 2.00
7. What is the highest level of education received by your mother or guardian?
  - a: did not complete high school
  - b: completed high school

- c: currently attending college
- d: completed college
- e: do not know

8. What is the highest level of education received by your father or guardian?
- a: did not complete high school
  - b: completed high school
  - c: currently attending college
  - d: completed college
  - e: do not know

9. What is your mother or guardian's occupation? \_\_\_\_\_

10. What is your father or guardian's occupation? \_\_\_\_\_

11. How many BJs have you passed with a "C" grade and above? \_\_\_ Please list them below.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

## Appendix D





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Appendix E

Dear Principal:

**RE: Career Development Research Project with 11th & 12th GRADE STUDENTS**

My name is Karen Thompson. I am currently on study leave from The College of The Bahamas completing a Ph.D. in Counselor Education at the University of South Carolina in Columbia, SC. I write to request your permission to conduct my dissertation research with your senior high school students.

My topic addresses the career decision-making skills of 11th and 12th graders, and in order to accomplish this task, I would like to come to your school and meet with a total of 75 - 100 students from grades 11 and/or 12 to administer a career instrument. The testing session would take approximately 40 minutes for the administration of the Career Decision Scale, an instrument that provides reliable status on one's level of career certainty and indecision, and a demographic survey created for the purpose of collecting relevant information on the sample of students. The information obtained from your students would not only be beneficial for me in my research, but also for the career guidance program in the schools. I assure you that the identity of individual students will be confidential and no harm is expected as a result of this activity.

Thank you for your assistance in my educational pursuit, and I look forward to sharing the results with you and your students. Also note that a copy of my dissertation will be in The College of The Bahamas library upon completion.

Sincerely,

Karen D. Thompson  
1215 Blossom Street  
Sims-RHD Apt.110  
Columbia, SC 29208  
Ph: (803) 777-1387  
Email: [kthom7@yahoo.com](mailto:kthom7@yahoo.com)

or

#24 Highbury Park  
P. O. Box CR 55798  
Nassau, Bahamas  
Ph: (242) 393-9004

**P.S.** A copy of a parental and student consent letters are enclosed.

## Appendix F

### Instructions for Test Administration and Data Collection

Good morning/afternoon my name is Ms. Karen Thompson, I work at The College of The Bahamas as a counselor but I'm currently away studying at the University of South Carolina in Columbia, SC. I am hoping to complete my doctoral studies in Counselor Education very soon and would like your assistance in this endeavor. \_\_\_\_\_,

your school guidance counselor has told you about my coming here today, and your parents/guardians have signed their agreement for you to participate.

I'm here today to help you begin to think about your plans for after high school. I will give each person a packet, which includes a Student Informed Consent Form, a Demographic Survey, a Career Decision Scale, and a pen and pencil. The instructions for completing each form are provided on the forms.

Although your parents/guardians have agreed for you to participate, and since you are not required to do so, I would like to give you the opportunity to decide whether you want to participate or not. If you are not going to participate, leave the packet on the desk and find a book to read until we are finished. For those of you who are interested please do not begin until I tell you to do so.

*(Pass out packet)*

Please sign the first form and answer the questions on each forms given. You do not have to answer question 19 on the Career Decision Scale. Remember to read the instructions and complete each form. You may use a pen or pencil to answer the questions. Please take you time and read the questions carefully before answering. Once you are finish, turn the forms over and leave them on the desk. I will come around and remove them from the desk. Please do not put you name on any of the forms. Are there any questions?

*(Wait for all students to complete the forms before collecting them)*

Appendix G

**BAHAMAS OCCUPATIONAL GROUP: 1999**

Level	Occupation Group
1	LEGISLATORS, SENIOR OFFICIALS, PROFESSIONALS
2	CLERKS, SERVICE & SALES WORKERS, SKILLED TECHNICIANS
3	AGRICULTURAL, MACHINERY, FISHERY, CRAFT, & JANITORIAL WORKERS
4	HOMEMAKER & UNEMPLOYED

**Occupation:** This refers to the type of work actually performed by the individuals. Classification is according to the International Standard Classification of Occupation (ISCO).

## Appendix H

### Tables of Descriptive Statistics

Table H1. Frequency Table of Bahamian Students by Ethnicity

	Ethnicity					Total
	Bahamian Students					
	Black	Caucasian	Asian	Hispanic	Bi/multi-racial	
Frequency	285	67	3	5	25	385
Percent	74.0	17.4	.8	1.3	6.5	100.0

Table H2. Frequency Table of Bahamian Students by Age

	Bahamian Students					Total
	14	15	16	17	18	
Frequency	13	125	155	84	8	385
Percent	3.4	32.5	40.3	21.8	2.1	100.0

Table H3. CDS Mean Scores for Bahamian High School Students by Gender

	Career Certainty Scale Career Indecision Scale * Gender					
	Gender					
	female			male		
	M	SD	n	M	SD	n
Career Certainty Scale	5.07	1.50	230	5.11	1.54	155
Career Indecision Scale	34.0	8.54	230	34.7	9.25	155

Table H4. CDS Mean Scores for Bahamian High School Students by Type of School

Career Certainty Scale Career Indecision Scale \* Type of School

	Type of School					
	private			public		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.43	1.35	215	4.66	1.61	170
Career Indecision Scale	32.4	7.88	215	36.6	9.42	170

Table H5. CDS Mean Scores for Bahamian High School Students by Grade Level

Career Certainty Scale Career Indecision Scale \* Grade Level

	Grade Level					
	11			12		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	4.62	1.49	197	5.58	1.39	188
Career Indecision Scale	35.5	8.76	197	33.0	8.73	188

Table H6. CDS Mean Scores by a Visit to the Counselor

Career Certainty Scale Career Indecision Scale \* Visited Counselor

	Visited Counselor					
	yes			no		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.52	1.34	229	4.45	1.54	156
Career Indecision Scale	32.4	7.94	229	36.9	9.40	156

Table H7. CDS Mean Scores by a Job Shadow Experience

Career Certainty Scale Career Indecision Scale \* Job Shadow

	Job Shadow					
	yes			no		
	<u>M</u>	<u>Sd</u>	<u>n</u>	<u>M</u>	<u>Sd</u>	<u>n</u>
Career Certainty Scale	5.73	1.41	99	4.87	1.49	286
Career Indecision Scale	31.9	8.31	99	35.1	8.87	286

Table H8. CDS Mean Scores by Part-time Work Experience

Career Certainty Scale Career Indecision Scale \* Work Experience

	Work Experience					
	yes			no		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.18	1.51	329	4.54	1.44	56
Career Indecision Scale	33.9	8.88	329	36.1	8.38	56

Table H9. CDS Mean Scores by Post-Secondary Plans

Career Certainty Scale Career Indecision Scale \* Post-Secondary Plans

	Post-Secondary Plans								
	post-secondary education			work			undecided		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.30	1.44	311	3.88	1.39	51	4.91	1.65	23
Career Indecision Scale	33.4	8.48	311	40.0	8.91	51	33.9	8.94	23

Table H10. CDS Mean Scores by Grade Point Average

Career Certainty Scale Career Indecision Scale \* Grade Point Average

	Grade Point Average								
	3.00 - 4.00			2.00 - 2.99			below 2.00		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.28	1.51	174	4.92	1.52	183	4.96	1.45	28
Career Indecision Scale	33.0	8.60	174	34.9	8.61	183	38.5	10.1	28

Table H11. CDS Mean Scores and BJC Examination Passes

Career Certainty Scale Career Indecision Scale \* Bahamas Junior Certificate

	Bahamas Junior Certificate					
	5 - 8			0 - 4		
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>
Career Certainty Scale	5.42	1.40	274	4.26	1.48	111
Career Indecision Scale	32.5	8.17	274	38.7	8.87	111

Table H12. CDS Mean Scores by Mother's Level of Education

Career Certainty Scale Career Indecision Scale \* Mother's Education

	Mother's Education								
	high school education			college education			do not know		
	M	SD	n	M	SD	n	M	SD	n
Career Certainty Scale	4.95	1.58	213	5.30	1.40	164	4.25	1.67	8
Career Indecision Scale	35.2	9.44	213	33.0	7.81	164	36.4	9.21	8

Table H13. CDS Mean Scores by Father's Level of Education

Career Certainty Scale Career Indecision Scale \* Father's Education

	Father's Education								
	high school education			college education			do not know		
	M	SD	n	M	SD	n	M	SD	n
Career Certainty Scale	4.88	1.59	206	5.39	1.43	137	5.10	1.30	42
Career Indecision Scale	35.0	9.06	206	33.1	7.96	137	34.8	10.1	42

Table H14. CDS Mean Scores by Mother's Occupation

Career Certainty Scale Career Indecision Scale \* Mother's Occupation

	Mother's Occupation											
	Legislators, Senior Officials, & Professionals			Clerks, Service, & Sales Workers, Technicians			Agricultural, Machinery, Fishery, Craft, Janitorial			Homemaker/Unemployed		
	M	SD	n	M	SD	n	M	SD	n	M	SD	n
Career Certainty Scale	5.30	1.39	109	5.20	1.51	131	4.56	1.67	84	5.20	1.40	61
Career Indecision Scale	33.3	7.63	109	33.7	8.35	131	36.0	10.0	84	34.8	9.90	61

Table H15. CDS Mean Scores by Father's Occupation

Career Certainty Scale Career Indecision Scale \* Father's Occupation

	Father's Occupation											
	Legislators, Senior Officials, Professionals			Clerks, Service & Sales Workers, Technicians			Agricultural, Machinery, Fishery, Craft, Janitorial			Homemaker/Unemployed		
	M	SD	n	M	SD	n	M	SD	n	M	SD	n
Career Certainty Scale	5.30	1.40	120	5.45	1.36	103	4.58	1.72	89	4.85	1.48	73
Career Indecision Scale	33.1	7.28	120	33.0	9.05	103	36.0	9.45	89	35.7	9.62	73

Table H16. Table of Job Shadow by Work Experience by Visit to the Counselor

Job Shadow \* Work Experience Crosstabulation

		Job Shadow				Total	
		yes		no			
		Count	%	Count	%	Count	%
Work Experience	yes	99	25.7%	230	59.7%	329	85.5%
	no	.00	0%	56	14.5%	56	14.5%
Total		99	25.7%	286	74.3%	385	100.0%

# Appendix I

## Figures of Inferential Statistics

Figure 11. Profile Plot: Career Certainty for Mother's Occupation

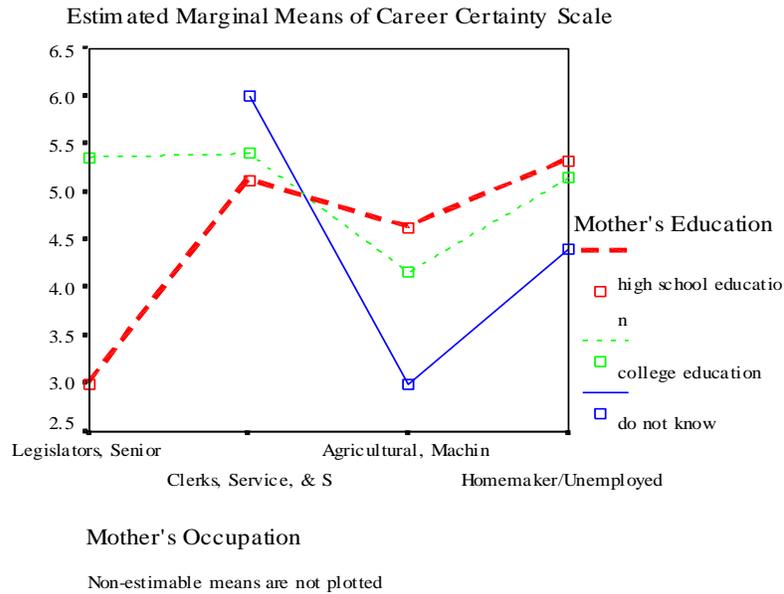


Figure 12. Profile Plot: Career Indecision for Mother's Occupation

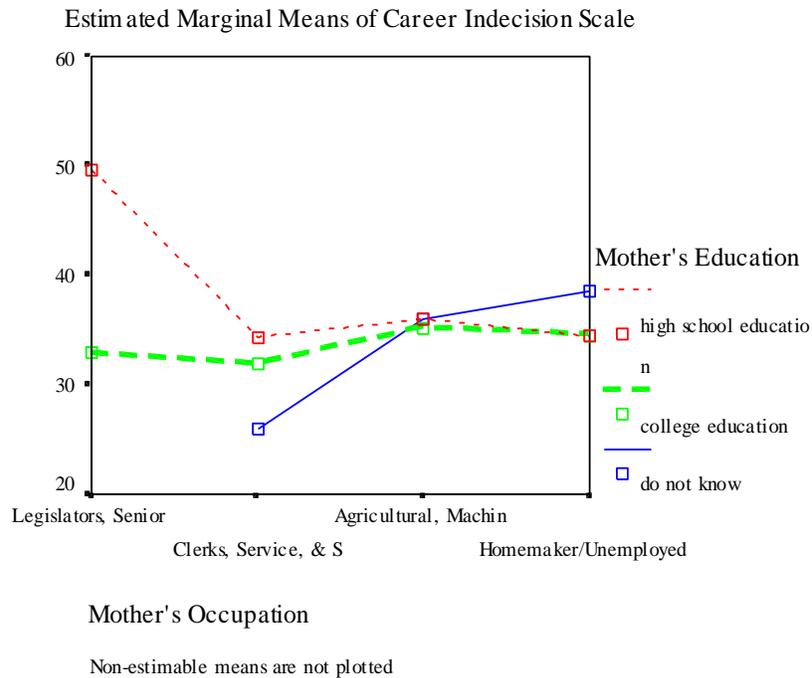


Figure I3. Profile Plot: Career Certainty for Father's Occupation

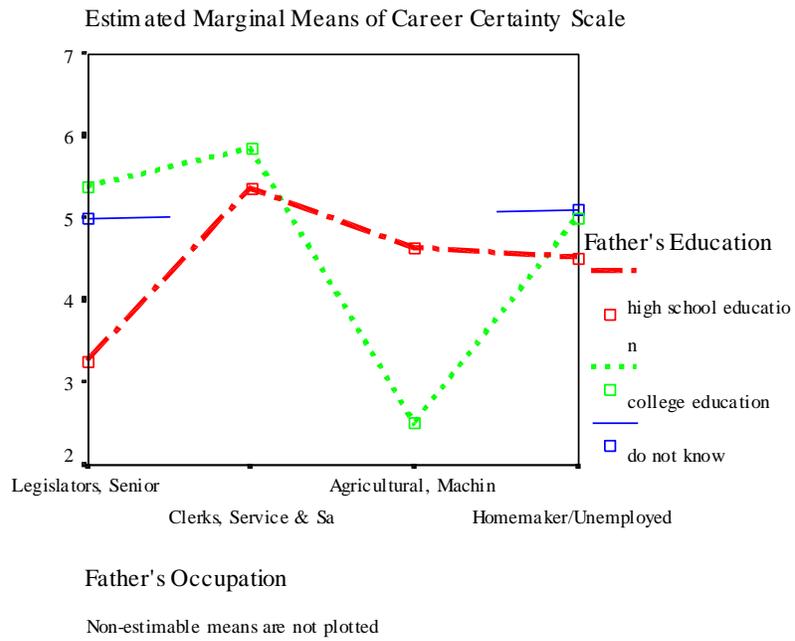


Figure I4. Profile Plot: Career Indecision for Father's Occupation

