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Siblings of those with Developmental Disabilities: Career Exploration and Likelihood of Choosing a Helping Profession

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SIBLINGS OF THOSE WITH DEVELOPMENTAL DISABILITIES: CAREER EXPLORATION AND LIKELIHOOD OF CHOOSING A HELPING PROFESSION

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Research on people who have siblings with developmental disabilities has focused minimally on the career aspirations of these individuals. It has been speculated that children who grow up with siblings with disabilities gravitate toward the helping professions. Until recently, research has explored this relationship quantitatively with mixed results. Recent studies have moved to a qualitative approach when investigating this unique population. This study utilized descriptive and qualitative methods when analyzing the variables that may influence one's career choice.

The present study investigated variables of sex, birth order, and size of family on vocational preference. Influences of siblings, parents, and the school were explored. Motivations for career choice were also examined.

The sample consisted of adolescents and their parents, all of whom completed questionnaires. Student participants also completed the Self-Directed Search (SDS). Interviews were conducted to explore themes and commonalities among the participants with regard to the life experiences of having a sibling with a disability and the influence that the experiences may have had on their planned vocational pursuits.

Quantitative analyses revealed no significant differences between students who had a sibling with a disability and those who did not with regard to their interest in a helping profession. There was no

significant difference regarding sex, birth order or family size despite the evidence that exists in the literature. Statistical significance was found for those who reported an interest in a helping profession and having a social (S) personality type regardless of their sibling status.

Five students and their mothers participated in interviews. All interviewees had one sibling with mental retardation and/or autism. Several themes emerged that provided evidence that one's experience with his/her sibling and the opportunities that occur because of the sibling's disability, often promote an interest in helping others.

This research complements the existing literature related to siblings of those with disabilities and vocational education and provides a holistic view of the population of high school age siblings, which has been understudied. The parent perspective was also offered, which is absent in the literature. Finally, this study offers recommendations for future sibling research.

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Through the many years of schooling and this project, I have been touched by the unconditional love of my family and friends and inspired by the knowledge and guidance of my professors and committee members. I am eternally grateful to all of you.

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CHAPTER I

INTRODUCTION

Professionals studying relationships between children with disabilities and their non-disabled siblings have speculated that career choice may be affected by this connection. According to Seligman and Darling (2007), basic life aspirations of nondisabled siblings may be affected when a child with a disability is present in the family. A child's vocational choice may be shaped by having interacted with and cared for a less able brother or sister.

Nondisabled brothers and sisters are alert to the reactions of others to their siblings, which often adds to their sensitivity and understanding of social situations. Being raised within a home of someone with a disability requires the continuous act of caring for that person, especially in a loving and attentive family. This incessant caring for a brother or sister with a disability may become internalized to the extent that it influences career decisions in the direction of the helping professions (Meyer & Vadasy, 2007).

Authors, as well as brothers and sisters themselves, have noted that siblings of people with disabilities frequently gravitate toward the helping professions. One adult sibling reported the following:

> As I plan for my future, I realize how much of my life, of what makes me unique, is the result of having Alison as my sister. My desire to become a doctor, my ability to work well with children, all can be attributed to Ali's presence. (Rinehard, 1992, p.10)

Similarly:

> I have found my upbringing to have been very positive, in spite of the emotional hardship that [my sister's] cystic fibrosis placed on the family. At the age of nine, I perceived myself as being a vitally important participating member of the family. My parents encouraged me to assist in the care of my newborn sister and I learned to crush pills and mix them in applesauce, do postural drainage, and clean and fill the mist tent. Through this experience self-esteem was enhanced, responsibility was learned, and maturity was developed. Although I occasionally feel that I grew up too fast, for the most part the experience

> gave me a personal insight and compassion that I carry with me in my practice as a pediatric specialist. (Thibodeau, 1988, p.22)

Seligman and Darling's (2007) review of literature, suggests that many nondisabled siblings internalize helping norms and turn their career efforts toward the enhancement of mankind, or at least toward life goals that require devotion and sacrifice. The following remarks by a sister of a sibling with multiple disabilities reflects the thoughts behind the decision to plan for a service career:

> Having Robin as a member of our family caused me to undergo a great deal of introspection, which led me to insights into certain aspects of my character that needed to be changed. My contact with him, coupled with some sound advice from my parents, also unquestionably influenced my decision to pursue a career in special education. I had originally intended to enter the field of chemistry, and indeed completed a bachelor's degree in that area. However, something about my choice bothered me. I enjoyed the lab work and the excitement of scientific discovery, but something was missing. It wasn't until my father, during the course of one of our "what are you going to do with your life?" discussions, pinpointed the problem when he quoted the following statement made by the philosopher Kierkegaard: "The door to happiness opens outward." What this meant to me was that one could find true happiness through serving others. The choice of a career then became obvious to me. What better way was there to serve others than to enter the field of special education where I could help people like my brother lead more fulfilling lives? (Helsel, 1987, p. 112)

On the other hand, Seligman and Darling's (2007) review acknowledged that many of the reports are assumptions. A sibling's identification with a brother or sister who has a disability is thought to encourage a desire to understand his or her problem and to provide the drive to choose a career in education or in the human services (Burton & Parks, 1994; Farber, 1963; Grossman, 1972; Konstam & Drainoni, 1993; Marks, Matson, & Barranza, 2005). However, there is also evidence that a number of nondisabled siblings believe that they have already made a significant contribution to a difficult life circumstance and may seek fulfillment in fields outside of the helping professions. Seligman and Darling (2007) referred to the specific example of a sister of a person with autism who

spoke out about her wish to pursue a career unrelated to the helping professions. She believed she had contributed considerably to the welfare and development of her brother and now felt that she wanted to do something “for herself” in a profession that was not oriented toward the human services.

Seligman and Darling’s (2007) publication titled, *“Ordinary Families, Special Children: A Systems Approach to Childhood Disability,”* examines the child, family, ecological, and socio-cultural factors that relate to the responses of families of children with disabilities. Reactions to a childhood disability are social products resulting from a lifetime of interaction and experience. On the topic of career choice, Seligman and Darling finished by noting there are insufficient data for firm conclusions about the relationship between having a brother or sister with a disability and choosing a particular career path. Others have agreed and find that there is only enough information for speculation about the impact of a child with a disability on a sibling’s career choice, as empirical evidence is lacking to make this prediction (Burton; et al., 1994; Marks, et al., 2005; Siegel & Silverstein, 1994).

The current research study aimed to add to the small body of research investigating career choices of siblings of children with disabilities. With updated and sound research investigating this link, the recruitment of these experienced and caring individuals may be possible. Also, students may be helped in exploring the reasons for their career choice and guided through these decisions so that they make the choices for the right reasons. Having the most qualified individuals in our helping professions will encourage growth of people with disabilities to the highest potential.

Transitioning to Post Secondary Education

Planning for post-secondary education can be a very exciting time in a student's development. Thoughts of independence and new experiences are quite appealing to the high school student preparing for a new chapter in his/her life. Along with the anticipation and enthusiasm for this new adventure, there is the realization of the investment and commitment needed to perform successfully at a post-secondary level. Careful consideration of one's strengths and weaknesses, interests, finances, and personal goals is necessary to begin the transition process. During the planning stages of the transition, there are numerous people involved including the student, family, teachers, counselors, and the community. Featherstone and Reilly (1990) report that each planner, or significant other working with the student, has unique dreams and desires for the student's post-secondary life based on a number of variables and influences. Planners influence transitioning students based on factors such as personality type, past experiences, interests, values, and family history.

Transitioning students smoothly from high school to their post graduation plans is not a simple task. Typically, all of the student's years within the high school environment are needed to accrue all of the prerequisite skills and to meet requirements for successful transition into a postsecondary setting. Effective transition planning begins by establishing the student's goals upon completing high school. It has been suggested that once general goals are determined, the team of individuals helping the student should work backward to develop a plan that will ensure that the student's high school experiences properly prepare them for meeting those goals (Smith & Young, 2004).

Career Exploration

One suggested tactic when preparing for post-secondary transition is college program exploration. Factors such as campus size, teaching formats, and class size are important to consider. When considering program choice, students should always base the decision on their skill level and their interests and aptitudes. Students should also explore various career options (Smith & Young, 2004).

According to Featherstone and Reilly (1990), the objective of career exploration is to pinpoint possibilities and rule out inappropriate options. It does not mean that one must decide what he/she wants to do with the rest of his/her life, but aids in providing an awareness of the many options available when planning for the future. Blustein (1993) notes that career exploration engages an individual in activities that relate knowledge of one's self to the outside world of work. Costanza and Lehman (2004) indicate that within the educational environment, this means providing students with information about their aptitudes, interests, and values in an attempt to match that information to characteristics of specific postsecondary education programs or occupations.

A study by Taylor, Wang, VanBrackle, and Kaneda (2003) noted that children go through three stages throughout life when choosing occupations. Fantasy choices occur before the age of 11, tentative choices are explored at ages 11 to 17, while realistic choices occur from age 17 into young adulthood. Aptitudes and interests are areas of self-knowledge that develop over time and are essential components in career development and planning. Interests are typically things that a person does for fun, while aptitudes are specific abilities required to facilitate learning of tasks or job duties. Both interests and aptitudes are vital when planning for high school to post-secondary life (Costanza & Lehman, 2004).

Career Exploration for Siblings of Children with Developmental Disabilities

The unique life experiences of growing up with a child with a disability often promote a vested interest, as well as competence and aptitude, in working with diverse populations (Meyer & Vadasy, 2007; Strohm, 2005). Many siblings have reported that having a brother or sister with special needs has made them feel comfortable with disabilities and appreciate the diversity of the human condition (Cleveland & Miller, 1977; Farber, 1963; Grossman, 1972; Seigel & Silverstein, 1994; Marks, et al., 2005). As a result of their many years of informal education on disabilities, chronic health impairments, or mental illness, these siblings feel that they have much to share (Meyer & Vadasy, 2007; Seigel & Silverstein, 1994). Meyer and Vadasy (2007), researchers and the creators of Sibshops, workshops for siblings of children with special needs, believe that, like parents of children with special needs who are obtaining leadership roles in education and healthcare, the brothers and sisters who seek careers in these fields bring a welcome “reality check” to their profession.

Strohm (2005) agreed and noted that many siblings of people with disabilities enter the helping and caring professions. Strohm is a counselor, health educator, and journalist. She is also the director of a program that provides resources and support for siblings of children with special needs. In her publication, she reported that these brothers and sisters have been influenced by their experiences in ways that develop their sense of social justice and social equity. These values result in a desire to support disadvantaged groups within the community. Furthermore, Strohm notes, siblings of people with special needs generally understand and appreciate the differences between people, are able to show empathy and compassion, and are drawn to special education, occupational therapy,

social work, and similar vocations. Siblings have spent much of their time having contact with service providers while growing up and feel comfortable in that environment. They also learn a variety of care giving skills early in life (Strohm, 2005).

In her work with siblings of children with disabilities, Strohm (2005) found that the majority of siblings who move into service careers do so because they have acquired a sense of social justice, as well as a range of appropriate skills. She acknowledged that a myriad of factors influence career choice, but for these siblings, the overriding one is often their family situation.

Siegel and Silverstein (1994) explained that siblings of children with developmental disabilities are at risk for developing a reaction formation. A reaction formation occurs when negative feelings are left unprocessed and, in their place, the opposite emotion is felt. This often presents itself in an exaggerated form. This reaction to the family places siblings at risk of overly identifying with the family situation, which may be all consuming and influence major aspects of identity, such as job choice. Siegel and Silverstein believe that the disproportionate number of siblings of children with developmental disabilities becoming helping professionals such as teachers, doctors, and social workers is not bad in and of itself. However, it is important for identity development of siblings to explore whether a career choice is being made for its intrinsic appeal, or to serve a fantasy that they may somehow be able to finally “rescue” their sibling and resolve feelings of emotional conflict that the sibling’s disability has caused. Siegel and Silverstein advise that, for the sake of their own identity development, it is imperative for the siblings of individuals with disabilities to consider whether they are making a career choice because of aptitude or because experience has led them to feel that there really is no other good choice. Other motivators

include obtaining additional praise, feeling guilty, and trying to please their parents.

A classic study by Cleveland and Miller (1977) found that older female siblings were more likely to enter helping professions than other siblings of children with disabilities. Grossman's often cited 1972 study of college-age siblings found that young adults who grew up with a sibling who had a disability were more confident about their own future and about personal and vocational goals than comparable young adults without similar experiences.

Burton and Parks (1994) researched the self-esteem, locus of control, and career aspirations of college-aged siblings of individuals with disabilities. No significant differences were found between the career aspirations of individuals with disabled brothers and sisters and classmates with nondisabled brothers and sisters. Similarly, Konstam and Drainoni(1993) examined career choices of college students. They reported that college students who had siblings with disabilities were no more likely than siblings of people without disabilities to choose a human service profession, suggesting that conflicting results make it difficult to reach a definite conclusion about siblings' career choices.

Description of the Study

This study investigated career aspirations and personality traits utilizing researcher developed questionnaires and a career interest inventory. High school students and their families from a school system in southern Maryland were asked to participate. Students were 14 to 19 years of age. The study was later opened to family members of the Association of Retarded Citizens (ARC) of Maryland.

The researcher was interested in investigating various themes among students who have a sibling with a developmental disability,

with a specific focus on their vocational aspirations following high school. Students who have siblings with a developmental disability were compared to peers who do not have a sibling with a developmental disability in regard to their interest in pursuing a helping profession. Reasons for their choice were also explored. Comparisons were made between students who have a brother or sister with a developmental disability and those who do not. The goal of this study was to identify differences among students who have a sibling with a developmental disability compared to those who do not have a sibling with a disability in their goals and reasons for their career choice. Motivating factors were explored to understand why students who have siblings with developmental disabilities gravitate towards the helping professions or, on the other hand, why they may not be interested in helping professions.

Commonalities and trends between career interests were examined along with the results of the Self-Directed Search-R 4th Edition (SDS), a career interest inventory widely used in school systems. The Self-Directed Search is an assessment tool used to assist in identifying an individual's vocational interests and personality type. This instrument is based on Holland's Theory of Vocational Personalities and Work Environments. Other descriptive information such as sex, birth order, sibling's disability, size of family, and parent's occupation were analyzed.

Due to the nature of the research and limited sample size available in such a unique population, qualitative approaches were utilized in this study. Data were collected through student and parent questionnaires, interviews, and through an analysis of the results from the Self-Directed Search (SDS). Questionnaires were developed by the researcher to obtain a comprehensive description of personality characteristics and demographic

information, as well as student and parent perceptions of future career goals. Having the parents participate through a questionnaire about their child added additional information with regard to family influence, perceptions, and demographic information.

The qualitative research design has been adopted by those in the educational community to examine particular social situations, roles, and group interaction. This form of research is descriptive in nature and looks at process and meaning and attempts to understand and interpret how the various participants in a social setting construct the world around them (Glesne, 2006).

In this study, the researcher conducted interviews with siblings of students with a developmental disability. In addition, interviews were conducted with one of the student's parents. Through interviewing, the researcher was able to include additional descriptive information and add meaning to the questionnaire information and assessment data obtained. The interviews were analyzed using the computer software program, Qualrus, a qualitative analysis program. Interviews were coded by themes and analyzed by recognition of specific commonalities found among the participants' thoughts and ideas.

Purpose of the Study

Without adequate research data, Seligman and Darling (2007) caution that the theoretical leap between the development of compassion, tolerance, and empathy to the selection of a particular career goal may be too great a generalization. While there is a body of research focusing on the challenges of siblings growing up with children with disabilities, there is a shortage of literature pertaining to sibling career interest. An EBSCO search of the literature was completed researching studies completed from 1960 to 2008. Three early studies were followed by four more recent investigations. Studies were not found on high school

students investigating this relationship between the family situation of growing up with a sibling with a developmental disability and their interest in pursuing a helping profession.

The following trends emerged on a review of these seven studies. Early studies (Farber, 1963; Grossman, 1972) of siblings of people with developmental disabilities were large studies addressing many variables about sibling relationships. Their focus on career aspirations was one variable and accounted for only a small portion of their research. Also of concern, is that the few recent investigations of this link have shown conflicting results making it difficult to form conclusions as to whether growing up with a sibling with a developmental disability influences career decision. Previous studies have not thoroughly investigated the critical factor of reasons for career choice. The current study aimed to obtain data of both student and parent input to fully understand this process of career choice. A unique contribution to this current study was the inclusion of interviews and questionnaires. The interviews and questionnaires provided valuable information about personal experiences and specific situational factors that have affected student career decisions, which added rich information to the overall results of this study.

Lastly, it is also important to recognize that this study includes students who are still in high school. During this time, career exploration is at a high and of utmost importance. Previous studies have examined college students and/or people who were already enrolled in service type programs or working teaching professionals.

Research Questions

Original research questions for this study are listed below. However, challenges in obtaining the number of participants necessary to

answer the questions required modification in the study procedures. These limitations will be discussed at length in future sections.

1. Are teenage siblings of children with developmental disabilities more likely to report an interest in helping professions when compared to their peers who do not have a sibling with a disability?
2. In what types of professions are high school students who have siblings with disabilities most interested?
3. What are the motivating factors for these siblings when considering entering helping professions? (Aptitude and interest, money, family influence, experiences)
4. Do variables such as sex, size of family, and birth order correlate with the likelihood of reporting an interest in a helping profession when raised with a sibling with a disability?
5. Do sibling vocational aspirations and responses to questionnaires regarding career interests correlate with the results of the Self-Directed Search?
6. Do siblings of children with disabilities decide what career they want to pursue at an earlier age compared to their peers who do not have a sibling with disability?

Research Hypothesis

It was hypothesized that a greater number of students who have grown up with a sibling who has a developmental disability will report an interest in pursuing a helping profession. Personal accounts from authors, doctors, special educators, and siblings themselves have suggested that nondisabled siblings are optimal candidates for our helping professions. Early studies have concluded that siblings of those with developmental disabilities were more prone to do volunteer work in human services than were those who did not have a sibling with a disability (Farber, 1963; Grossman, 1972).

It was expected that students who have siblings with developmental disabilities would report wanting to enter the helping professions due to an interest in improving services for individuals with disabilities, because of a previous experience with a sibling with a disability, and/or to influence special education reform, for example. Other variables that were expected to emerge as themes included gender, birth order, sibling's disability, socio-economic status, and parental influence. It was also hypothesized that students who have a sibling with a developmental disability will respond to the Self Directed Search (SDS) in a manner that supports a personality code congruent to that appropriate for a helping profession. Personality codes and the idea of congruence are derived from Holland's Theory of Vocational Personalities and Work Environments. Figure 1 illustrates the relationships between the hypothesized constructs.

Problem Significance

Growing up in a family of a student with a developmental disability, specifically mental retardation, autism, and those consistent with significant mental limitations, can be a challenging experience. Siblings of these students are often faced with more responsibilities, and sacrifices, and may have less attention given to them because of their sibling's needs (Bischoff & Tingstrom, 1991; Breslau, Weitzman, & Messenger, 1981; Dellve, Cernerud, & Hallberg, 2000; Dodd, 2004; Opperman & Alant, 2003; Pilowsky, Yirmiya, Doppelt, Gross-Tsur, & Shalev, 2004). Despite the hardships of growing up with a disabled sibling, most brothers and sisters report a rewarding life and an unconditional love for their sibling (Meyer & Vadasy, 1994; Seligman, 1983; Stalker & Connors, 2003). They are often compassionate, responsible, and have unique life experiences that make them optimal candidates to work with the special needs population in our schools, hospitals, and clinics (Strohm, 2005).

If more studies can focus on this relationship and more emphasis can be placed on these students, a smooth transition from school to post secondary life may be facilitated and these pre-qualified and well deserving students can make a difference in our society. In addition, it is important to understand motivations and reasons for career choice to help ensure that people are entering fields for the right reasons.

Definition of Terms

Transition is a carefully planned process involving students, school personnel, and families in vocational exploration that occurs well before a student leaves high school. Transition spans the periods of high school, graduation, additional postsecondary education, and the initial years of employment.

Developmental disability is a term used to describe severe, life-long challenges resulting from mental retardation and physical impairments manifested before the age of 22. The term is used most commonly in the United States to refer to disabilities affecting daily functioning in three or more of the following areas: capacity for independent living, economic self-sufficiency, learning, mobility, receptive and expressive language, self-care, and self-direction. In this study, developmental disability refers to students with significant physical and mental limitations that are provided service in the school system with a special education functional curriculum (life skills classroom). Siblings of participants in this study have either mental retardation and/or autism.

Siblings of students with developmental disabilities are the brothers and sisters of students with significant physical and mental limitations. Siblings may be biological, step-siblings, foster, or adopted siblings. Students were 14 to 19 years of age and were from southern Maryland. Students had a sibling in the Life Skills program within the school system or were teenage siblings of those whose families were

members of the ARC of Maryland because they had a child with a developmental disability in the home.

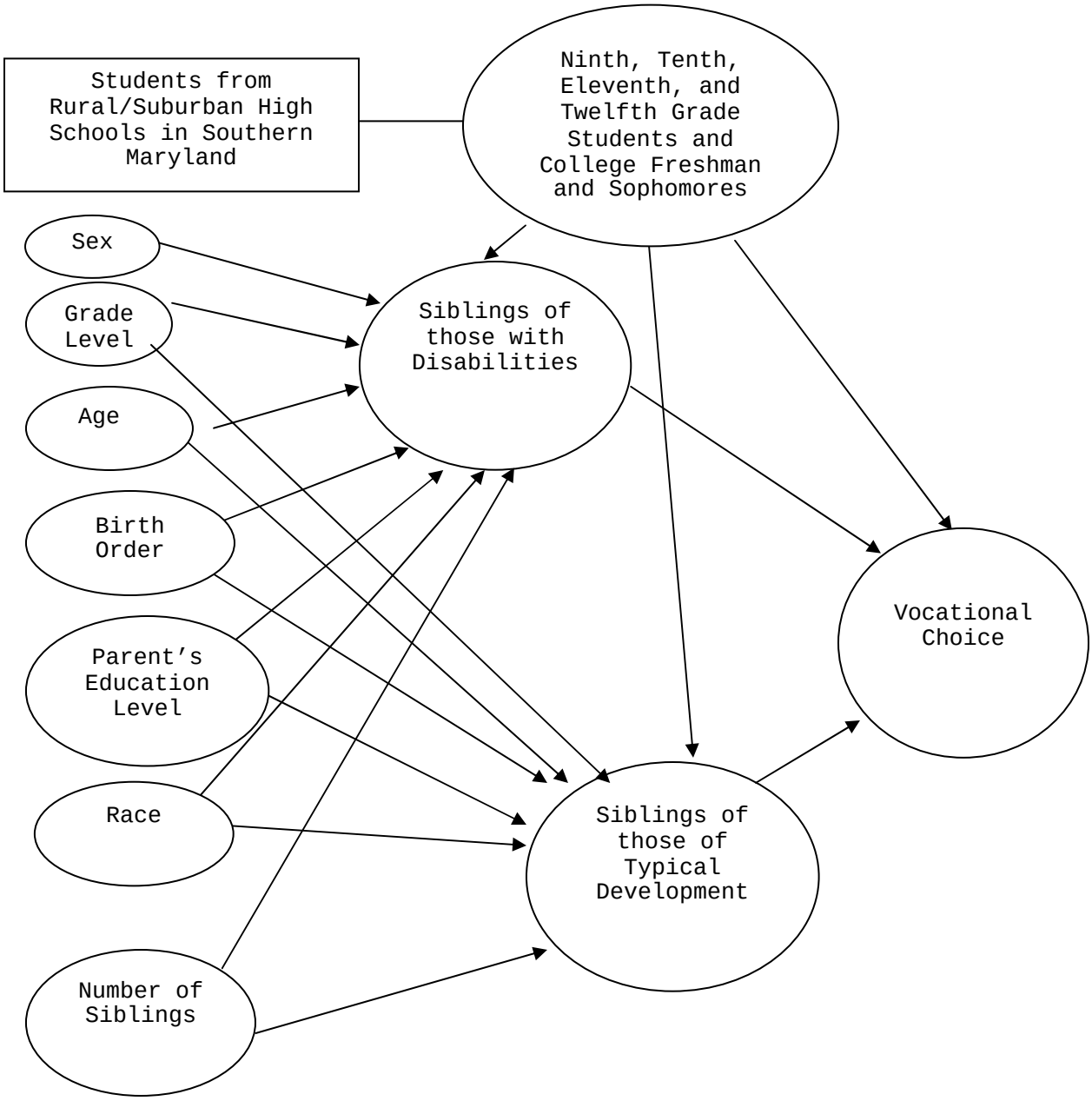

Figure 1: The relationship between the hypothesized constructs.

Helping profession refers to a career in which one works primarily with people in servicing the needs of others in one or more of the following areas: teaching, rehabilitation, social-work, advocacy, medical, and other related service occupations.

The Self-Directed Search (SDS) (Holland, 1994) is an assessment tool used in career counseling to explore the relation of occupational activities and competencies to various occupational clusters. It was developed for those 12 years of age or older. The SDS is available in a variety of forms, but for this study, a paper-pencil format was used. The scale has multiple sections. Most sections use a "like/dislike" or "yes/no" format. One portion uses a self-rating format.

Holland's Theory of Vocational Personalities and Work Environments (Holland, 1966, 1973, 1985) presently serves as one of the most accepted and well-known trait-factor theories that addresses the relationship between personality and occupational choice (Keith & Stiffler, 2004).

Assumptions

It is assumed that Holland's Self-Directed Search (SDS) identifies personalities that are suited for helping professions. It is also an assumption that the questionnaires that were developed address important points found within the literature related to sibling career choice. Similarly, the interviews and the system of interviewing are assumed to address important issues and to be an effective means of obtaining relevant information.

Limitations

There are several limitations of this study. One limitation is the small sample size. Due to the limited number of available subjects, all interested participants were selected to participate. A second limitation of this study was that it represents students and families from the region of southern Maryland. Therefore, the size of the sample and the specific

location does not allow for generalization of the results. Another limitation of the study was that the questionnaires were developed by the researcher and were not standardized. Also, the materials were sent through a mailing, which did not give the participants the opportunity to ask questions if they did not understand something on the survey.

Summary

Transition from high school to post-secondary living can be an exciting time in a young adult's life. Aptitudes, life experiences, interests, and environment play a key role in developing one's vocational self. Careful consideration of one's strengths and weaknesses, interests, finances, and personal goals is necessary to begin the transition process. Authors, as well as brothers and sisters themselves, have speculated that siblings of people with disabilities frequently gravitate toward the helping professions. Yet, conflicting results throughout the literature make it difficult to reach a conclusion about siblings' career choice. Few studies have thoroughly investigated this relationship and none could be found that addressed career interests of high school students within this population. The goal of this study was to provide a detailed analysis of high school students who have siblings with a developmental disability and those who do not in respect to their career interests. It was hypothesized that students who have grown up with a sibling who has a developmental disability will report an interest in pursuing a helping profession more so than students who have not grown up with a sibling with a disability. Personality characteristics as well as motivations related to career choice were also explored through questionnaires, the Self-Directed Search, and follow-up interviews.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter will include a review of research on the topics of sibling relationships, siblings of children with developmental disabilities, career interest and career development theories including Holland's Theory of Personality and Work Environments, the Self-Directed Search (SDS), developmental factors of career choice, and careers of siblings of children with developmental disabilities. Figure 2 illustrates the logical structure of the review of the literature.

Sibling Relationships

The great majority of children, roughly 80% in the United States and Europe, grow up with siblings (Dunn, 1992). In Western countries, most siblings live together over an extended period of time, have daily interaction, and spend a lot of time together. It is likely that they spend even more time with each other than they spend with parents (Dunn, 2000).

Relationships involving brothers and sisters are among the most rich and enduring bonds that children and adults can experience. From birth forward, siblings play important roles in all aspects of each other's development. Characteristics of the sibling interaction have been described as intense, uninhibited expressions of the full range of human emotion, from love, affection, and loyalty to hatred, hostility, and resentment (Lobato, 1990). The permanency of this relationship makes it possible for two individuals to exert considerable influence over each other through longitudinal interactions (Seligman & Darling, 1997).

A growing body of research is emerging that illustrates the many ways in which human development and the quality of life is impacted by relationships with siblings (Bank & Kahn, 2003; Kramer & Bank, 2005;

Lobato, 1990; Seligman & Darling, 2007). Many scholars believe that brothers and sisters actively shape each other's lives and prepare one another for the experiences that they will have with peers and as adults

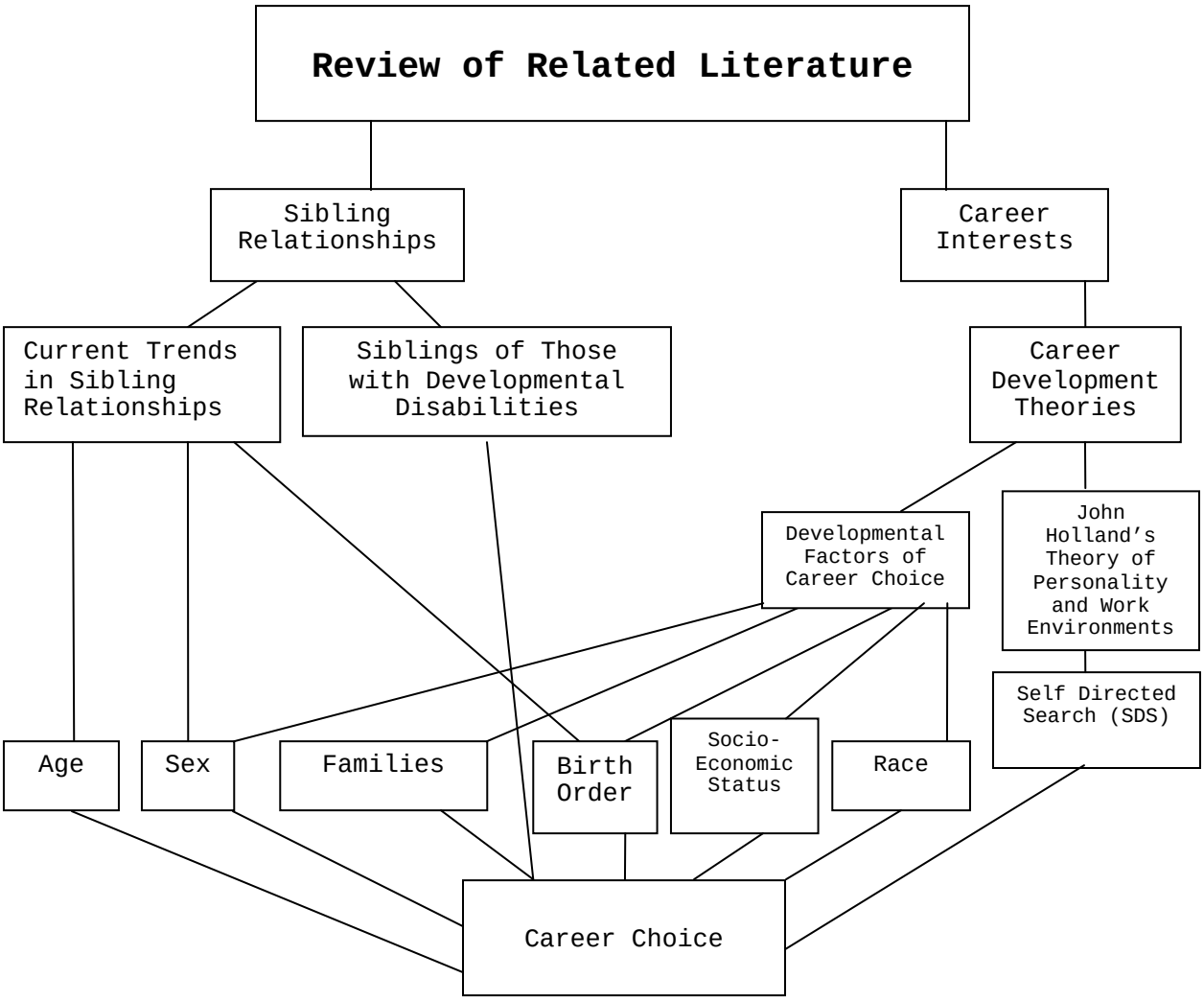

Figure 2: The logical structure of the review of the literature.

(Bank & Kahn, 2003; Kramer & Bank, 2005; Seligman & Darling, 1997; Sutton-Smith & Rosenberg, 1970). These influences include siblings' contribution to one another's development, their influence on each other's relationships and experiences with other people, and the type of information about the world that children gain more readily from their siblings than from parents (Lobato, 1990).

In Bank and Kahn's (1997) publication, *The Sibling Bond*, they discuss the complex nature of the sibling relationship. Based on a compilation of research and years of professional experience, Bank and Kahn provide a literary contribution related to the powerful and emotional connections among brothers and sisters throughout the life span. Bank and Kahn (1997) indicate that siblings follow a life cycle of their own. Siblings offer a continuous source of companionship for each other during the early childhood years. During the school-aged years, it is common for siblings to extend themselves to others outside of the immediate family as they practice the social skills they have developed together. During the teenage years, siblings show ambivalences about their mutual relationship, yet they still rely on each other as confidants and advisors. In adulthood, brothers and sisters may interact less often due to marriage and/or geographic distance. Even so, during this period, siblings may provide long distance support and encouragement as they embrace the changes, difficulties, and hardships of adult life. Also, as aunts and uncles, they provide unique support networks for each other's children. And finally, in old age, after children move on to increased independence and spouses pass away, siblings continue to provide a social network for each other. It is not unusual in this stage for sibling bonds to become reestablished or to strengthen once again in a manner similar to the first stages of their lives together.

The relationships that brothers and sisters have with one another are rather different from those they have with their parents, primarily in the amount of power held by the members of the pair. In the typical adult-child interaction, the adult is at an advantage since he or she possesses greater knowledge, experience, and control over the final outcome of the interaction. The adult maintains control over more of the potential privileges and rewards that the child desires. In contrast, in

the sibling pair, the children are on more equal grounds. They are more likely to wish for the same things at the same time and to have equal access, if not entitlement, to them. This greater similarity between siblings in their desires and power provides fertile ground for conflict and conflict resolutions. Therefore, a number of the earliest lessons children learn about sharing, competition, rivalry, and compromise are learned through their negotiations with siblings (Lobato, 1990).

Bank and Kahn (1997) have found that a strong sibling bond develops based on three reoccurring, predictable conditions: high access between siblings, the need for meaningful personal identity, and insufficient parental influence. Sibling bonds will become intense and exert a formative influence upon personality when, as children or adolescents, the siblings have had ample access and contact and have been deprived of dependable parental care. Siblings will use each other as major influences in search for personal identity. However, when other relationships with parents, children, or spouses are emotionally gratifying, the sibling bond will be weaker and less significant. Thus, when other relationships cannot be relied upon, intense sibling relationships are activated.

Bank and Kahn (1997) noted that the emotional bond between brothers and sisters depends on their access to each other. They acknowledge that there are many pairs of siblings who go through life not resonating to one another. Such siblings seem to have little emotional impact upon one another. Bank and Kahn call these siblings “low access.” They are characterized as being separated by more than eight or ten years of age. They have shared little time, space, or personal history, as they tend to be in different schools, have different friends, and sometimes they do not have the same parents since parents may act differently at different ages in their life. Since they lack this sense of a shared history, they have

not needed each other, nor have their parents needed for them to need each other.

Age and Sex

Likeness in age and sex promote access to common life events. Differences in these areas diminish opportunities for access. High accessibility during the developmental years is the most routine accompaniment of an influential sibling relationship. Siblings who are alike in age and sex often attend the same schools, play with the same friends, share a common bedroom, wear each other's clothes, and so on (Bank & Kahn, 1997).

The effect of this access has been demonstrated, even at the most early stage of sibling interaction. Dunn and Kendrick (1981) studied individual differences in the social behavior of 40 sibling pairs. Same-sex and opposite-sex pairs were observed when the infant sibling was aged 8 months and 14 months of age. When the infants reached 14 months of age, both the firstborn children and the infants in this study showed much more friendly behavior toward their sibling if they shared the same sex. The firstborn children in the same-sex pairs showed an increase in positive social behavior to the baby between the 8-month and 14-month visits, and the frequency with which they showed aggression or hostility did not increase. In contrast, the firstborn children in different-sex pairs had become far more frequently negative toward their baby siblings by the 14-month visit.

Birth Order

The effect of sibling factors, especially birth order, on children's development has been an area of great scientific and popular interest (Lohman, Lohman, & Christensen, 1985; Sullivan & Schwebel, 1996; White, Campbell, Stewart, Davies, & Pilkington, 1997). Lobato (1990) notes that birth order alone accounts for little in a child's development, but is

influential when considered along with other characteristics of the sibling group. Though there are large individual and family differences, firstborn children are commonly described as being higher achieving, dominant, conservative, and socially anxious compared to laterborn children. On the contrary, laterborn children are characterized as being more relaxed and popular, more flexible in their thinking, yet not quite as focused on their achievements (Lobato, 1990).

Research using the Psychological Birth Order Inventory (PBOI) developed by Campbell, White, and Stewart, (1991) indicated that there are at least four discreet birth order positions as measured by the instrument. Psychological birth order refers to the psychological perspective of one's birth order (White, et al., 1997). According to White, et al. (1997), psychologically, firstborns strive for perfection and show a strong desire to please adults. They stress the importance of following rules and often force these rules upon younger siblings. They often view their world from a position of power and control in order to remain "first."

The middle child feels "squeezed" between the firstborn and younger siblings. This child may have a lowered self-esteem due to a sense of frustration in not having a special place in the family like the oldest or youngest. The middle child may feel victimized and subsequently accentuate the importance of fairness as a lifestyle theme. This sense of fairness serves middle children well in their social relationships with others (White, et al., 1997).

The psychological youngest is in a unique place in the family and faces few demands from others. Being the psychological youngest child suggests that the person takes on the role of the youngest child, even though they may not be the chronologically youngest. These youngest children often seek family members for support as a result of feeling

helpless and weak. This succession results in the youngest being in a powerful position, using their charm rather than abilities to please others and gain significance (White, et al., 1997). In families of a child with a disability, the child with a disability often becomes the psychologically youngest child.

Farber (1960) reported that regardless of birth order, the child with severe mental retardation progressively becomes the youngest child in a social sense. As the typically developing children acquire roles appropriate to their sex and age, the child with mental retardation, by contrast, changes slowly and thereby assumes the status of a younger sibling.

The only child is similar to firstborn children. They are the center of their mother and father's world, which results in a greater interest in adult rather then peer relationships. Even though they have a very special place with adults, the only child lives with a great deal of perceived pressure, as the family's hopes rest on their shoulders (White, et al., 1997).

Current Societal Trends and the Sibling Relationship

Bank and Kahn (1997) suggest that the many changes in contemporary family life have added to the importance of studying sibling relationships. In today's society, there is a trend toward a greater freedom and separateness. Bank and Kahn believe that siblings today appear freer than ever to go their own separate ways. They explained that in today's America, siblings are free to be involved or not to be involved. They gave the example that siblings today are unlike immigrant siblings who swarmed to America in great migratory waves. These siblings had to cling together for cultural continuity and survival as they faced hostility and uncertainty in a strange land. Brothers and sisters of the past had little choice but to depend on one another.

On the other hand, there is a trend toward greater interdependence between siblings (Bank & Kahn, 1997). Amongst the cultural transformations that have accelerated within the last one hundred years or so, the following may be giving the sibling greater rather than less relevance: shrinking family size, longer life spans, divorce and remarriage, geographic mobility, maternal employment and alternative sources of child care, competitive pressures, and stress and various forms of parental insufficiency (Bank & Kahn, 1997).

Family size has shrunk considerably since the turn of the century. According to Bank and Kahn (1997) having only one brother or sister creates the potential for interdependence and intensification of the relationship, as it gives one sibling an enormous power to have exclusive influence over the other sibling. When a sibling dies, departs for college, or becomes successful, he or she is the only reference point with whom one can identify. These relationships can be intense and limiting.

Also of note, today's children are being born somewhat closer together in age than children of the past. If the mother is showing an aspiration for her own success in the world of work, she may want to have fewer children and finish with childbearing so that she can re-enter the workplace within a shorter amount of time. Couples are planning to have children within a short time span, typically within three or four years and usually space their two children about two years apart. This is very different from the past, whereas a sibling was one of a group of children whose ages could cover a considerable range, and whose births were not planned. Narrow age spacing can force children into contact, dependence, and competition and heightens opportunities for mutual influence (Bank & Kahn, 1997).

In addition to the diminishing of family size, our society is highly mobile. When a family moves, disruption occurs. It is not uncommon for

children to go through two or three school systems, neighborhoods, and friendship groups before graduating from high school. One constant person to turn to, during this time, is a brother or sister (Bank & Kahn, 1997).

Similarly, siblings are there for each other during times of divorce and remarriage, another source of disruption. Bank & Kahn (1997) indicated that in 1975 more than one million marriages ended in divorce. Keniston (1977) reported in 1977 that there were more than five million single-parent households. At the time, it was estimated that 40 percent of all children born in the 1970's would, before they turned eighteen, live for a period of time in a single-parent household. Bank and Kahn (1997) explained that the distress of divorce itself is often followed by the shock of remarriage, as the majority of individuals remarry within several years. They acknowledge that although each child experiences his or her parent's divorce and remarriage differently, siblings today confront these parental breakups, new family units, and dislocations together.

Sheehan, Darlington, Noller, and Feeney (2004) conducted a study exploring the influence of divorce on the sibling relationship. Questionnaires and interviews were utilized on 137 children of divorcing families and 167 comparison children of intact families. The investigation concluded that siblings provide for each other a safe and predictable world inside the family undergoing change. The study provided support to the idea that in times of family crisis and transition, the natural support system existing among certain groups of siblings may serve to strengthen children against the adverse consequences of parental conflict and parental absence.

Divorced or married, as noted earlier, mothers are working. The percentage of women who work, at least part time, doubled from 26 percent to 54 percent from 1948 to 1976. During that same period, the percentage

of working mothers of preschoolers tripled from 13 percent to 37 percent (Bank & Kahn, 1997). In 2005, there were 65.8 million employed women in the United States. This accounted for 58.9% of women (http://www.dol.gov/wb/stats/main.htm). Thus many children are dependent on parental surrogates such as babysitters or day-care workers. It seems that siblings have periods of time when their relationship is not monitored by a personally committed adult. Children may be required to baby-sit one another and, therefore, are spending more and more time together unsupervised (Bank & Kahn, 1997).

Competitive pressures between siblings are also believed to influence the sibling bond (Bank & Kahn, 1997). The likelihood of a sister competing successfully with a brother and with her sisters in school and sports may be greater than ever before. And because our culture becomes more competitive as it becomes more technologically advanced, competitive pressures between children in the same family for success in the outside world are likely to increase (Bank & Kahn, 1997).

Lastly, Bank & Kahn (1997) note that the sibling relationship may be strengthened because of the many stressors parents are facing today. Many parents are experiencing severe stress, and become, in the process, temporarily unavailable to their children. Bank & Kahn (1997) indicated that parental alcoholism, emotional disorders, child abuse, and deprivation of parental care have been the subjects of numerous clinical studies, but rarely have the effects of these traumas on sibling relationships been noted.

Siblings of those with Developmental Disabilities

A circumstance that may add stress to a family situation is having a child with a developmental disability. Siegel and Silverstein's 1994 publication, *What About Me? Growing up with a Developmentally Disabled Sibling,* was written to help families who have children with developmental

disabilities. The publication focuses on adult siblings looking back on their childhood. Emphasis is placed on how their past experiences have influenced their current lives. The authors apply research as well as their observations and expertise from their many years of working with families of children with developmental disabilities.

According to Siegel and Silverstein (1994), psychologists and psychiatrists who study family systems have given relatively little attention to sibling relationships when a disabled sibling is concerned compared to the amount of research that they have conducted on typical sibling relationships. Since the 1960's, a body of research has slowly built up that does address the experience of the siblings of developmentally disabled children. In one way or another, most of the studies have posed the question of whether growing up with a handicapped brother or sister is psychologically damaging (Bischoff & Tingstrom 1991; Breslau, Weitzman, & Messenger, 1981; Cuskelly, 1999; Hastings, 2003; Opperman & Alant, 2002; Pilowsky, Yirmiya, Doppelt, Gross-Tsur, & Shalev, 2004; Seligman, 1983).

According to Meyer and Vadasy (2007), brothers and sisters harbor a wide range of feelings towards their siblings. So it is not surprising to learn that siblings of people with special needs also experience these same feelings about their brothers and sisters. Despite the similarities, there can be some important differences when one of the siblings has been diagnosed with a special medical or developmental need (Meyer & Vadasy, 2007). In Meyer and Vadasy's (2007) publication, *Sibshops: Workshops for Children with Special Needs,* they utilize research and their clinical experience to provide information about siblings of children with special needs to the siblings' teachers, counselors, families, and the siblings of children with special needs themselves. Also, a detailed program for supporting these siblings of children with disabilities is offered.

Through their research and years of experience, Meyer and Vadasy (2007) have observed recurring themes in siblings of children with disabilities despite the diverse backgrounds of these siblings. The themes that have been outlined include: over-identification, embarrassment, guilt, loneliness, resentment, increased responsibilities, and a pressure to achieve. Similarly, in an early classic study of siblings of children with mental retardation, Grossman (1972) found the following psychological costs in her study: shame about the child with a disability and guilt about the shame; a sense of being tainted or defective; a sense of guilt for being in good health and, more often, for harboring negative feelings about the child with a disability; a feeling of having been neglected by their parents, who were preoccupied with their sibling with a disability; and at times a strong belief that their sibling with a disability had put considerable stress on the parents' relationship, which in turn negatively affected the rest of the family.

Overly identifying or "catching the disability" occurs when a sibling wonders and is concerned about whether he or she has or will acquire the sibling's problem (Seligman, 1983; Strohm, 2005). The age of the child, as well as the severity of the disability, appears to influence over-identification (Meyer & Vadasy, 2007). Meyer and Vadasy (2007) further suggest that over-identification is more likely to occur if the disability is mild or when it is not always visible, such as in cases of epilepsy. They also note that over-identification is less likely to occur if the child with the special needs is younger than the typically developing child. Seligman and Darling (2007) explained that children need reassurance that there is little likelihood of getting the same condition as their sibling. Siblings may believe that if a disability can happen to a brother or sister, then it can happen to them. Siblings of children with disabilities are encouraged to pursue their own activities and

relationships, which can help counteract the over-identification that occurs in a sibling relationship.

A second theme found among children of siblings with disabilities is that of embarrassment (Seligman & Darling, 2007; Siegel & Silverstein, 1994; Strohm, 2005). Siblings may be embarrassed by the unwanted attention their brother or sister, and family, may receive when the child with special needs demonstrates behavior problems. As with over-identification, embarrassment will be more common when the problems are mild or of a nature that is not always observable. Visible disabilities inform people and provide a reason for the unusual behaviors, while less noticeable disabilities tend not to and lead to greater embarrassment for the sibling (Meyer & Vadasy, 2007). Siegel et al. (1994) note that feeling awkward or embarrassed is a normal reaction to an atypical situation. In adolescence, the embarrassment factor plays a more central role. Appearance in public and among one's peers is crucial to the adolescent's self-esteem. A child who never noticed or cared about a sibling's awkward public displays before, may, around twelve or thirteen years of age, start to object to going into public with their sibling with a disability.

According to Seligman (1983) children who have brothers and sisters with special needs are far more likely to experience guilt than siblings of individuals without special needs. Brothers and sisters may feel they were responsible for their sibling's disability, may experience survivor's guilt, and may feel guilty about their own abilities or about harboring less than charitable feelings about their sibling (Meyer and Vadasy, 2007; Seligman, 1983). Seligman and Darling (2007) note that siblings of children with disabilities may experience considerable guilt over the advantages they have. They explain that they may believe their only recourse to compensate for such guilt lies in taking care of the ill sibling. This can be dangerous when the well sibling remains a caregiver

of a brother or sister through much of life because of guilt and forced obligation.

A sibling's disability or sickness can cause brothers and sisters to experience various feelings of loss, loneliness, and isolation (Meyer & Vadasy, 2007; Strohm, 2005). A typically developing child may miss having a brother or sister with whom they can seek advice, or share their thoughts, hopes, and dreams, especially if there are only two children in the family. Children may feel neglected by and/or isolated from their parents when their parents are consumed with a child's disability. These feelings are especially strong during times of family stress, such as diagnosis and hospitalizations, and are times when siblings need more emotional support (Meyer & Vadasy, 2007).

Because brothers and sisters observe the pains that their parents experience due to their sibling's needs, they may choose not to burden their parents with their troubles. Parents may be overwhelmed by their child with a disability's many needs and exhausted or simply unable to recognize a brother or sister's need for attention. Other sources of isolation include having little knowledge or information about his/her sibling's disability and not having a peer group with similar family circumstances (Meyer & Vadasy, 2007).

Meyer and Vadasy (2007), met with a group of parents of children with muscular dystrophy. These parents reported that the most pressing concern their typically developing children experienced was resentment. They indicated that their children resented the attention the siblings with muscular dystrophy received, as well as the amount of care and time the siblings required. Siblings also perceived there to be an unequal treatment for children in the family. They explained that they were expected to do more around the house and help their siblings with toileting and other needs that the siblings could not do for themselves.

Siblings also resented the limitations on their and their families' lifestyle imposed by the disability.

Early research on siblings of children with developmental disabilities often focused on the care giving demands and responsibility assumed by siblings (Cleveland & Miller, 1977; Lobato, et al., 1987; Schwirian, 1976; Seligman, 1983). Cleveland and Miller (1977) believed that oldest daughters were often pushed into a surrogate parent role for the child with a disability, especially in large and low-income families. Damiani (1999) reviewed twenty years of research related to responsibility and adjustment in siblings of children with disabilities. Damiani's study of responsibility in the home concluded the most consistent factor regarding responsibility is that girls have more home and childcare responsibility than boys, whether there is a child with a disability in the home or not. It has not been firmly established that siblings of children with disabilities have more childcare and home responsibility than siblings of typically developing children. However, one theme to come into view from the literature is the presence of worry about the future caretaking roles, when the parents are no longer available.

Lastly, Meyer & Vadasy (2007) discuss the recurring theme of siblings of children with disabilities reporting having a pressure to succeed. Clinicians have noticed the apparent pressure on siblings of people with special needs to excel in academics, sports, music, or even behavior.

Siegel and Silverstein (1994) explain that the need to achieve is sometimes observed in children born right after the child with a disability. The child without the disability may feel parental pressure to achieve and to stand out to show that they are not only "normal" but somehow above average in order to help "average out" the family IQ. Some children have the intellectual capacity and personalities to live up to

the additional demands that their parents may place on them. For others, the extra pressure may be too much emotionally or intellectually, and the child may react by withdrawing.

Strohm (2005) indicated that siblings of children with disabilities see the pain in their parents and want to make them proud. They may be conscious of how fortunate they are and feel that they must take advantage of the abilities they have. She went on to note, however, many siblings feel that they never quite meet the expectations of their parents or extended family and struggle with the fear of disappointing them. Strohm cautioned that there is a danger that such a child will feel unworthy without constant success. But even when successful, these siblings often still feel unworthy.

Meyer and Vadasy (2007) note that although there are unique concerns and sometimes challenging circumstances that arise, brothers and sisters are not the at-risk population described in the early clinical and research literature. One study conducted by Bischoff and Tingstrom (1991) compared children who had younger siblings with disabilities who were in special education to children who had younger siblings without disabilities. Children were interviewed and asked to complete the Sibling Relationship Questionnaire (SRQ) and the Self-Perception Profile for Children (SPPC). The children's parents completed the Child Behavior Checklist (CBCL) and the Sibling Problems Questionnaire (SPQ). Results suggest that siblings of children with disabilities do not exhibit a greater number of social or behavioral problems than do siblings of children without disabilities. Other studies addressing behavioral problems and adjustment in siblings of children with developmental disabilities have included similar findings. Most siblings are well adjusted and are not more susceptible to adaptation problems than siblings

of children without a disorder (Pilowsky, et al., 2004; Verte, Roeyers, & Buysee, 2003).

A study conducted by Verte, et al. (2003) investigated the psychological adjustment of siblings of children with high functioning autism in comparison with siblings of typically developing children in the areas of behavioral problems, social competence and self-concept. Twenty-nine siblings of children with high functioning autism were compared with an equal group of comparison children on standardized written questionnaires. Overall, siblings of the children with high functioning autism were not more susceptible to adaptation problems than siblings of children without a disorder. And, sisters of children with high functioning autism between the ages of 12 and 16 years old had a more positive self concept when compared to the comparison group.

Similarly, Pilowsky, et al. (2004) examined the adjustment of siblings of children with autism. Social-emotional adjustment, behavior problems, socialization skills, and sibling relationships were compared among children with autism, mental retardation, and developmental language disorders. They found that a sibling's adjustment is not necessarily affected by having a sibling with autism, and if anything, the relationship shows a positive effect. They went on to say that as siblings grow older, they demonstrate an enhanced empathy towards their sibling.

Stalker and Connors, (2004) conducted interviews with 24 children, aged 6 to 19, who had siblings with disabilities. They explored their perceptions of impairment, disability, and difference. The brothers and sisters were aware of their siblings' impairments but the majority did not construe that as making their siblings "different." They tended to see impairment in functional terms and none of the children presented their siblings' experience of impairment as a continuing personal tragedy. They

also did not present their own situation, as a sibling of a disabled child, as in any way tragic. Most children did not see their sibling as inherently different from themselves. They presented their sibling very normally and in many ways described very typical sibling relationships, with feelings of affection and loyalty underlying routine bickering, irritation, and rivalry. Of the twenty-four children, there were three exceptions where relationships were highly antagonistic. When differences were seen, they were rarely presented as things that needed to change, be removed, or worked on. Rather, differences were accepted as an integral part of the child with a disability. One area of distress that emerged among children without disabilities was that they shared disappointment that their brother or sister could not do certain things or join in certain activities because of their impairment.

Meyer and Vadasy (2007) also note that empirical investigations and clinical observations are beginning to substantiate that siblings of people with disabilities display many strengths and report many opportunities. They outlined many positive characteristics that brothers and sisters of children with disabilities have demonstrated including: maturity, insight, a strong self-concept and social competence, appreciation for their siblings' abilities and for their family, tolerance for others, advocacy for those less able, and loyalty.

When Grossman (1972) carried out her study on college-age siblings of children with mental retardation, she found that almost one-half of the young adults believed that they had benefited overall from their family experiences, while an equal percentage felt that they had been harmed. Those who had benefited and coped well with the circumstances were judged to possess many of the most admirable of human qualities. These siblings of children with mental retardation were described as having a better understanding and compassion for others, and more sensitivity toward

prejudices. Also, these brothers and sisters were more tolerant of others, especially those with disabilities, and were more likely than their peers to value their own good health and intelligence.

Siegel and Silverstein (1994) noted that only a few studies have asked the alternative question and have speculated that growing up with a handicapped brother or sister may make one more resilient and more helpful to others. Parents and professionals have explored the experiences of children teaching appropriate skills and behaviors to their siblings with disabilities (Lobato & Tlaker, 1985; Schreibman, O'Neill, & Koegel, 1983), but remain cautious about overemphasizing the care giving and teaching aspects of the sibling's relationship despite some evidence of sibling satisfaction.

Cicirelli (1975) noted that teaching experiences between siblings are a natural component of typical sibling relationships, especially in the behavior of an older sibling directed toward a younger member of the family. Schreibman, et al., (1983) conducted a study investigating the effectiveness of a program designed to teach behavior modification procedures to typically developing siblings of autistic children. Participants included three sibling pairs. Each pair included one younger child diagnosed with autism (ages 8, 8, and 5). Typically developing children were older siblings ages 13, 11, and 8. Children were assessed prior to and after they were trained in behavior management procedures, which were used to teach a variety of learning tasks. Results of the study of Schreibman, et al. (1983) indicated that the siblings learned to use the behavior management procedures correctly and used them in generalized settings. There were also observed improvements in their siblings' behavior. Additionally, a social validation assessment of the typically developing sibling's statements about their brother or sister with autism

indicated a decrease in negative statements and an increase in positive statements after the training.

Lobato and Tlaker (1985) also studied a sibling pair's interactions with the implementation of a behavior management program. In their case study, a 21-year-old sister served as the primary therapist in teaching her 13-year-old brother with Down Syndrome how to perform independent toothbrushing and bedmaking skills. Results suggested the sibling who participated in the training effectively acquired the targeted skills. In addition, participants and family members reported being pleased with the program's success.

Career Interests

Interests can be defined as "those things that a person does for fun or a person enjoys" (Reardon, Lenz, Sampson, & Peterson, 2000). Costanza and Lehman (2004) note that interests are largely related to the pleasure or satisfaction that an individual will experience with his or her career. They explained that, while many people choose a profession or career based on their interests or what they believe they would enjoy, this does not guarantee that they will be successful in their endeavors. Although interests do play a significant role in the job satisfaction an individual will experience, aptitude is also a key factor that impacts the amount of success an individual will find in his or her profession. Some of the influences on these interests, according to Costanza and Lehman (2005), include age of student, gender, ethnicity, and family influences.

Costanza and Lehman (2004) point out that, as with all likes and dislikes, career interests also develop over time. The rate of development varies greatly among individuals. The progression of an individual's development largely influences the stability of particular career or vocational interests. Levinson (1993) explains research shows that children's career interests are generally unstable in childhood and

early adolescence. During this time, their families, peers, and experiences in recreational and educational settings largely influence career interests. Levinson goes on to note, however, that theorists claim when students reach their middle teenage years, interests appear to stabilize and play a critical factor in vocational decisions and planning.

Career Development Theories

According to Levinson (2004), developmental theories assume that the choice of a career is an orderly and rather predictable progression that consists of a sequence of well-defined, and hierarchical stages. These stages are based on the issues, roles and conflicts that most individuals face at given periods of their lives, and provide a birth-to-death perspective of vocational maturation. He explains that, as with other aspects of development, the age and rate at which individuals progress through each of these vocational stages will vary. These stages provide guidelines that can be used to assess whether a student is progressing at an average rate in his/her vocational development. These stages also provide guidance as to what career related goals and objectives might be appropriate to set for individuals at various times in their educational careers.

Super's 1957 Model of Career Development

There are a number of theories on how children's career development progresses. One theorist, who has provided significant research in the field of vocational development, is Donald Super. Levinson (2004) reported Super has devoted almost 50 years to the study of vocational development. According to Giannantonio and Hurley-Hanson (2006), Super's 1957 Model of Career Development has greatly influenced research on career stages. Super (1957) describes five stages individuals go through in their careers, which include the growth, exploration, establishment, maintenance, and disengagement stages. The stages most relevant in

understanding interest development and transition planning are the growth and exploration phases.

During the growth stage, an individual begins to develop his or her self-concept (Super, 1957). Levinson (1993) explains that the growth stage includes children from birth to approximately 14 years of age. It involves gaining awareness of the self as well as the world of work. The growth stage is further broken down into substages, fantasy, interest, and capacity. During the fantasy substage, birth to age 10, children name career choices based on their fantasy play. It is during the interest substage, at 11 to 12 years of age, that children start to gain an awareness of their likes and dislikes and become conscious of their interests. Although their career interests are not stable, children's interests begin to become more based in reality (Levinson, 1993). In the capacity substage, age 13 to 14, adolescents begin to become more alert and aware of their particular strengths and weaknesses and their aptitudes may begin to influence their career choices.

During the exploration stage, individuals collect more specific information about themselves and the world of work. The stereotypes learned in the growth stage are refined as adolescents and young adults learn more about the world of work. They obtain more accurate information about specific interests and capabilities related to occupations in an attempt to implement their self-concept at work and in other life roles (Super, 1957). According to Levinson (1993), individuals from 15 to 24 years of age are typically within the exploration stage. It is during this time when individuals begin to search various vocational options and begin to implement a vocational choice (Levinson, 1993).

As with the growth stage, there are three substages of the exploration stage. The substages include: tentative, transition, and trial. The tentative substage occurs between 15 and 17 years of age and is

when the individual begins to acquire the necessary skills for employment in that career. The trial substage, from 22 to 24 years of age, involves the individual obtaining a job and beginning to assess his or her satisfaction, or suitability, with the particular career (Levinson, 1993).

Gottfredson's Theory

Gottfredson (1981) offers another theory on the development of occupational aspirations. She highlights the self-concept as a useful link with which to integrate the process and organizational approaches to career development. She defines self-concept as "one's view of one-self, one's view of who one is and who one is not" (Gottfredson, 1981). The self-concept is composed of different elements, ranging from appearance to major life roles. The major vocationally relevant elements are gender, social class, intelligence, and vocational interests, competencies, and values. These elements are integrated into one's self-concept at different stages of cognitive development as one's self-concept and view of the world become more differentiated and complex (Gottfredson, 1981). Costanza and Lehman (2004) noted that based on Gottfredson's theory, children's occupational decisions are dependent upon age-specific themes that the child is experiencing.

The first stage in Gottfredson's theory of development is that of orientation to size and power. During this stage of development (ages 3 to 5 years), children grasp the concept of being an adult. Gender self-concept is developed in the second stage of development and is known as the orientation to sex roles. This stage occurs with children who are approximately 6 to 8 years of age. Children then enter the stage of orientation to social valuation around the ages of 9 to 13. During this stage, children develop more abstract self-concepts and are more attuned to their own internal feelings and distinctive capacities. Social class and ability become important determinants of social behavior and

expectations in children. The fourth stage is an orientation to the internal, unique self, which begins around the age of 14 and is often referred to as the adolescent identity crisis. It is not until students reach this stage that they begin to make career choices based on their unique personal characteristics (Gottfredson, 1981).

Roe's Theory of Career Choice

According to Levinson (1993), Roe's 1956 theory of career choice is a psychodynamically oriented theory based in part upon Maslow's 1954 need-based theory of motivation. These needs are arranged in hierarchical order and include physiological needs, safety needs, belongingness needs, esteem needs, a need for information, need for beauty, and self-actualization needs. Levinson notes that lower order needs are of higher strength than are higher order needs and will take precedence in motivating behavior. This suggests that physiological needs will motivate behavior. Once those physiological needs are met, safety needs will motivate behavior, and so on. Roe's theory was an effort to explain how unconscious needs, genetic influences, and early childhood experiences influence personality development and career choice.

Roe (1956) believed that the emotional climate in the home and parent-child interactions influenced eventual career choice. Levinson (1993) explained that, depending upon the type of home environment a child is exposed to, the child will develop a certain orientation toward people. These orientations then lead individuals to migrate toward certain occupations that are consistent with the orientation that was developed. Roe identifies eight occupational groups: service, business contact, organization, technology, outdoor, science, general culture, and arts and entertainment. The relationship between these groups is represented by a circular arrangement. The placement within the arrangement is based on the intensity and nature of the interpersonal relationships involved in

the occupational activities. Occupations that are closer to each other on the circular configuration are more alike than non-adjacent fields. Within each occupational area, occupations can be categorized by levels. They are professional and managerial 1 (consists of important, high-level responsibilities and often require a doctoral degree or its equivalent), professional and managerial 2 (consists of medium-level responsibilities and often require education at or above a bachelor's degree), semiprofessional and small business (consists of low level responsibility and requires education at the high school or technical school level), skilled (requires apprenticeships or other specialized training experiences), semiskilled (requires some training, but less formal and less specialized than those of skilled occupations), and unskilled (requires no special training or education).

Based on Roe's theory, Levinson (1993) explained that an intelligent child from an accepting, high socioeconomic status home, who applies considerable energy in the pursuit of her education, and possesses high vocational goals, may migrate into a service related occupation like psychologist, counselor, or social worker. On the other hand, a child from a low accepting, low socioeconomic status home, who puts considerably less energy in the pursuit of higher education, and who possesses considerably lower vocational aspirations, may move toward a service related occupation like taxi driver, waiter, or bellman.

Social Cognitive Career Theory

Social cognitive career theory, presented by Lent, Brown, and Hackett (1994), describes the processes through which people form academic and occupational choices, and achieve varying levels of success in school and work. Social cognitive career theory focuses on several cognitive-person variables, and how these variables interact with other aspects of the person or his or her environment to help shape the course of career

development (Lent, Brown, & Hackett, 2000). Social cognitive career theory emphasizes the interaction between three key variables: self-efficacy, outcome expectations, and goals. Self-efficacy, or one's ability to successfully carry out a given task or group of tasks, helps to determine whether an individual will initiate, persist, and succeed at particular endeavors. Successful completion of tasks enhances self-efficacy and subsequently raises the probably of future effective performances. When one fails at his/her endeavors, self-efficacy tends to diminish (Lent, Hackett, & Brown, 1999).

While self-efficacy refers to expectations about ones performance, outcome expectations refer to beliefs about what will happen based on the performance and is related more to consequences of the behavioral effort. Goals, the third variable in social cognitive career theory, refer to one's determination to engage in a given activity or to affect a particular outcome. Through selection of goals, people help guide their own educational and vocational behavior (Lent, et al., 1999).

Lent, et al. (1999) indicate that social cognitive career theory highlights six interconnected processes that are apparent at various developmental periods. These processes include: acquisition of positive yet realistic self-efficacy and outcome expectations; development of academic and career interests; the formation of connections between interests and career-related goals; transformation of goals into actions; development of academic and work skills and remediation of performance-related problems; and negotiation of social supports and barriers that affect the development of self and occupational beliefs and the pursuit of preferred academic/career options.

Holland's Theory of Personality and Work Environments

Holland's theory of vocational personalities and work environments currently serves as one of the most accepted and well-known trait-factor

theories for exploring the relationship between personality and occupational choice (Keith & Stiffler, 2004). Holland's theory is widely popular in the area of vocational psychology and has significantly influenced career counseling approaches and the organization of occupational information in high school and college career counseling programs (Costanza & Lehman, 2004).

According to Levinson (1993), Holland's work is based on common sense and vocational stereotypes that have been validated by research. These vocational stereotypes are what allow people to form impressions of others and to assign characteristics to them when nothing is known about them except the type of work they do.

Holland (1997) explains that cultural and personal forces, such as parents, social class, culture, and the physical environment, shape people in different ways. From these experiences, people learn to prefer certain activities to others. In time, these preferred activities become strong interests, which tend to lead to a special group of competencies. Holland explains that a person's interests and competencies create a particular personal disposition that leads to thinking, perceiving, and acting in certain ways. This developmental progression does not end in young adulthood but continues to develop, depending on the different environments people come upon in their lifetimes.

Costanza and Lehman (2004) note that central to Holland's theory, is the idea that both people and work environments can be meaningfully classified into six types: realistic (R), investigative (I), artistic (A), social (S), enterprising (E), and conventional (C): (RIASEC). They note that Holland's RIASEC model has greatly impacted vocational-interest assessment and the categorization of occupations.

Keith and Stiffler (2004) coauthored a chapter related to vocational personality assessment in the publication, *Transition from School to Post-*

School Life for Individuals with Disabilities. The publication was written from a school psychologist's perspective and aimed to provide insight and recommendations for the transition of students to post graduation plans or work with regard to one's vocational personality. They provided a detailed description of the various Holland personality types. According to Keith and Stiffler (2004), realistic personality types exhibit manual, manipulative, technical, and mechanical skills and prefer activities that utilize machines and tools for problem solving. They are observed to not engage in therapeutic or educational activities and do not possess strong interpersonal or verbal skills. Valuing concrete things and expressing opinions characterize the realistic personality type.

The investigative personality types display intelligent, analytical, independent, rational, and scholarly skills. They convey an interest in systematic and creative investigation activities that inspect biological, physical, and cultural phenomena. Mathematical and scientific skills are acquired by the investigative personality while leadership and interpersonal skills are not perceived strengths (Keith & Stiffler, 2004).

Keith and Stiffler (2004) characterized the artistic personality orientation as being original, creative, autonomous, and a non-conformist. These individuals prefer unstructured, independent, and unsystematic activities that require the manipulation of physical, human, or verbal materials. They demonstrate an aversion to routine, systematic, and highly organized activities. Artistic types develop skills in art, dance, music, drama, or writing and display deficits in office related and clerical skills.

Social types express an interest in interacting with others with the intent of training, enlightening, curing, or helping others. Social types display strong verbal and interpersonal skills. These individuals show an aversion to activities that require the utilization of tools and machines

and also develop deficits in technical and manual competencies. Social types are described as generally being cooperative, sociable, helpful, patient, generous, warm empathetic, kind, idealistic, and understanding (Keith & Stiffler, 2004).

The enterprising person tends to be aggressive, ambitious, talkative, energetic, assertive, and domineering. They find importance in wealth, status, and power and prefer activities that involve the manipulation of others for obtaining economic gain or achieving organizational goals. They do not favor observational, scientific, or symbolic activities and demonstrate deficits in scientific competencies. Enterprising types demonstrate interpersonal, leadership, and persuasive competencies (Keith & Stiffler, 2004).

Lastly, conventional individuals prefer clerical and office related types of activities including organizing, business machine operating, and filing. They acquire clerical, business-system, and computational competencies; however, artistic skills are demonstrated deficits. Conventional types have a tendency to be careful, orderly, precise, efficient, obedient, unimaginative, practical, and inflexible. They choose highly organized and structured activities that require the systematic manipulation of data (Keith & Stiffler, 2004).

Holland (1997) suggests that individuals tend to surround themselves with others like themselves who share their interests, competencies, and outlook on the world. Consequently, where people gather together, they create an environment that reflects their personality. These work environments can be assessed much like each personality type. Holland (1997) proposes six model work environments that correspond to each of the six personality types. Each environment presents specific demands and requirements to the person. Work environments also reinforce basic traits in people and withhold reinforcement of other traits.

People seek environments that will let them implement their skills and abilities, express their attitudes and values, and take on agreeable problems and roles. For example, realistic types seek out realistic environments and social types seek social environments (Holland, 1997).

According to Holland's theory, Costanza and Lehman (2004) explain, the relationship among the six personalities and work environments can be depicted in a hexagonal structure. With this model, the types (RIASEC) that are adjacent to each other are considered to be more similar than those that are more distant. Holland (1997) believes that some personality types are more similar and more closely related to one another than are other types. The term consistency refers to the idea that adjacent types on the hexagon are most alike or have compatible interests, personal dispositions, or job duties. Holland's hexagonal model provides an easily grasped means of understanding and integrating interest and occupational information with respect to the similarity of types and occupations, and allows predictions to be made about optimal person-environment match. Please refer to Figure 3 of Holland's Hexagonal Diagram of personality codes.

Similarly, Holland (1997) explains that the hexagonal model can approximate the degree of congruence between a person and an occupation. The shorter the distance between the personality type and the occupation type, the closer the relationship. For example a realistic (R) person is the most congruent with a realistic (R) job. A realistic (R) person is the most incongruent with a social (S) job.

Keith and Stiffler (2004) noted that while no one personality orientation can solely describe any one person accurately, a combination of the six personality orientations best describes an individual's personality. Holland encourages the development of a three-letter code to describe personality, which is found in many interest inventories, such as

the Self-Directed Search. Holland (1997) explains that some people or environments are more clearly defined than others. This is known as differentiation. For instance, a person may closely resemble a single type and show little resemblance to other types and show a great degree of differentiation. In contrast, a person who resembles many types or an environment that is characterized by about equal numbers of workers in each of the six types, demonstrates a small degree of differentiation. Well-defined or highly differentiated people or work environments are most likely to exhibit the characteristics attributed to their codes, whereas poorly-defined types or environments are least likely to exhibit the expected characteristics or influence.

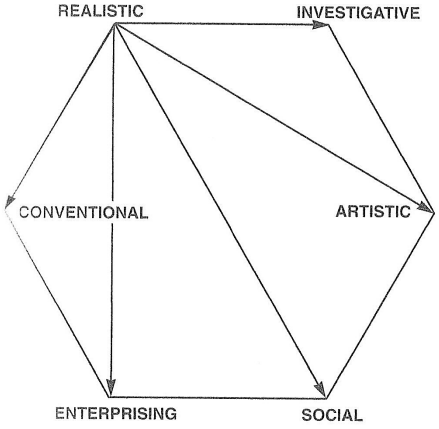

Figure 3: Hexagonal diagram of Holland's personality codes. Reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc. 16204 North Florida Avenue, Lutz, Florida 33549, from the Self-Directed Search Professional Manual by John L. Holland, Ph.D., Copyright 1985. Further reproduction is prohibited without permission from PAR, Inc.

Holland's Self-Directed Search (SDS)

As a means of assisting counselors and employers in helping individuals find their best match with interests and work environments,

Holland designed the Self-Directed Search (1994). The SDS is the primary instrument for the practicing career counselor. Since its first appearance in 1971, it has become one of the most widely used instruments in the helping professions (Krieshok, 1987). Camp and Chartrand (1992) noted that John Holland's theory of vocational choice has survived nearly 25 years of empirical examination and remains the premier theory in the vocational literature.

The Self-Directed Search is an assessment tool used to assist in identifying an individual's interests and personality type. According to the manual, the SDS was developed with two main purposes: to increase the number of clients that a counselor can help and to offer a career counseling experience for individuals who do not have, or who do not desire to have, access to a vocational counselor (Holland, 1997).

The Self Directed Search uses a "like/dislike" or rating format to assess an individual across four scales: activities, competencies, occupations, and self-estimates. Results provide a three-letter code from the six dimensions that reflect the RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) model on which the instrument is based (Brown & Brooks, 1996). Holland (1997), explains that the highest three scores represent the person's three-letter Holland code which is then linked to occupations and programs of study that have corresponding codes. Miller (1994) gave the example that a 3-letter code of SAE would indicate a client who resembles most the social type, followed by progressively fewer resemblances to the Artistic and Enterprising types. Corresponding work environments identified by the SAE code would include such occupations as counselor, teacher, and speech therapist.

A study by Miller (1999) researched the similarity between anticipated career selection and Self-Directed Search scores. Seventy-nine

students completed the Self-Directed Search and answered the following question, “What type of career are you presently thinking about pursuing?” Participants were junior and senior high school students between the ages of 15 and 19 years of age. The majority of the participants (96%) were Caucasian. Based on their response, students were given the corresponding Holland, three-letter code. The Self-Directed Search was administered and results were analyzed between SDS scores and their predicted career endeavors after graduation. Results indicated a reasonably close agreement between SDS scores and anticipated career pursuits after graduation among this population.

Miller, Springer, and Tobacyk (2004) also found a moderate degree of similarity between occupational daydreams and SDS scores among undergraduate students. They administered the Self-Directed Search to 61 students in an undergraduate level psychology course at a southern university. Participants were asked to provide biographical data as well as answer the question, “If you could obtain any job you wanted regardless of ability or years of training, which job would you choose?” A moderate degree of similarity was found between occupational daydreams and the results of their Self-Directed Search (SDS) three letter Holland code. With a moderate degree of similarity, the results suggested that career counselors should at least consider asking clients about their occupational daydreams early in the counseling process. Daydreams may provide an intrinsically appealing and global index of the client’s orientation to the world of work.

Schuttenberg, O’Dell, and Kaczala (1990) conducted research investigating the vocational personality types and sex-role perceptions of teachers, counselors, and educational administrators. As part of the study, Schuttenberg, et al. administered the Self-Directed Search (SDS) to assess vocational personality type. Analysis of the data revealed that

the social vocational orientation was the dominant one for teachers, counselors, and administrations in the sample. Of the total group, 57% had the social (S) as their dominant orientation or the social (S) score was tied for dominance with other orientations. The comparable figures for the three subgroups were: teachers, 51%, counselors, 76%, and administrators, 43% having the social (S) orientation. Also, results suggested that 95% of the respondents in this study reported that they derived great to moderate satisfaction from their current positions.

Other studies have documented the dominant social (S) Holland type within the education and counseling fields (Miller, 2006; Place, Payne, & Rinehart, 1996). Place et al. (1996) investigated reasons for career choice among African-American college students using the Self-Directed Search and a questionnaire. African-American individuals at a large mid-western university were asked to participate. Education majors responded higher on the social (S) score and lower on the enterprising (E) score when compared to non-education majors. In addition, those who were education majors were more influenced by personal satisfaction than financial reward when choosing careers, when compared to non-education majors.

Miller (2006) conducted a descriptive study of counselors-in-training using the Self-Directed Search. Participants were volunteer graduate students in psychology-counseling master's degree programs at a medium-sized southern university. Miller was interested in investigating a person's counseling orientation style with their Holland code. There was a moderate relationship between counseling types and Holland codes. Of most significance, however, was the overwhelming dominance in the social (S) type in the first position of the three-letter code. Only 4 of 62 individuals within the sample had a Holland type other than social (S)

in the first position. These findings suggest that counseling is a social occupational environment dominated by social types.

Similarly, Toomey, Levinson, and Morrison (2008) conducted the first empirical test of the vocational personality of school psychologists in the United States. Using Holland's Theory of Vocational Personality and Work Environments, a randomly selected group of psychologists from the National Association of School Psychologists (NASP) was surveyed to identify their vocational personality type. They found that the social (S) type is the dominate personality of school psychologists.

Developmental Factors of Career Choice

A major developmental task of adolescence is the creation of some type of career plan, a plan that in part derives from, and in turn influences, the adolescent's identity exploration and commitments. Schulenberg and Goldstein's (1991) review of the literature, suggests that there are several reasons why initial and consequential decisions regarding one's career are made during adolescence. Adolescents begin to have a more adult-like perspective on the world due to an increased capacity for hypothetical thought and propositional logic. They also have an increased cognitive capacity, along with the expansion of future time orientation, which may encourage the adolescent to realistically envision his or her occupational future. In addition to individual variables, there are cues from the adolescent's context, such as parents, peers, guidance counselors, and part-time work experiences that serve to facilitate career planning.

Goldstein and Vondracek (1991) indicate that there is a fair amount of predictability between adolescent career plans and adult occupations due to the stability of some individual and contextual characteristics between adolescence and adulthood. They also note that initial career decisions often make other career options less likely. They went on to

report that the odds are better than average that an adult is in an occupation that he or she anticipated during high school.

Researchers and practitioners continue to be interested in the stability of career interests. Mullis, Mullis, and Gerwels (1998) stressed the importance of understanding more about the career preferences of younger adolescents and indicated that, in doing this, educators and counselors can assist in designing programs and instructional strategies that better meet the needs of this age group. Schulenberg, et al., (1991) agreed noting that career interests are considered crucial to career decision making.

Sex

Career aspirations of young women and men appear to be predisposed in part by personal attitudes regarding proper female/male behaviors. These attitudes of experiencing a set of distinct behaviors and responsibilities within a group reflect gender role stereotyping (Costanza & Lehman, 2004). Costanza and Lehman (2004) acknowledge that it is not surprising that gender roles and stereotyping influence student's preferences and interests for certain vocational aspirations.

According to Mullis, et al. (1998), knowing developmental patterns of career preferences can help professionals expose male and female adolescents to a broader range of options. This is an important issue because of inconsistent findings with regard to the stability of sex differences in vocational interests. Through a review of the literature, Mullis, et al. (1998) found that experts have argued about sex role differences. Some believe that traditional sex roles have become arbitrary and sex differences in career interests may be diminishing. Others have concluded that, despite a heightened consciousness, sex differences in vocational interests have remained stable.

Mullis, et al. (1998) examined the stability of vocational interests among high school students. Their study included 271 freshmen that ranged in age from 14 to 15 years of age. They were predominately Caucasian and from two-parent families (88%). Parental occupations were categorized as professional, unskilled, and skilled. All mothers and fathers completed high school and 48% had attended or completed college. Participants were administered the Strong-Campbell Interest Inventory (Hansen & Campbell, 1985), which includes RIASEC occupational themes, as well as 23 basic interest scales.

Results of the Mullis, et al. 1998 study, investigating the stability of vocational interests among high school students, indicated that students were generally consistent in their career interests over a three-year period. Gender and parental occupation were found to relate to career interests of adolescents. The most dramatic gender differences were found for the realistic, social, and conventional themes. Males had higher mean scores on the realistic theme, whereas females had higher scores on the social and conventional themes. Gender differences were found to be stable across time for the realistic, artistic, social, and conventional themes. Females scored significantly higher than did males on the social, artistic, and conventional themes. Similarly, Schulenberg, et al. (1991) reported substantial gender differences on most career scales, with gender differences consistent with traditional sex-role stereotypes, such as males scoring high on science and technology related interests and females scoring higher on art and service related interests.

Likewise, Osborn and Reardon (2006) analyzed results of middle school students' SDS scores. The most common Holland codes by gender for these middle school students were artistic and realistic for boys and artistic and social for girls. The most common aspirations for girls were teacher, lawyer, and singer, while professional athlete, lawyer, and

doctor were the most common for boys.

Families

In addition to the relevance of gender in emerging career preferences, families, particularly their work patterns and social position, have a profound influence on their children's career interests. Costanza and Lehman (2004) offer the example that it is not unusual for children to take over family businesses or for families to consist of generations of doctors, lawyers, farmers, or teachers. Similarly, Wahl and Blackhurst (2000) suggest that children tend to identify with the adult workers in their lives.

Family influence on career decision-making has long been recognized as an important factor by most vocational theorists (Osipow, 1983). Parents affect their children's career choices by being role models, influences on children's self-concept, occupational motivators, job information resources, and providers of the developmental environment (Shoffner & Klemer, 1973).

Early research conducted by Holland (1962) indicated that both boys and girls aspire to careers of their fathers. However, Trice and Knapp (1992) acknowledge there is an updated research base suggesting that the mother's role may influence some occupational clusters. Trice and Knapp (1992) surveyed 97 fifth grade students and 153 eighth grade students from two public schools. Participants were both male and female regular education students from two-parent households. Students were asked information about sex, age, and occupations of adults living within the household. They were also asked to specify their relationship to these adults and to indicate their career preference. Parent careers and student career preferences were recorded using a Holland three-letter code. In both age groups and with both sexes, the similarity between children's aspirations and mother's occupation were higher than the similarity

between father's occupations.

Trice and Knapp (1992) indicate that these data may reflect a change towards mothers in the origins of children's career aspirations. They suggest that one possible explanation may be that mothers' jobs have become more interesting and prestigious, and therefore more desirable to children. Another possibility offered as to why mothers have increased their significance in influencing their children's careers is that children know more about their mother's jobs compared to their father's jobs. In Trice and Knapp's study, children were more accurate in reporting their mother's occupation than their father's occupation. It was also noted that children are three times more likely to have visited their mother's workplace than their father's workplace.

Miller, Wells, and Springer's (2003) review of the literature recognized that the role of parents as primary determinants of children's career development has been documented both theoretically and in research on careers. They themselves conducted a small-scale study hoping to broaden the research on this relationship between parent personality types and personality types of the parents' children by using Holland's (1997) theoretical model. Miller, et al. (2003) expected that if parents have a significant influence over children's career choices, then one might expect a relatively high congruence between their respective personalities.

Results suggested only a moderate degree of congruence between parents' and their children's personality types (as defined by Holland's three-letter code). It was concluded that the lack of high congruency between parents' and children's three-letter code may be explained in light of the many variables that enter into adult career decision-making. These decisions often involve a dynamic interrelationship among a number of factors, including abilities, work values, occupational stereotypes and

expectations, gender, interests, personality factors, educational achievement, status, level of aspiration, genetic endowment, and chance encounters, as well as child rearing practices and family influences. Miller, et al., (2003) also noted that the vocational decision-making might depend heavily on the individual making the choices. They went on to suggest that perhaps as children mature and become increasingly independent, family influence lessens and vocational preferences result more from a complex series of interactions with one's immediate environment.

Birth Order

Sullivan and Schwebel (1996) note some of the uniqueness each sibling experiences in the physical and psychological family environment is related to his or her birth-order position in the family constellation. Siblings share many common experiences in the family environment, are exposed to similar attitudes and values from their parents, and have similar economic and social resources. However, siblings also have a unique set of experiences associated with their birth order, as mentioned earlier in this chapter. Sullivan and Schwebel (1996) indicated that firstborn and only children tend to acquire attitudes and behaviors that lead them to drive themselves harder and achieve more intellectually and vocationally than children in other birth order positions.

Because of an interest in the relationship between birth order and vocational interest, Bryant (1987) investigated 163 students, 65 firstborns and 98 lastborns, and compared their results of the Strong-Campbell Interest Inventory. Subjects were female students attending a private sex-segregated Catholic high school. Although the population of the study was quite limited, results indicated statistically significant differences between the scores of firstborn and lastborn females on the various measures of vocational interest.

Firstborns were more comfortable with, more oriented toward, and more likely to be successful in academic pursuits. Firstborns demonstrated a vocational preference and related personality traits that might include a desire and ability to work with others and to have facility with language and abstract processes. They also demonstrated a need for independence and a career that was self-sufficient and involved directing others. Specific occupational preferences that were significant among firstborns included: teaching, office practices, medical science, science, business management, and merchandising. Laterborns in this study demonstrated only one specific occupational preference, athletics (Bryant, 1987).

Another study conducted by Phillips, Bedeian, Mossholder, & Touliatos (1988) attempted to investigate the relationship of birth-order to work-related personality variables. They administered the California Psychological Inventory to 835 subjects. All subjects were accountants in the public sector, government, and industry. Their results suggested that firstborn subjects scored higher than lastborns on each measure for dominance, good impression, and achievement via conformity. There were no differences found for measures of managerial potential, achievement via independence, and sociability.

White, et al. (1997) were interested in pursuing studies of birth order further by addressing psychological birth order, which is one's psychological perspective of one's birth order. Participants were 491 first-year college students with an average age of 18.24 for females and 18.13 for males. Participants were asked to complete the UNIACT Interest Inventory along with the White-Campbell Psychological Birth Order Inventory (PBOI). Results suggested that oldest child scores were significantly related to the social and business contact areas. This indicates that the more an individual identifies with the need to strive

for perfection and please others, the greater interest he or she may express in socially oriented careers requiring interpersonal abilities. In contrast, decreased interest in enterprising careers is likely to be expressed by those with the same personality traits. Youngest child status was significant for both the science and technical scales. In both cases the relationship was in a negative direction, suggesting that increased feelings of helplessness or the need to be pampered may be related to decreased interest in investigative and mathematically oriented fields. Careers in creative fields appear not to be significantly related to perceived position in the family. This was also true for career preferences when considering work with people and/or things.

In evaluating the total pattern of career interests that an individual has, White, et al. (1997) found that interests do not vary significantly based on the individual's psychological birth order. The results suggest that it is not the birth order itself that is important, but the pattern of behaviors and attitudes that surface from family experiences, that play a role in career interests.

Socio-economic status

When Mullis, et al. (1998) examined the stability of vocational interests among high school students, they also found relationships between career interests and social class and social influences. Using Holland's RIASEC codes, Mullis, et al. (1998) found that students with parents in unskilled occupations scored high on the realistic theme, whereas students with parents in professional and skilled occupations generally scored higher on the artistic, social, and conventional themes. The researchers concluded their findings highlight the importance of family and community on adolescent's occupational opportunities. Mullis, et al. (1998) stress the importance of recognizing that occupational awareness is strongly influenced by socio-cultural experiences.

Valadez (1998) conducted research investigating the differences among students applying to college in terms of gender, race, and socioeconomic status. Participants for this study were drawn from the base year and the first and second follow-up surveys in the National Educational Longitudinal Study of 1988. Students who remained at the same school for their 10^{th} to 12^{th} grade year who also expressed aspirations for completing a 4-year college degree were selected to participate. Using these filters, a final sample of 10,080 students was identified. Of the variables considered of most interest in this study (race, class, and gender), it was social class that had a significantly large effect in the predicted direction. Higher socioeconomic status groups were more likely than lower socioeconomic status groups to apply to college. In general, the effects of race and gender were mediated by socioeconomic status. Valadez concluded that students from low socioeconomic backgrounds do not have access to essential resources, and are not as skilled at capitalizing on available resources as students from higher socioeconomic backgrounds.

Trusty, Ng, & Plata (2000) attempted to investigate the interaction effects of gender, socioeconomic status, and race-ethnicity on postsecondary educational choices. Data were analyzed from a nationally representative sample of late adolescents who were two years beyond high school and who had attended a nonmilitary postsecondary institution. Racial-ethnic groups studied were the five major U.S. racial-ethnic groups: Asian/Pacific Islanders, Hispanics, Blacks, Whites, and Native Americans. Educational choices were determined by assigning the predominant Holland type (RIASEC) to students' postsecondary majors.

When considering the variable of socioeconomic status in men, the strongest relationship between socioeconomic status and Holland type of major was in the realistic (R) category. As socioeconomic status increased there was a sharp decrease in participants' selecting realistic (R)

majors. As socioeconomic status increased, there was an increase in artistic (A) majors among men. Generally, for conventional (C) types of majors there was a low to moderate change, but an increase was noted in conventional (C) majors from moderate to high socioeconomic status individuals (Trusty, Ng, & Plata, 2000).

Similarly, for women, strongest relationships were shown for conventional (C), artistic (A), and realistic (R) Holland types. Increases in socioeconomic status resulted in a decrease in conventional (C) and realistic (R) careers. Increases in socioeconomic status resulted in a greater number of participants choosing artistic majors. Only moderate differences were found among other Holland types when comparing them to socioeconomic status (Trusty, et al., 2000).

Race and Ethnicity

The growing diversity among students requires an understanding of the role of racial and cultural influences on career development. Costanza and Lehman (2004) indicate that the student's socialization and acculturation within a minority culture can affect vocational interests and career choices. Minority children often embrace values that differ from those of the dominant culture. These values may include the meaning placed on interpersonal relationships and helping behavior versus task achievement. Likewise, importance may be placed on the goals and needs of a group or family rather than the individual (Costanza & Lehman, 2004). It is also important to remember, however, that two individuals from the same race may have similar values, attitudes, or beliefs, but may also have very different cultural make-ups. Therefore, Costanza & Lehman (2004) emphasize that assumptions about cultural stereotypes should not be made. They suggest focus be placed on guiding the student toward the educational program or work environment that best matches his or her interests.

Kerka (2003) notes that research on career issues for minority groups has been described as limited and sparse. She explained that traditional career development theories and models follow the assumption that everyone has free choice among careers, that career development is a linear, progressive, rational process, and that individualism, autonomy and centrality of work are universal values. She notes that career development research sometimes neglects important determinants such as racism, sexism, family background and opportunity in racial and ethnic minority populations.

Although individuals and specific groups have different experiences, there are some frequent career-related issues faced by diverse populations. Their career choices may be constrained by socialization, access to guidance and assessment, tracking into certain fields, societal and self-stereotypes, isolation from networks, and early schooling experiences. Obstacles for this population in reference to career development may include lack of developmental feedback or mentors, discrimination in promotion/transfer, tokenism, hostility, plateauing, less access to training, perceived isolation, stress, or self-imposed performance pressure. It was noted that factors such as world view, identity, values, and context influence career choices of diverse individuals (Kerka, 2003).

Trusty, et al. (2000) attempted to investigate the interaction effects of gender, socioeconomic status, and race-ethnicity on postsecondary educational choices. Because of interactions among variables such as gender and socioeconomic status when examining ethnicity, many conclusions were dependent upon those variables. A few conclusions were drawn on choices of majors among different racial-ethnic groups. Asian/Pacific Island men and women chose investigative (I) majors frequently. Asian/Pacific Island men did not typically choose realistic

(R) majors. Selecting a particular type was mostly dependent on gender and socioeconomic status for Asian/Pacific Islanders, Hispanic, Native American, and Black men and women. For Whites, differences between observed and expected frequencies were relatively small and were also a function of interactions among variables.

Careers and Siblings of those with Disabilities

A few researchers have proposed that the experience of being a sibling of an individual with a developmental disability influences career and occupational interests, values, and goals (Chambers, 2007; Cleveland & Miller, 1977; Farber, 1963; Grossman, 1972; Marks, et al., 2005). A number of theories of career development have linked personality to career choice. Possibly the most sound explanation of career development theory is offered by Holland's trait-factor theory. Holland's theory (1973) purports that a person's personality characteristics correspond best with certain occupations and serve as prerequisites for job success.

Based on Holland's theory, Konstam & Drainoni (1993) conceptualized that an individual will choose a career field if he or she perceives himself or herself to have the necessary qualities for success in that field. They went on to note that Holland's theory is compatible with the idea that siblings of individuals with a developmental disability develop personality traits as a function of their family environment. Previous research has concluded that siblings of children with disabilities have a better understanding and compassion for others, more sensitivity toward prejudices, are more tolerant of others, especially those with disabilities, and are more likely than their peers to value their own good health and intelligence (Grossman, 1972).

Konstam & Drainoni (1993) acknowledged that the few studies that have investigated career choices of siblings of individuals with a developmental disability seem to support Holland's trait-factor theory of

career choice. Most notably, Farber (1963) conducted a study exploring the interaction between children and their siblings with mental retardation and their life goals.

Participants in Farber's 1963 study included 83 boys and girls, aged 10 to 16, who had siblings at home with mental retardation. Participants were asked to rank a series of life goals in terms of the importance of each. Goals that were introduced were: be a highly respected community leader; be practical and serious minded; try to help friends enjoy life; focus around marriage and family; attain a high degree of success in a business or profession; have many close friends and be well liked; be devoted to a worthwhile cause; learn to accept hardships and to live with them; make a literary, philosophical or scientific contribution to mankind; and learn not to take life too seriously (Farber, 1963).

Results suggested both boys and girls who interact daily with their siblings with mental retardation placed less emphasis on having many close friends, on focusing life around marriage and the family, and on being a respected community leader, all of which are goals that are concerned with success in personal relations. Both boys and girls who had continuous interaction with their siblings with mental retardation ranked devotion to a worthwhile cause and making a contribution to mankind as high (Farber, 1963). Farber concluded that perhaps feeling that they are serving a welfare function in the family provides the frequent reinforcement with motivation to achieve in a welfare profession.

Differences occurred between frequently interacting boys and frequently interacting girls, in that boys placed a greater emphasis on success in business compared to the girls. Farber (1963) reported that the blend of welfare goals and fatalism found in siblings of those with disabilities could perhaps account for the high occurrence of sisters of siblings with handicaps in the helping professions such as nursing or

special education. Similarly, Grossman (1972) found that college students who had brothers or sisters with mental retardation were more prone to do volunteer work in human services than were those who did not have a sibling with mental retardation. While both Farber and Grossman's studies are classic and often cited, their results related to career choice of siblings with disabilities are dated.

But no studies built on the early work of Farber (1963) and Grossman (1972). In 1993, Konstam & Drainoni conducted another controlled study regarding career choice and siblings. They postulated that siblings of individuals with developmental disabilities would be more likely to channel their sensitivity and tolerance abilities into career choices that relate to these refined helping skills. It was hypothesized that siblings of individuals with developmental disabilities would be more apt to be motivated by altruistic needs and therefore select careers requiring social service values and interests.

The study included 27 adults, both male and female, who had siblings with developmental disabilities. Subjects were generally well educated and ranged from 26 to 53 years of age. A comparison group of 27 adults enrolled at a public university was also included. Subjects were asked to complete a questionnaire as well as The Study of Values, a paper-and pencil test assessing individual values. Results indicated an almost equal number of siblings from both groups represented in the helping professions. There was also no significant difference regarding the siblings' reported history of having previously worked in a helping profession, as an almost equal number of participants in each group reported working in the helping professions at some period in their lives. Similarly, no significant difference was found between the two groups in the reported amount of volunteer work in the human service setting. Although 55% of the total sample reported that they have engaged in

volunteer human service positions, the volunteers were just as likely to be those who did not have a brother or sister with a developmental disability (Konstam & Drainoni, 1993).

The results of Konstam & Drainoni (1993) suggest that the impact of having a sibling with a developmental disability may not influence one's vocational choice. According to the researchers, siblings of individuals with developmental disabilities did not channel their sensitivity and tolerance characteristics into career choices that called on their refined helping skills to any greater degree than did siblings of individuals without disabilities. These results contrast with the findings of Grossman (1972) and Farber (1963).

Konstam & Drainoni (1993) reported that the political and social context of the 1960's might have predisposed the participants in Grossman's 1972 and Farber's 1963 studies to enter the helping professions or to do more volunteer work in human services. They went on to suggest that it may be that the political, economic, and social context is different in more recent years, placing greater worth on the pursuit of individual accomplishment at the expense of commitment to social and altruistic goals. Caution was also suggested when addressing generalizability of the findings given the uniqueness of the characteristics of both groups. Both groups were described as being highly educated, which may have affected generalizability.

Burton and Parks (1994) researched the self-esteem, locus of control, and career aspirations of college-aged siblings of individuals with disabilities. The sample consisted of 60 students between the ages of 18 and 23 attending two state universities in the rural Pacific Northwest. Groups were formed based on having or not having a sibling with a disability. Questionnaires were given to each participant. As with Konstam and Drainoni (1993), no significant differences were found between

the career aspirations of individuals with disabled brothers and sisters and those of classmates with nondisabled brothers and sisters.

On the other hand, Marks, Matson, and Barraza (2005) interviewed a small sample of seven adults who had a brother or sister with a developmental disability and were in the field of education. All of the participants felt in some way that it was their life experience of having a sibling with a disability that led them down their career path. In fact, some said that if it were not for their sibling, they would have likely chosen a different career path. Other influential factors found consistently among the participants included: siblings having a desire to improve services for individuals with disabilities, feelings of responsibility for the brother or sister with a disability, wanting to contribute to helping improve the lives of their siblings and others with disabilities, a belief that they have been shaped to have an open mind and be more accepting of circumstances outside the norm, and having an interest in inclusive education. Also worth noting, a greater number of subjects had siblings with Down Syndrome as opposed to other disabilities, sibling pairs were more likely to be of the same gender, and all but one of the seven subjects was older than their sibling with a disability.

Similarly, Chambers (2007) conducted a qualitative study investigating the perspectives of people in the disability field who have a brother or sister with a disability. Chambers interviewed eight siblings of people with disabilities. Siblings had brothers and sisters with a broad range of disabilities, including mild disabilities, severe disabilities, and multiple disabilities. Two themes emerged regarding the reasons for choosing a career in the disability field. Participants mentioned motivations as related to their sibling and also indicated that they believed they had general experiences and opportunities that moved them toward the disability field. For some of the participants, entering

the disability field was natural and believed to be directly related to their sibling with a disability, whereas other participants indicated that the sibling experience was only indirectly related to their choice of profession. In most instances, the siblings did not intend on working with people with disabilities; it just happened. For example, one participant noted that he wanted to be a teacher and through his coursework, his direction dramatically changed when he took a class focusing on mental retardation.

Chambers (2007) also attended to the perceptions that these siblings had of the disability field. All of the siblings who participated in the interviews reported negative experiences or views of the disability field, particularly the school system. A majority of the siblings believed that they had much to offer to the disability vocation because of their exposure to the field through their siblings. They noted that their relationship with their sibling gave them insight into what families of individuals with disabilities face. Participants identified their perceived qualities as being those of empathy, understanding, patience, and perseverance. They also believed that their experience and qualities made them more creditable as professionals.

Qualitative Research

Recent studies of Chambers (2008) and Marks, et al. (2005) utilized qualitative approaches in their investigations. Jones (2002) reported that qualitative research typically focuses in depth on relatively small samples, even single cases at times, as in the Chambers and Marks, et al. studies. He also noted that qualitative research is flexible when determining sample size, as it has less to do with actual numbers of participants and much more to do with the quality and vigor of the information elicited through the research process. Guest, Bunce, and Johnson (2006) reported that determining an appropriate sample size of

nonprobabilistic samples is virtually nonexistent in the literature. They conducted a study in an effort to make recommendations regarding sample size for interviews. Based on their data set, they found that saturation occurred within the first twelve interviews, with basic elements present as early as six interviews; therefore, for most research enterprises, six to twelve interviews should suffice. Saturation occurs when no additional data are being found and the researcher eventually finds that no new categories or themes emerge in the coding of the transcripts. This signals that the data collection is complete (DiCicco-Bloom, & Crabtree, 2006; Guest, et al., 2006).

Interviews are among the most common strategies for collecting qualitative data (DiCicco-Bloom & Crabtree, 2006). Berg (2007) noted that an interview may be defined simply as “a conversation with a purpose” (p.89). As compared to structured or standardized interviews, semi-structured interviews allow for more flexible wording and adjusted language levels. The interviewer may answer questions and make clarifications, and the interviewer may add or delete probes to the interview between subjects (Berg, 2007).

Semi-structured interviews are often the sole data source in a qualitative research project and are typically scheduled in advance at a designated time and location outside of everyday events. Interviews are generally prepared around a set of predetermined open-ended questions, with other questions emerging based on the discussion between the interviewer and the interviewee. Most commonly, the interviews are only conducted once for an individual and take between 30 minutes to several hours to complete (DiCicco-Bloom & Crabtree, 2006).

To ensure accuracy of the participant’s responses in an interview, for documentation, and later for data analysis, audio taping is often conducted. Recorded data should be carefully guarded and generally

destroyed after transcription or once the analysis is complete (DiCicco-Bloom & Crabtree, 2006). There are also ethical issues involved with the interview process. DiCicco-Bloom and Crabtree (2006) consider four ethical issues, which include reducing the risk of unanticipated harm, protecting the interviewee's information, effectively informing the interviewees about the purpose of the study, and reducing the risk of exploitation.

Summary

In summary, there is a need for more research examining variables related to career choice, career aspirations of students who have siblings with developmental disabilities, and reasons for their choice. Previous research investigating this link has been sparse and studies have shown conflicting results from past to present. While early research suggests a correlation with having a sibling with a disability and entering helping professions, a later study poses that times have changed and individuals may be more interested in self-fulfillment and individual achievement at the expense of a commitment to social and selfless goals. The Self-Directed Search (SDS) is an interest inventory, supported by research. The SDS may provide information on personality type and whether or not siblings of those with disabilities have personality and work characteristics suited for the helping professions.

CHAPTER III

METHODS AND PROCEDURE

Introduction

The purpose of the study was to obtain information about students who have siblings with a developmental disability with a particular focus on their planned choice of profession following high school. Information was gathered from students and one of their parents. The study explored factors which might influence one's career decision and reasons for that choice. This research study investigated themes and commonalities among these children in terms of sex, birth order, and family size. Finally, comparisons were made between students who have a sibling with a developmental disability and students who do not have a sibling with a disability. This study utilized both quantitative and qualitative methods in addressing the research questions.

It was the researcher's intention to obtain a large enough sample to fully investigate the relationship of having a brother or sister with a developmental disability with one's career interests. The researcher wanted to statistically analyze the many variables related to career choice and one's family situation of growing up with a sibling with a disability. Despite efforts to obtain a large sample, a low rate of response was obtained, which limited the statistical analyses that could be performed. Alterations to the study were made and a shift towards a more qualitative approach occurred. Changes to the initial study included the inclusion of subjects outside of the public school system in southern Maryland and the addition of parent interviews to obtain qualitative data.

Permission was obtained to conduct research with students from a public school system in southern Maryland through the school system's Research and Assessment Department. A formal research request was completed and submitted to this department. After reviewing the request,

a representative from the school system provided an agreement letter, which included some stipulations. The school system required that the activities associated with the research occur outside of the school day at a mutually agreed upon time and date for the consenting parents. In addition, the researcher agreed to not have contact with the potential subjects until consent was obtained by the school system's administrative staff. The public school agreed to mail consent forms to potential subjects. Once the school system received the returned consent forms, the willing participants' consent forms were forwarded to the researcher. The school system, in their agreement letter, indicated that they would not be obliged to send follow-up letters to non-respondents. However, the research and assessment department later provided clarification through email correspondence and noted that this could be determined by the staff member conducting the first mailing. This representative was contacted through email communication and agreed to send the reminder letter. The researcher's contact information was required to not be a school system email address, address, or phone number.

Once permission was obtained from the school system, the university Institutional Review Board (IRB) reviewed the research proposal. The IRB recommended that the researcher not directly interview those participants who were currently students and families within the school where she worked. Alternative arrangements were then made so that this would be avoided. In the event that a subject was a student within the researcher's workplace, a doctoral level psychologist who was not affiliated with the school would conduct the interview. The additional recommendation of using Indiana University of Pennsylvania letterhead for consent forms was given.

Due to a low rate of response, the study was later opened to additional participants, who were members of the Association of Retarded

Citizens (ARC) in August, 2008. The director of child and family services of the ARC of a major Maryland city was contacted and agreed to send a flyer to the ARC's members through email in an effort to obtain an interest in participating in this study. The flyer included information about the study along with contact information about how to reach the researcher acknowledging their interest. Please refer to the research study flyer in Appendix C. The addition of this potential group of participants and the procedures for obtaining the participants was reviewed by the university IRB and approved.

A pilot study was conducted in May, 2007. The research materials were sent through a mailing to five high school students and their parents. Three responses were obtained. The pilot study was conducted to ensure accuracy of the mailing process and to ensure that participants understood their involvement and the questions that were asked of them. The pilot study results were favorable, because the forms were returned complete and appeared accurate, and the mailing process was timely with no postage complications. Suggestions made by those who participated in the pilot study included rearrangement of one of the questionnaire items and adding additional response items to one of the questions asking about career motivations. Those who did not have siblings with disabilities did not believe that there were enough options for them to consider on the questionnaire when asked about reasons for career preference. These suggestions were found to be valid and those two items were addressed prior to the formal mailing of questionnaires.

Design

A descriptive, correlational design was used for this study. Specifically, planned career choice served as the dependent variable, while variables including sex, birth order, and family size served as the predictor variables. The main variable of interest was the subject's

family situation of growing up with a sibling with a developmental disability. The Self-Directed Search was also utilized in associating the participants with an interest in pursuing a helping profession. Please refer to Figure 4 for the structure of the study design.

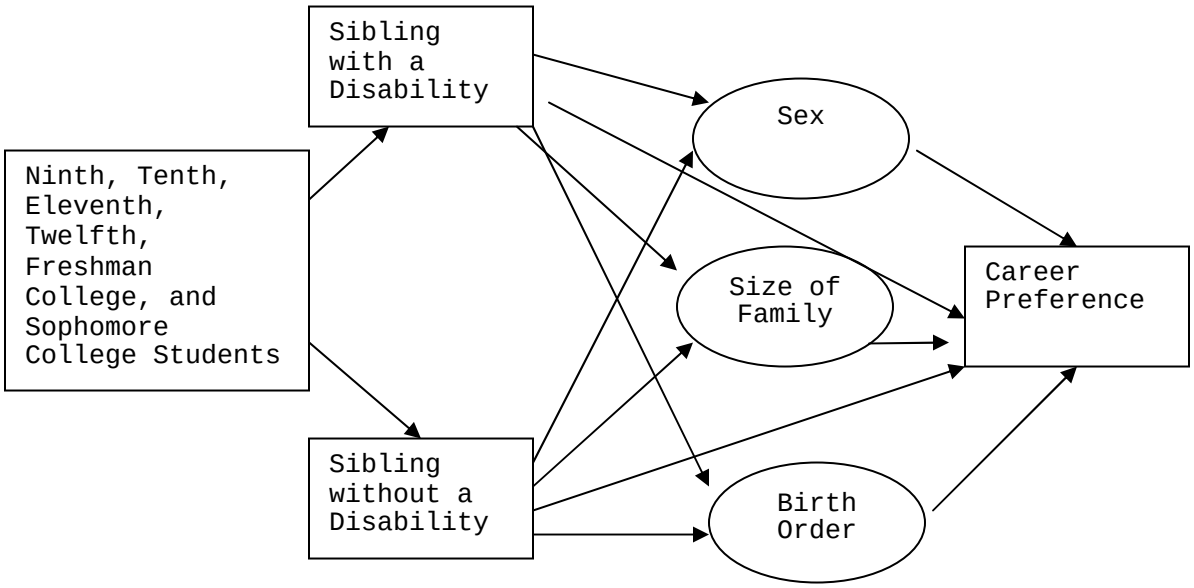

Figure 4: Structure of the study design.

Qualitative methods were also utilized in the final stage of this study. Qualitative research seeks answers to questions by exploring various social settings and the individuals who populate these settings. Qualitative researchers are most attracted to how individuals position themselves in their settings and how people of these settings make sense of their surroundings through symbols, social structures, rituals, and social roles (Berg, 2007). Qualitative methods are particularly well suited for the type of research being conducted in this study, because the focus of the study is that of understanding the complex topic of siblings of people with developmental disabilities and how they make sense of their

environment and further, how this may influence their future career decisions. Because prior research on this topic (Farber, 1963; Grossman, 1972; Burton & Parks, 1994; Konstam & Drainoni, 1993) relied primarily on quantitative methods, there has been a minimal presence of the voices of the participants. This information is valuable in understanding siblings of people with disabilities, especially when exploring reasons and the motivation for career choice.

Population

This study was mostly conducted in a county located in southern Maryland. The county is located south of Washington, District of Columbia and has a population of 133,049. Elementary schools are composed of students from pre-kindergarten to grade five; middle schools have students from sixth to eighth grade; and high schools serve students in grades nine through twelve. The system has 21 elementary schools, with many containing preschool, 8 middle schools, and 6 high schools. In addition, the school system offers two centers that provide alternative education for more specific student needs. This information was obtained from the school system's website.

As noted on the school system's website, the county school system employs 3,397 people including 2,006 teachers, 1,093 support staff, 68 technical employees, and 230 administrators. The enrollment in 2007 was 26,623 students. This public school's enrollment, based on race during the 2007-08 school year, included American Indian/Alaskan (.8%), Asian/Pacific Islander (3.3%), African American (51.6)%, White (40.9%), and Hispanic (3.4%).

Information obtained through the Maryland Department of Education's website indicated that the enrollment for the school system's high schools, grades 9-12, was 9,314 students. The drop out rate for 2007-08 for grades 9-12 was 2.73%, while the graduation rate was 88.03%. The

percentage of students who enrolled for the 2007 school year qualifying for free or reduced lunch was 17.2%.

The Association of Retarded Citizens (ARC) of Maryland was also helpful as a means of obtaining the sample. According to the organization's website, the ARC of Maryland is a statewide advocacy organization assisting persons with cognitive and developmental disabilities in the state of Maryland. The organization has nearly 7,000 members through Maryland including people with developmental disabilities, parents and other family members, educators, and community members. Two subjects were obtained from the ARC of Maryland. A western Pennsylvania ARC was also sought for potential subjects, however an interest in participation was not found within this group.

Sample

Male and female students from six high schools and recent high school graduates within the county public school system were asked to participate in the study. In addition, family members of the ARC of Maryland who had a typically developing high school age child and a child with a developmental disability were asked to participate.

The age range of participants was 14 to 19 years of age, because this is within the age range Taylor, et al. (2003) suggest tentative career choices are explored. All potential school system participants were sought through a mailing asking them and their parents to participate in the study (Appendix A, B, D, & E). For members of the ARC, a flyer was distributed via email to its members from the ARC's Assistant Director of Family and Children's Services (Appendix C). The flyer was also made available at agency family functions provided by the ARC.

Two hundred and fifty-two students from the school system were sent a letter asking them to participate in the study as an attempt to obtain a representative sample of participants. There were 53 potential students

who had a sibling with a developmental disability from the school system and 199 potential students who had siblings without disabilities. An undetermined number of students who have a sibling with a developmental disability were solicited using a flyer distributed by the ARC of Maryland.

A comparison group of students who do not have a sibling with a developmental disability were included to investigate themes and commonalities or differences among the groups. A total of 26 students and 1 of their parents participated (please see Table 1), 9 of whom were siblings and parents of children with disabilities (refer to Table 2). The total sample consisted of four students from ninth grade, eight students from tenth grade, three students from eleventh grade, eight students from twelfth grade, one first year college student, and two second year college students. Those from the interest group had siblings with either mental retardation or autism. Five siblings had an intellectual disability/mental retardation and four had autism. Seven siblings were male and two were female (please refer to Table 3).

Those participants who were of high school age and have a brother or sister in the school system's Life Skills program or those who were of high school age and had a family member serviced through the ARC of Maryland served as the group of interest. The Life Skills Program includes students with severe to moderately deficient cognitive functioning and disabilities such as mental retardation, autism, and multiple disabilities. Members of the ARC are those with developmental disabilities such as intellectual disabilities/mental retardation, autism, or multiple disabilities and their families. Students who have more than one sibling with a disability were excluded from the study.

Table 1

Description of the Sample: Total Sample (Interest and Comparison Groups)

	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade	First Year College	Second Year College	Total
Sex							
Males *(n)*	3	4	1	6	0	0	14
Females *(n)*	1	4	2	2	1	2	12
Total	4	8	3	8	1	2	26

Table 2

Description of the Sample: Interest Group Only

	Ninth Grade	Tenth Grade	Eleventh Grade	Twelfth Grade	First Year College	Second Year College	Total
Sex							
Males *(n)*	1	0	1	1	0	0	3
Females *(n)*	0	2	1	0	1	2	6
Total	1	2	2	1	1	2	9

Instrumentation

Parent and Student Questionnaire

A parent of the students as well as the students themselves were asked to complete a questionnaire inquiring about demographic information such as parent occupation, parent education level, race, sex, birth order, and family circumstances. Additionally, the parent questionnaire asked about their beliefs and perceptions of their child's future career goals and reasons for their child's career plans. The student questionnaire gathered information about the student's perceptions of their vocational

Table 3

Description of the Sample: Interest Group: By Sex and Disability of Sibling

	Intellectual Disability/Mental Retardation	Autism	Total
Sex			
Males *(n)*	5	2	7
Females *(n)*	0	2	2
Total	5	4	9

goals and reasons for their interest in a particular career path. See Appendices H & I for a copy of the parent and student questionnaires.

The questionnaires were developed by the researcher in order to obtain a comprehensive description of the participants. Specifically, the researcher was interested in the various personality characteristics of the students and in understanding the students' attitudes and beliefs about their family situation and motivations for career choice. Previous studies have not explored high school students' career interests and the influence of having a sibling with a developmental disability on their career goals. In an effort to obtain the necessary information, questions were generated after a thorough review of the literature. Questions addressed variables that are related to sibling issues and career decision-making such as birth order, sex, size of family, parental occupation, interests and aptitudes, and vocational personality. Response choices related to career motivations were chosen based on the prior research findings of Marks et al., (2005) and their conclusions regarding what motivates people who have siblings with disabilities towards the

helping professions. Questions were also developed based on Holland's Theory of Vocational Personality and Work Environments (Holland, 1966, 1973, 1985) and the RIASEC Model. The RIASEC Model represents the Holland personality types (realistic, investigative, artistic, social, enterprising, and conventional).

Four experts in the fields of sibling relationships and vocational education were contacted through email communication and provided copies of the parent and student questionnaires. They were asked to review the questionnaires. Two scholars provided emailed feedback, Dr. Rosalyn Darling and Dr. Edward Levinson. They suggested the clarification of a few items, such as adding an "other" category when looking at race. Suggestions were also offered for a small number of terminology changes. For example, it was recommended that the term "intellectual disability" for mental retardation be added to the questionnaire when participants were asked about child/sibling disability and the term "partner" be used instead of spouse.

Dr. Rosalyn Darling recently retired as a professor in the Sociology Department at Indiana University of Pennsylvania, where she taught courses in human services, at-risk children, and the sociology of disability. She served for 15 years as the Executive Director of Beginnings, an agency serving young children with disabilities. Dr. Darling is the author of five books and numerous articles and chapters about children with disabilities and their families. She has also served on several national-level, disability-related advisory boards (http://www.bodogday.com/committee.htm#Dr.%20Rosalyn%20Darling).

Dr. Edward Levinson is a professor of educational and school psychology at Indiana University of Pennsylvania. Dr. Levinson's chapters on vocational assessment and/or transition appear in all four editions of the National Association of School Psychologists' *Best Practices in School*

Psychology, and his chapters on career development appear in both editions of the National Association of School Psychologists' *Children's Needs*. He has made over 80 presentations at local, state and national meetings on the topics of vocational assessment, transition, and stress and burnout (http://www.coe.iup.edu/emlevins/dr.html).

The Self Directed Search (SDS)

The Self-Directed Search (SDS) (Holland, 1994), developed by John Holland, is a career-counseling tool. The SDS is a 228-item instrument based on John Holland's theory of career choice. The SDS is available in an assortment of forms, including paper-and-pencil, computerized, and most recently, online. The SDS takes approximately 30 to 50 minutes to complete, including scoring time. The Self Directed Search uses both a "like/dislike" and rating format to assess an individual on four scales: activities, competencies, occupations, and self-estimates. Upon completion of the instrument, the scale scores are added resulting in separate sums for the six dimensions that reflect the RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) model from Holland's Theory of Personality and Work Environments.

Internal consistency coefficients for the Activities, Competencies, and Occupations categories of the SDS have ranged from .72 to .92. Correlations between the two self-estimates ratings per scale have ranged from .37 to .84. Test retest correlations for the summary scales have ranged from .76 to .89, implying that the summary scales have substantial stability (Holland, Fritzsche, & Powell, 1997).

Holland, et al. (1997) note that when addressing concurrent and predictive validity, most interest inventories have a hit rate of 40% to 55% in a six category scheme. The 1994 sample used for the revision of the Self-Directed Search had an overall hit rate at the high end of the range (54.7%).

The SDS is suitable for persons aged 12 years of age and older. The reading level of the SDS is estimated to be at the 7th and 8th grade level, according to the Flesch-Kincaid readability formula (Holland, et al., 1997). The SDS can be administered individually, in group settings, or can be sent home for people to complete (Holland, et al., 1997).

Interview

For this study, a semi-structured interview was conducted with the participants since semi-structured interviews are more likely to produce qualitative data when compared to more structured interviews (DiCicco-Bloom & Crabtree, 2006). Follow-up interviews were conducted with students and their parents who participated in the interest group after the student questionnaires, parent questionnaires, and Self-Directed Search (SDS) were returned. Purposeful samples were utilized for the qualitative interviews. In purposeful sampling, researchers use their particular knowledge or expertise about some group to select subjects who represent this population (Berg, 2002). Students included in the potential interview pool were those in the interest group of students who had a sibling with a developmental disability and who agreed to be interviewed. Interviews were finalized based on the student and parent's response to the question inquiring about their interest in participating in an interview on the questionnaires. Five students from the interest group participated in an interview. Five parents of students from the interest group volunteered for interviews and one additional parent offered input about his son's qualities and career interests through email communication. Interviews were audio-taped to ensure accuracy of the participants' recorded response. Interviews were voluntary and each interviewee agreed to be audio-taped. Once the interviews were transcribed verbatim, the audio tapes were destroyed and participant's names were changed to protect their anonymity. Interviews made it possible

to acquire additional information about siblings of people with disabilities and career choice and to add meaning to the questionnaire data that were obtained.

Interview questions were borrowed from experts and previous researchers studying sibling relationships and were related to the various roles, responsibilities, and expectations that are associated with being raised with a sibling with a disability. In addition, questions chosen addressed career preferences and plans of these siblings, which was the focus of this study. Please refer to student and parent interview questions in Appendix L and M.

Both Dr. Bryna Siegel and Dr. Susan Marks were contacted through email communication. Dr. Bryna Siegel's questions were borrowed from a large compilation of exercises and questionnaires found in her book coauthored with Dr. Stuart Silverstein, titled, *What about Me? Growing up with a Developmentally Disabled Sibling* (1994). The authors offered exercises and questionnaires to support groups of those affected by growing up with a disabled sibling or therapists treating siblings or parents of children with disabilities. Dr. Bryna Siegel granted permission to use her questions for the current study's interview on November 3, 2006 via email communication.

Dr. Susan Marks conducted a research study of seven siblings of children with disabilities who were enrolled in preservice education, had advanced special education degrees, or were teachers. Participants were interviewed with the intent to explore the potential impact that being a sibling of a brother or sister with a disability has had on them. The following were characteristics that were consistent among the participants: responsibility for the sibling with a disability, the disability of the brother or sister, gender, and birth order (Marks, et

al., 2005). Dr. Susan Marks granted permission on October 16, 2006 via email communication to use interview questions from the research study.

Procedure

Representatives from the target school system sent a mailing introducing the study in September, 2007 to both the interest group and comparison group families of students in ninth to twelfth grades. Subsequent letters were sent in September 2008 to incoming ninth grade students in an attempt to obtain additional subjects. The letter included the parental and student consent for participation. See appendices A, B, D, and E for a copy of the school system letter and copies of letters requesting parent and student consent. The packet included a stamped, self-addressed return envelope. Parents and students were informed that individual responses would be held in strict confidence and that participation was strictly voluntary. Each participant was assigned a numeric code that was utilized only to assist in organization of questionnaires and in following up with the interviews.

To ensure confidentiality, the Special Education Coordinator for the target school system's Life Skills Program sent packets to families of students who were potential subjects for the interest group. The supervising psychologist for the target school system sent packets to families of students who were potential subjects for the comparison group. Only these people had the names of potential subjects until permission was obtained for participation in the study. If potential subjects did not return the consent form after 14 days, the coordinators sent a follow-up letter reminding them about the study encouraging them to respond if they were interested. Please refer to Appendix F.

Only after permission was obtained by the special education coordinator or the supervising psychologist, did the researcher have access to the subjects. The consent forms of willing participants were

forwarded to the researcher. Twenty-seven comparison group students and one of their parents and twelve interest group students and one of their parents returned consent forms indicating that they were interested in participating in the study. Once the researcher had formal permission, questionnaires and the Self-Directed Search were sent home for completion by the parent and student. Administration directions for the student (See Appendix J) were provided. Directions for the parent were included in the parent questionnaire.

Of the 27 comparison students from the target school system who gave consent to participate, 17 returned the research materials. Of the 12 interest group students from the target school system, 7 returned the research materials. A reminder letter was also sent to those who had agreed to participate and who did not return the questionnaires and the SDS after 14 days. Please refer to Appendix G.

Five students from the group of interest and one of their parents participated in an interview. Please refer to table 4 for a description of these participants. This interview occurred after the questionnaire and the Self-Directed Search (SDS) data were collected. The interview took place at a location agreed upon by the researcher and the student's family such as a public library or occurred by phone. Please refer to Appendix L and M for a copy of the interviews. One additional parent shared information via email in regard to his son's personal qualities and career preferences. To ensure accuracy of recording, the interviews were audio taped. Taping was voluntary. All five students and all five parents agreed to be audio taped. The permission for audiotape can be found in Appendix K. Interviews ranged from 25 to 40 minutes in length.

In accordance with federal regulations, all data will be maintained for 3 years from the date of project completion. Following completion of the study, the student and parents were given the opportunity to receive

feedback about the study. Please refer to Table 4 for a Project Task Table. Participants were given the options to receive the results of the study, receive the results of the student's Self-Directed Search (SDS) assessment, receive the results of the study and the SDS, or to receive nothing at all. Of the nine target group student participants, two were interested in the results, one was interested in the SDS, four were interested in both the results and the SDS, and two were not interested in receiving feedback. Of the nine parent participants from the target group, four were interested in the results, three were interested in both the results and the SDS, and two were not interested in feedback. Four comparison group students were interested in the results, two were interested in the SDS, ten were interested in both the results and the SDS, and one was not interested in feedback. One comparison group parent wanted to receive the results, two wanted to receive the SDS, thirteen were interested in both the results and the SDS, and one was not interested in feedback.

Modified Procedures

Due to the study complication of obtaining a low rate of response, a second agency was contacted to generate additional interest in the study and necessary data. A flyer was developed by the researcher and distributed to members of the Association of Retarded Citizens (ARC) by the assistant director of family and child services of the ARC of a large Maryland city. He distributed the flyer to all of Maryland's ARC members via email in July, 2008. Members were asked to contact the researcher if they had an interest in participating in the study. Two families from the ARC of Maryland were interested in participating and both returned the materials, which accounted for two additional interest group participants totaling nine interest group subjects. Please refer to the research flyer

Table 4

Project Task Table

#	Name	Description	Begin	End	Person
1	Project Idea	Based upon school researcher interest and after consulting with the researcher's dissertation chairperson and Charles County Public School representatives	10-05	10-05	Researcher, Dissertation Committee Chairperson, Life Skills Coordinator for the public school system; Supervising Psychologist for the school system
2	Refine Study Design	Review existing literature base on variables related to siblings of those with developmental disabilities and vocational research; Identify instruments to measure vocational personality; Develop questionnaires/Interview questions and Consent letters	10-05	11-06	Researcher
3	Obtain Permission to Conduct Study	Obtain permission from Research Site, DIRB, and IRB	01-07	05-07	Researcher, school system's Research and Assessment Department, Dissertation Committee, University IRB
4	Obtain Materials	Obtain instrument to be used	06-07	06-07	Researcher
5	Conduct Pilot Study	Sent questionnaires and SDS to pilot group of students and parents	06-07	06-07	Researcher

Table 4 continued

#	Name	Description	Begin	End	Person
6	Scoring and Data Entry	Score the SDS; Enter the scores and questionnaire data into an SPSS data file	09-08	10-08	Researcher
7	Conduct Interviews	Conduct interviews with student and parents who participated in study	09-08	10-08	Researcher
8	Transcription and Coding	Transcription and coding of interviews into Qualrus, qualitative research software	10-08	10-08	Researcher
9	Final Report Preparation	Obtain data. Check data; Run cross tabs statistics; Examine data to investigate themes and commonalities among groups and variables	09-08	10-08	Researcher, Research Consultant
10	Final Report Writing and Review	Consult with Dissertation Chair to review final draft for revisions	10-08	1-09	Researcher, Dissertation Chairperson
11	Debriefing	Results of study along with reports of each student’s SDS disseminated to those who participated and were interested in obtaining feedback	1-09	3-09	Researcher

in Appendix C. A reminder email was sent along with the flyer again in September, 2008 by the ARC of Maryland for those who were interested in participating, but had not yet responded. In addition, a parent interview was developed to complement the student interview. The parent interview was not an original, planned component of this study, but was added to provide supplementary data. The parent interview also offered the additional perspective of the parent.

Power Analysis

Since a low rate of response was obtained for this study, the quantitative statistical procedures that could be utilized were minimal. The power of this study was significantly compromised. A power analysis was conducted to determine a sufficient sample size to detect significant differences between the two groups, if they existed. Green (1991) provides a comprehensive outline of the procedures used to determine regression sample sizes. He suggests $N \geq 104 + m$ (where N is the number of subjects and m is the number of predictor variables) for testing the multiple correlation assuming a medium-sized relationship, or the magnitude of the effect size. With an alpha level set at a conventional level of .05, Cohen (1988) suggests a power value of .80, appropriate for behavior research, and a medium effect size. Utilizing the formula offered by Green (1991), ideally, a sample size of 130 was recommended. Due to the nature of survey research and the limited number of students in the group of interest found within the population, this number could not be realistically obtained.

When attempting to detect differences between or among groups, given a medium-to-large effect size, 30 participants per cell are recommended, which should lead to about 80% power (VanVoorhis, & Levonian, 2001). Using this rule of thumb, a total of 60 subjects would be warranted. When determining the number of participants when using the Chi-Square

statistical procedure, a conservative rule is that no expected frequency in a cell should drop below five, and the overall sample should be at least 20 (VanVoorhis, et al., 2001). Therefore, with only having 26 subjects, recommendations could only be met for Chi-Square statistics that gave the overall study a power of at least 80%. Even so, several of the cells did not have cell frequencies above five, which may have affected the power of the study. Pallant (2005) recommended that if the assumption of having at least five frequencies per cell is violated, the Fisher's Exact Test should be utilized. Because cell frequencies in the present study fell below five, the Fisher's Exact Test was run.

Extensive interviews were conducted with parents and the siblings of those with developmental disabilities from which valuable qualitative information was gathered. Although few statistical analysis procedures could be run; themes, differences, and commonalities emerged in analyzing the information that was obtained. This study had five students from the target group along with one of each of their parents who participated in interviews for a total of 10 interviews for which it was assumed that saturation had been achieved.

Data Analyses

For this study, data analysis procedures were carried out using crosstabs and correlation techniques available in the *Statistical Package for the Social Sciences 16.0* (SPSS 16.0) along with qualitative analysis of the student and parent interviews. The research questions included:

1. Are teenage siblings of children with developmental disabilities more likely to report an interest in helping professions when compared to their peers who do not have a sibling with a disability?
2. In what types of professions are high school students who have siblings with disabilities most interested?

3. What are the motivating factors for these siblings when considering entering helping professions? (Aptitude and interest, money, family influence, experiences)
4. Do variables such as sex, size of family, and birth order correlate with the likelihood of reporting an interest in a helping profession when raised with a sibling with a disability?
5. Do sibling vocational aspirations and responses to questionnaires regarding career interests correlate with the results of the Self-Directed Search?
6. Do siblings of children with disabilities decide what career they want to pursue at an earlier age compared to their peers who do not have a sibling with disability?

Given that a low number of subjects were obtained for the overall study, the proposed research questions were not able to be fully investigated through quantitative, statistical procedures. Twenty-six participants and one of each of their parents returned the research materials. Seventeen participants and their parent were included in the comparison group, while nine of the student/parent groups participated as the group of interest. One subject from the comparison group and one subject from the group of interest returned the questionnaire, but failed to return the Self-Directed Search. Each of the other student/parent pairs completed and returned the materials in their entirety. Chi Square statistics, as well as the Fisher's Exact Test were performed to answer the research question related to one's family situation of having a sibling with a developmental disability and choosing a helping profession. Chi Square statistics and the Fisher's Exact Test were also utilized to assess one's sex, birth order, and size of family on future career interests. However, these statistics could only be run on the overall

Table 5

Research Questions, Hypotheses, Variables, Statistical Analyses, and Statistical Assumptions for the Siblings of those with Disabilities and Helping Profession Project

Research Questions	Hypotheses	Variables	Statistic	Assumptions	Assumptions Appropriateness
1. Are teenage siblings of children with developmental disabilities more likely to report an interest in helping professions when compared to their peers who do not have a sibling with a disability?	Sibling of children with a developmental disability will be more likely to report an interest in a helping profession compared to their peers without a sibling with a disability.	Career Interest; Ability level of Sibling Social Personality Code; Ability level of Sibling	Chi Square Fisher's Exact Test	1. Independent sample 2. At least 20 subjects 3. Lowest expected frequencies not less than five 4. If frequencies are less than five per cell, use Fisher's Exact Test	1. Examine the instrument 2. Examine the sample 3. Visual Inspection of cell frequencies
2. In what types of professions are high school students who have siblings with disabilities most interested?	Siblings of children with disabilities will be more likely to report an interest in helping fields, such as education, therapy and medical	Not Applicable	Qualitative Analysis	Not Applicable	Not Applicable

3. What are the motivating factor factors for these siblings when considering entering helping professions?	Children with siblings with developmental disabilities will report being motivated towards the helping professions because of an interest in helping others, because of their experiences with their sibling, and because of their sense of social justice.	Not Applicable	Qualitative Analysis	Not Applicable	Not Applicable
4. Do variables such as sex, size of family, and birth order correlate with the likelihood of reporting an interest in a helping profession when raised with a sibling with a disability?	Females will report a greater interest in pursuing a helping profession; children in larger families will report a greater interest in pursuing a helping profession; oldest children will be more likely to report an interest in a helping profession when compared to middle and youngest	Career Interest; Sex Career Interest; Size of Family Career Interest; Birth Order	Chi Squared Fisher's Exact Test	1. Independent sample 2. At least 20 subjects 3. Lowest expected frequencies not less than five 4. If frequencies are less than five per cell, use Fisher's Exact Test	1. Examine the instrument 2. Examine the sample 3. Visual Inspection of cell frequencies

5. Do sibling vocational aspirations and responses to questionnaires regarding career interests correlate with the results of the Self-Directed Search?	Siblings who report an interest in helping professions will have personalities congruent with the (S) type of Holland's vocational codes.	Career Interest; Highest Holland Personality Trait of Code	Chi Square Fisher's Exact Test	1. Independent sample 2. At least 20 subjects 3. Lowest expected frequencies not less than five 4. If frequencies are less than five per cell, use Fisher's Exact Test	1. Examine the instrument 2. Examine the sample 3. Visual Inspection of cell frequencies
6. Do siblings of children with disabilities decide what career they want to pursue at an earlier age compared to their peers who do not have a sibling with a disability?	Sibling of children with disabilities will report knowing their future career at an earlier age when compared to their peers who do not have a sibling with a developmental disability.	Not Applicable	Qualitative Analysis	Not Applicable	Not Applicable

sample and did not take into account the sibling's family situation of growing up with a sibling with a disability. Chi Square statistics and the Fisher's Exact Test were also utilized to assess one's interest in a helping profession and the relationship with having a strong Social (S) personality trait from Holland's RIASEC Model.

Other research questions were not answered due to the limited number of questionnaire responses. Because of this complication, the study emphasized the broader, qualitative question of, "How does having a sibling with a developmental disability affect the planned career choice of high school students." Please refer to Table 5 for a list of research questions, hypothesis, variables, statistics, and assumptions.

The first stage in the data analysis of the qualitative interviews began with the initial coding of the transcribed interviews. Codes were assigned to words and phrases by going through the interview transcript. Initially, there were 86 codes that emerged after close examination of the text. Codes included ideas such as family influence, career goals, awareness of disabilities, leadership skills, understanding, patience, and so on. Codes were then narrowed based on the most frequent and common themes found within the text and labeled into four key categories with several branched subcategories. The computer software program, *Qualrus*, was utilized in organizing the descriptive data and interviews. *Qualrus* (Brent, Sluszvz, & Thompson, 2000) is a qualitative analysis computer program in which researchers use the program to mark segments of text, pictures, video, or audio-clips with qualitative codes. These codes are then retrieved and analyzed. The program is capable of producing valuable summaries and graphical overviews. Qualitative software programs aid in the data storage, coding, retrieval, comparing, and linking of the data. Computers and software tools facilitate qualitative analysis, but the researcher conducts the actual data analysis (Patton, 2002).

Summary

The sample for this study was composed of 26 adolescents and their parents from rural/suburban districts in the state of Maryland. Participating students ages 14 to 19 and one of their parents from both the interest group and comparison group completed questionnaires to assess demographics and information related to family structure and career interests and motivations. The Self-Directed Search (SDS) was completed by the student participants. The SDS was chosen as it presents as the most widely used and most psychometrically sound instrument of vocational choice. Interviews were conducted with five students and five parents from the interest group of students who have brothers and sisters with developmental disabilities. Interviews were not conducted with the comparison group participants. Interviews were sought through purposeful sampling. Data obtained were analyzed to explore the associations, as well as themes and commonalities of growing up with a sibling with a developmental disability. Motivations and variables related to career choice and the decision making process were also explored.

CHAPTER IV

RESULTS

Introduction

This chapter describes the results of the data-analysis procedures that were presented in Chapter III. Response rates of the study will be reviewed, as well as specific demographic information of the sample. In addition, complications that emerged throughout the course of the study will be discussed. The last section of this chapter provides information about data analysis of the research questions. Research questions of this exploratory study addressed children of siblings with developmental disabilities and influences on their planned career choice. Within the data analysis section, quantitative analysis will be reported followed by the qualitative analysis. Variables included sex, size of family, and birth order. Motivations of career choice were also investigated, as well as vocational personality. Since this study moved toward a more qualitative approach, the general question of "How does having a sibling with a developmental disability affect the planned career choice of high school students?" emerged as the one main focus.

Qualitative interviews with five siblings of people with disabilities, along with five separate parent interviews, provided data that were used to more fully investigate the research questions. The first stage of line-by-line coding resulted in 86 initial codes which led to the development of four key categories. Each category will be discussed as well as the subcategories that emerged within the four categories.

Response Rates of the Study

Initial data were collected through the completion of the parent and student questionnaires and the Self-Directed Search (SDS). Out of the 252 possible overall school system participants, 39 students and parents

returned consent forms and agreed to participate in the study for a response rate of 15.5%. Two additional ARC members returned consent forms for a total of 41 potential participants. Of the 41 potential participants who agreed to participate, 26 returned the research materials for a return rate of 63%. Twenty-seven comparison students and a parent gave permission to participate. Of the 27 comparison families who consented, 17 families returned the research materials for a return rate of 63% of the comparison group. Twelve interest group families agreed to participate. Of the 12 interest group families who consented, nine families returned the research materials for a return rate of 75% from the interest group. In an effort to encourage participation, letters were sent through the mail reminding potential participants to return both the consent forms and research materials. After prolonged time had passed without a return of the materials, a second set of questionnaires and the SDS were sent to those who had agreed to participate, but failed to return the materials. The final sample included 17 comparison group families and nine interest group families.

Demographic Information of the Sample

The sample for this study was taken from the population of students in the 9th, 10th, 11th and 12th grades within a public school system in southern Maryland and from teenage family members of the ARC of Maryland. By the end of data collection, three participants from the interest group were enrolled in college. Only 26 students, including four 9th-grade students, eight 10th-grade students, three 11th-grade students, eight 12th-grade students, one college freshman, and two college sophomores and their families signed permission forms and completed the student and parent questionnaires and the Self-Directed Search (SDS). Seventy-three percent of the students who participated were Caucasian. One student participant

was Black, three were Hispanic, and three participants labeled their race as “other.”

Sex

Females composed 46% of the overall sample, while males accounted for 53% of the overall sample. Comparison group participants accounted for 11 (65%) male participants and 6 (35%) female participants. Three males (33%) represented the interest group of participants, while six (67%) females represented the interest group of participants. Parent participants were mostly female. There was only one father who participated in the parent questionnaire. This participant was from the comparison group.

Grade Level

The grade level representation of the sample was 4 (15%) ninth graders, 8 (31%) tenth graders, 3 (12%) eleventh graders, and 12 (31%) twelfth graders. Students in college accounted for 3 (12%) members of the sample. Within the comparison group, there were 3 (18%) ninth grade participants, 6 (35%) tenth grade participants, 1 (6%) eleventh grade participants, and 7 (41%) twelfth grade participants. The interest group included 1 (11%) ninth grade participant, 2 (22%) tenth grade participants, 2 (22%) eleventh grade participants, 1 (11%) twelfth grade participant, 1 (11%) first year college student participant, and 2 (22%) second year college student participants.

Number of Household Members

Twelve (46%) of the participants had one brother or sister, 7 (27%) had two siblings, 6 (23%) had three siblings, while 1 (4%) had four siblings. Within the group of comparison participants, 7 (41%) had one sibling, 7 (41%) had two siblings, 2 (18%) had three siblings, and 1 (6%) had four siblings. Within the interest group of participants, 5 (56%) had one sibling, while 4 (44%) had three siblings.

The families' living situations were composed of 22 subjects (85%) being from two parent households. Single-parent mothers accounted for 2 (8%) members of the sample, while single-parent fathers made up 1 (4%) of the participants' families. There was also one family that considered themselves a "joined" family (4%). The comparison group of families included 15 (88%) subjects being from two parent households, 1 (6%) being from a single-parent, mother household, and 1 (6%) being from a single-parent, father household. The interest group included families composed of 7 (78%) being from two parent households, 1 (11%) being from a single-parent mother household, and 1 (11%) being from a joined family household.

Sibling Birth Order

Of the overall sample of children who participated in this study, 26.9% described themselves as the oldest child. The middle child participant accounted for 26.9% of the sample, and the youngest child accounted for 46.2% of the sample. Within the comparison group of participants, 5 (29%) described themselves as the oldest child, 5 (29%) the middle child, and 7 (41%) the youngest child. The interest group of participants accounted for 3 (33%) being the oldest child, 2 (22%) being the middle child, and 4 (44%) being the youngest child in the family.

Parental Occupation

Parental occupation for this study was addressed dichotomously as being either a social/helping profession or a non-social/helping profession. Of the overall sample, 14 (54%) of mothers' occupations were within the social/helping profession, while 12 (46%) were not in a social/helping profession. Of the overall sample, only 2 (8%) of the mother's spouses or partners were in a social/helping profession. Within the comparison group of parent participants, 10 (59%) mothers were in social/helping professions. Within the interest group of parent participants, 4 (44%) were involved in social/helping professions.

Parental Education Level

Of the overall sample, 3 (12%) of the mothers listed their education level as being a high school graduate. Those with an education level greater than high school, but less than a four year college accounted for 9 (35%) of the participant's mothers. Four year college graduates accounted for 7 (27%) of the mothers, while 6 (23%) of the mothers had a master's degree, and 1 (4%) had a doctoral degree. The mother's spouse or partner's degree level were as follows: 6 (23%) were high school graduates, 4 (15%) were greater than college but less than a four year college degree, 8 (31%) were college graduates, and 5 (19%) had a master's degree. Due to single parent homes, 3 (12%) were listed as not applicable.

Within the comparison group, 1 (6%) of the mother's educational level was that of being a high school graduate. Those with an education level greater than high school, but less than a four year college accounted for 4 (24%) of the comparison participant's mothers. Four year college graduates accounted for 8 (47%) of the mothers of those in the comparison group, while 3 (18%) of mothers had a master's degree, and 1 (6%) had a doctoral degree. The comparison group's mother's spouse or partner's degree level were as follows: 3 (18%) were high school graduates, 1 (6%) was greater than college but less than a four year college degree, 7 (41%) were college graduates and 4 (24%) had a master's degree. Due to single parent homes, 2 (12%) were listed as not applicable.

Within the interest group, 2 (22%) of the mothers had an educational level of high school graduate. Those with an education level greater than high school, but less than a four year college accounted for 5 (56%) of the interest group participant's mothers and 2 (22%) of the mothers had a master's degree. The interest group's mother's spouse or partner's degree level were as follows: 3 (33%) were high school graduates, 3 (33%) were greater than college but less than a four year college degree, 1 (11%)

were college graduates and 1 (11%) had a master's degree. Due to single parent homes, 1 (11%) was listed as not applicable.

Complications of the Study

Several complications occurred throughout the course of this investigation. The unique population of the interest group of students led to a small group of individuals from which to obtain a realistic sample. Students in the interest group were required to be of high school age with only one sibling with a developmental disability. These siblings with disabilities were required to have significant disabilities such as moderate to severe mental retardation and/or autism. This was further complicated by attempting to collect data through a public school system. Collecting data within a school system was extremely difficult due to the many stipulations placed upon the researcher for data collection. Since the examiner was not permitted to collect data during school hours or on school grounds, all correspondence was conducted through mailings, which led to a low rate of response for student/parent consent and also a low rate of return of the research materials. Similarly, the potential subjects were high school students, who may lack initiative to participate in research.

Due to the attempt to recruit more participants, time elapsed from the beginning of data collection to the end of data collection. The initial data collection began in September, 2007 and did not end until October, 2008. Additional students were sought out (incoming ninth grade students for the 2008-2009 school year) from the same public school system in southern Maryland. Additional agencies were also sought out that served families of people with developmental disabilities in August and September of 2008. These agencies included the various ARC groups throughout Maryland and an ARC group in a western Pennsylvania County. This required adjustments to procedures and additional reviews of the research protocol

by the Institutional Review Board (IRB). Despite the attempt to include participants outside of the initial study parameters, only three additional interest group subjects were obtained, which made it difficult to perform statistical procedures on the data. The school system participants included 24 people, while the ARC of Maryland included 2 participants. The ARC of the county in western Maryland did not provide any additional participants. Four of the school system participants from the interest group participated in interviews and one of the ARC of Maryland participants, also part of the interest group, participated in an interview, along with each of their mothers.

Although, interviews were planned in the initial stages of the research project, they became more significant and crucial as the study developed. Interviews also produced a small sample of participants. The researcher planned to interview only those participants from the interest group. The number of possible interviewees of the interest group was nine. However, only six of these students agreed to participate in the interview, one of whom has since left the school system without further contact information. In an effort to enhance the limited number of interviews that were available, the examiner developed a parent interview to supplement the student interview to obtain additional information. Audio-taping was also conducted to ensure accuracy of the transcription of the interviews.

Data Analyses of the Research Questions

Quantitative data collected for this study were analyzed through the use of the *Statistical Package for the Social Sciences 16.0* (SPSS 16.0). Using SPSS, crosstab statistics were conducted to analyze the quantitative data collected.

Helping Profession and Sibling

Analysis of the data for helping profession and sibling type focused on answering the following research question: Are teenage siblings of children with developmental disabilities more likely to report an interest in helping professions when compared to their peers who do not have a sibling with a developmental disability? To answer this question, participants who had a sibling with a developmental disability were compared to those participants who did not have a sibling with a developmental disability. Because nearly half of the respondents reported not knowing what their specific career interest was, statistical analysis were not run on the subject's specific career interests. Of the five participants from the interest group who reported a specific career, four of them reported that they wanted to pursue a social/helping profession. Of the 11 comparison participants who reported knowing their future career, four reported that they will be pursuing a helping profession, while seven indicated that they would be pursuing a non-social helping profession.

Since nearly half of the sample did not report a specific planned career, the researcher addressed this idea of one's interest in pursuing a helping profession statistically through the use of Holland's RIASEC model. Participants were asked to indicate in which career category they were most interested, with categories matching the RIASEC model one through six. Category four was considered the category that accounted for social-helping professions. The variable was made dichotomous, a social-helping profession or a nonsocial helping profession based on their interest in a category four career. Using the statistical procedure of Chi Square, no significant difference was found between students who have a sibling with a developmental disability and those who do not have a sibling with a developmental disability with regard to their planned

career choice (p= .234, df= 1, which is greater than alpha level 0.05). Because cell frequencies had expected counts less than five, the Fisher's Exact Test was run with the same result (p= .234). Please refer to Tables 6 and 7 and Figure 5.

Similarly, results of the Self-Directed Search (SDS) were analyzed based on the participant's highest personality codes and their situation of having a brother or sister with a developmental disability. Due to the limited sample size, analysis was addressed dichotomously with categories being either "yes" or "no." A response of "yes" indicated that the participant had the (S) social personality in the highest position of Holland's three letter code and "no" indicated that the person had a personality type other than (S) in the highest position. Those who had a sibling with a developmental disability and had the (S) social personality in the first position accounted for 5 (55.8%) of the interest group. The comparison group accounted for 4 (23.5%) having the (S) social personality in the first position of Holland's three letter code. Please refer to Table 8 and Figure 6. Pearson Chi Square coefficients suggest that there is no significant difference between the groups with regard to their strongest Holland personality code (p= .178, df= 1, which is greater than alpha level 0.05). Since cell frequencies had expected counts less than five, the more appropriate statistic of Fisher's Exact Test was utilized, which yielded a similar result (p=.099) Please refer to Table 9.

Table 6

Crosstabulation for Helping Profession and Sibling with a Disability

	Not Social/Helping	Social Helping	Total
Sibling with Disability			
Yes *(n)*	4	5	9
No *(n)*	12	5	17
Total	16	10	26

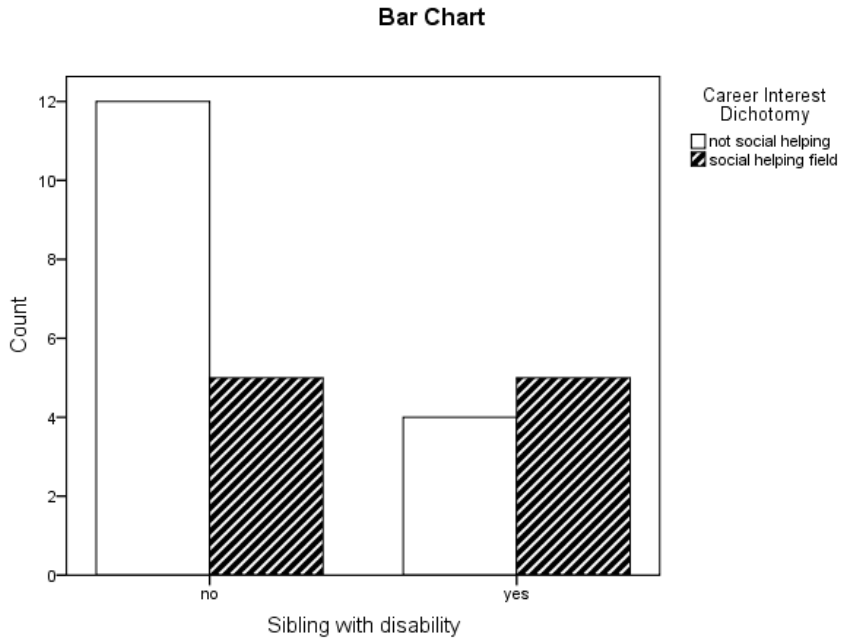

Figure 5: Graph of helping profession and sibling with a disability.

Career Interests of Students with Siblings with Disabilities

Since only five of the nine interest group participants reported knowing what specific career they wanted to pursue, the research question, "In what types of professions are high school students who have a sibling with a disability most interested?" was analyzed statistically. Of the five that reported their career plan, three females reported teaching as

their chosen profession with two of these participants specifying special education as their choice; one female participant reported that she wanted to be a criminal investigator; and one male participant reported wanting to be an auto mechanic.

Table 7

Chi Square Test for Helping Profession and Sibling with a Disability

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	1.699[a]	1	.192	.234
Continuity Correction[b]	.774	1	.379	
Likelihood Ratio	1.684	1	.194	.234
Fisher's Exact Test				.234
Linear-by-Linear Association	1.634[c]	1	.201	.234
N of Valid Cases	26			

a. 1 cell (25.0%) had expected count less than 5. The minimum expected count is 3.46.
b. Computed only for 2X2 table
c. The standardized statistic is 1.278.

Table 8

Crosstabulation for Helping Profession and Sibling with a Disability Based on Highest Social (S) Personality Type

	Not Social/Helping	Social Helping	Total
Sibling with Disability			
Yes *(n)*	3	5	8
No *(n)*	12	4	16
Total	15	8	24

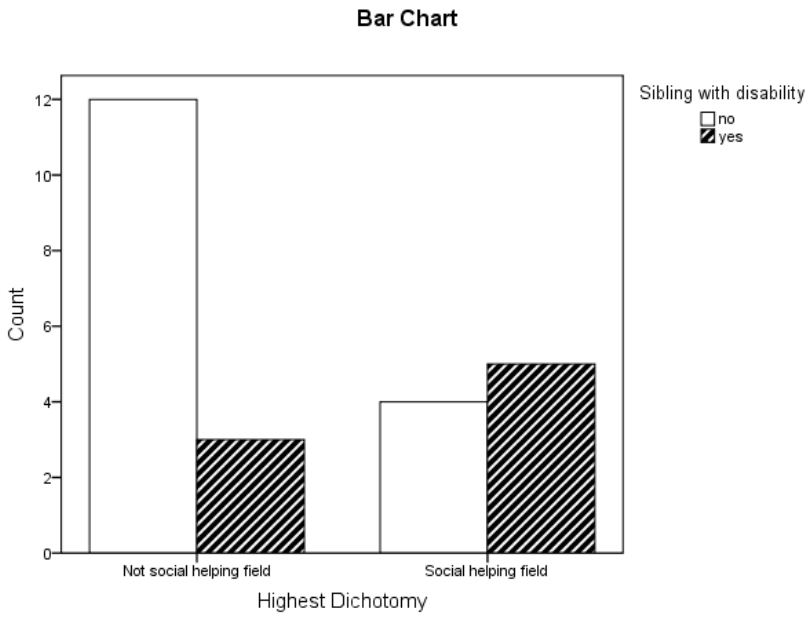

Figure 6: Graph of helping profession and sibling with a disability based on highest social personality type.

Table 9

Chi Square Test for Helping Profession and Sibling with a Disability Based on Highest Social (S) Personality Type

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	3.200[a]	1	.074	.178
Continuity Correction[b]	1.800	1	.180	
Likelihood Ratio	3.175	1	.075	.178
Fisher's Exact Test				.099
Linear-by-Linear Association	3.067[c]	1	.080	.178
N of Valid Cases	24			

a. 1 cell (25.0%) had expected count less than 5. The minimum expected count is 3.00.
b. Computed only for 2X2 table
c. The standardized statistic is 1.751.

Motivating factors when Considering a Helping Profession

Similarly, the research question, "What are the motivating factors for these siblings when considering entering a helping profession?" was not statistically analyzed due to the limited number of participants within the interest group. However, of those who reported an interest in a helping profession or a career in category 4 (social), the following three motives were listed as being the most frequent: strong interest in that field, strong interest in helping others, and experience with a brother or sister with a disability. Other reasons for their interest in pursuing a helping profession included: a desire to improve services for individuals with disabilities, parental influence, a strong belief in the social justice and rights of those less able, to influence views about special education, to learn more about disabilities, it is a career of high status, and because of their skills and aptitude in that area.

Helping Profession and Predictor Variables

The research question "Do variables such as sex, size of family, and birth order correlate with the likelihood of reporting an interest in a helping profession when raised with a sibling with a disability?" was not analyzed due to the low number of participants in the interest group and also because no significant difference was found in children who have a sibling with a developmental disability and those who do not have a sibling with a developmental disability in regards to planned career choice. Therefore, the sample as a whole was analyzed in terms of whether or not the predictor variables influenced the sample's plan of entering a helping profession.

Sex

With regard to participant's sex and reporting an interest in a helping profession, 7 (70%) females reported an interest in pursuing a helping profession compared to 3 (30%) males who reported an interest in

pursuing a helping profession. Please refer to Table 10. Pearson Chi-Square coefficients indicated that there was not a significant difference among these two groups (p= .105, df= 1, which is greater than alpha level 0.05). Because the assumption of Chi Square of requiring that cell frequencies not drop below five was violated, the Fisher's Exact Test was run, with the same result (p=.105). Please refer to Table 11.

Table 10

Crosstabulation for Helping Profession and Sex

	Not Social/Helping	Social Helping	Total
Sex			
Female *(n)*	5	7	12
Male *(n)*	11	3	14
Total	16	10	26

Table 11

Chi Square Test for Helping Profession and Sex

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	3.718[a]	1	.054	.105
Continuity Correction[b]	2.322	1	.128	
Likelihood Ratio	3.798	1	.051	.105
Fisher's Exact Test				.105
Linear-by-Linear Association	3.575[c]	1	.059	.105
N of Valid Cases	26			

a. 1 cell (25.0%) had expected count less than 5. The minimum expected count is 4.62.
b. Computed only for 2X2 table
c. The standardized statistic is -1.891.

Size of Family

The size of family was analyzed to determine if there was a difference among people in large families compared to small families when pursuing a career in a helping profession. Family size was made a dichotomous variable, either large family or not large family. For 2007, large family was defined by the U.S. Census Bureau as households containing five or more persons (Retrieved on October 16, 2008 from) (http:www.hcd.ca.gov/hpd/housing_element/examples/screen09largefamilies.pdf). Four participants from small families indicated an interest in pursuing a helping profession, while two participants from large families reported an interest in a helping profession. Please refer to Table 12. Pearson Chi-Square statistics indicated that there was no significant difference between participants who came from large families and participants who came from small families in terms of whether or not they reported an interest in pursuing a helping profession (p= .237, df= 1, which is greater than alpha level 0.05). Because cells had expected frequency counts less than five, the Fisher's Exact Test was run. Results of the Fisher's Exact Test revealed that there was no statistically significant difference between the two groups (p=.237). Please refer to Table 13.

Birth Order

Birth order was analyzed in an effort to determine if one's position in the family influences the likelihood of pursuing a helping profession. Participants rated themselves as being the oldest child, middle child, or youngest child in the family. The variable was made dichotomous, oldest child or not oldest child. Five participants who were oldest children reported an interest in pursuing a non-helping profession

Table 12

Crosstabulation for Helping Profession and Size of Family

	Not Social/Helping	Social Helping	Total
Size of Family			
Small Family (less than 2 siblings)*(n)*	6	6	12
Large Family *(n)*	10	4	14
Total	16	10	26

Table 13

Chi Square Test for Helping Profession and Size of Family

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	1.254[a]	1	.263	.237
Continuity Correction[b]	.512	1	.474	
Likelihood Ratio	1.259	1	.262	.237
Fisher's Exact Test				.237
Linear-by-Linear Association	1.205[c]	1	.272	.237
N of Valid Cases	26			

a. 2 cells (50.0%) had expected counts less than 5. The minimum expected count is 2.67.
b. Computed only for 2X2 table
c. The standardized statistic is -1.304.

and two oldest children reported an interest in pursuing a helping profession. Please refer to Table 14. Pearson Chi-Square statistics results yielded no significant difference among the groups, suggesting that older siblings are no more likely to enter helping professions when compared to middle or youngest children (p= .668, df= 1, which is greater than alpha level 0.05). Again, due to the Chi Square assumption of having expected frequency counts less than five being violated, the Fisher's

Exact Test was run, which yielded the same result (p=.668). Please refer to Table 15.

Table 14

Crosstabulation for Helping Profession and Birth Order

	Not Social/Helping	Social Helping	Total
Birth Order			
Not Oldest (n)	11	8	19
Oldest *(n)*	5	2	7
Total	16	10	26

Table 15

Chi Square Test for Helping Profession and Birth Order

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	.396[a]	1	.529	.668
Continuity Correction[b]	.031	1	.861	
Likelihood Ratio	.407	1	.524	.668
Fisher's Exact Test				.668
Linear-by-Linear Association	.381[c]	1	.537	.668
N of Valid Cases	26			

a. 2 cells (50.0%) had expected counts less than 5. The minimum expected count is 2.69.
b. Computed only for 2X2 table
c. The standardized statistic is -617.

Vocational Aspirations and the Self-Directed Search (SDS)

The research question, "Do sibling vocational aspirations correlate with the results of the Self-Directed Search?" was answered using Chi Square analysis and the Fisher's Exact Test. The variable was made dichotomous, highest code social (S) "yes" or "no" and interest in a

helping profession “yes” or “no.” Six participants who indicated an interest in a social/helping profession also had the Social (S) personality trait in the highest position of their Holland three letter code. Three subjects who reported an interest in a helping profession did not have the social (S) personality trait in the highest position of their Holland three-letter code. Please refer to Table 16. However, these subjects may have had the (S) trait in the 2nd or 3rd position. Two subjects, one from the interest group and one from the comparison group were excluded, because they did not return their Self-Directed Search (SDS) assessment. Chi-Square statistics results yielded a significant difference among the groups, suggesting that those who report an interest in a helping profession are more likely to have the social (S) personality type in the highest position of their Holland personality code ($p = .036$, $df = 1$, as the value was less than the alpha level of .05). The Chi Square assumption of having expected frequency counts less than five occurred, therefore, the Fisher’s Exact Test was run, which yielded the same result ($p = .032$). Please refer to Table 17.

The researcher would like to note that each participant who reported an interest in a helping profession had (S) social personality codes in either the first or second position on the Self-Directed Search (SDS) indicating strong social and interpersonal skills, along with an interest in helping others. Also of note, each of the students who had brothers or sisters with disabilities had the (S) social personality type within their three letter code grouping whether or not they were interested in pursuing a helping profession.

Table 16

Crosstabulation for Helping Profession and Social Personality Type in Highest Position of Three-letter Code

	Not Social/Helping	Social Helping	Total
Social(S) as Highest Code			
No (n)	12	3	15
Yes *(n)*	3	6	9
Total	15	9	24

Table 17

Chi Square Statistic for Helping Profession and Social Personality Type in Highest Position of Three-letter Code

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	5.227[a]	1	.022	.036
Continuity Correction[b]	3.425	1	.064	
Likelihood Ratio	5.286	1	.022	.036
Fisher's Exact Test				.036
Linear-by-Linear Association	5.009[c]	1	.025	.036
N of Valid Cases	26			

a. 1 cell (25.0%) had expected count less than 5. The minimum expected count is 3.38.
d. Computed only for 2X2 table
e. The standardized statistic is 2.238.

Age of Career Determination and those who have a Sibling with a Disability

Again, due to the limited number of participants, especially within the interest group, the question of "Do siblings of children with disabilities decide what career they want to pursue at an earlier age

compared to their peers who do not have a sibling with a disability?" was not answered. Only 16 participants in the total sample reported a specific planned career interest and of the nine participants in the interest group, only five reported knowing what career they wanted to pursue in the future. Of those from the interest group, two participants responded to the question by stating, "ever since I can remember," two of them noted that they decided in middle school, while one indicated that he decided during the twelfth grade.

Qualitative Findings

The purpose of this portion of the study was to examine the experiences of high school students who have a sibling with a developmental disability. Specifically, the researcher was most interested in their planned career choice and motivations for that career choice and if they were more likely to report an interest in pursuing a job in the helping professions. Interviews with five students and five parents along with one email communication with a parent provided the data that were used as the basis of the conceptual model for the qualitative analysis. Only individuals from the group of interest were asked to participate in an interview. The interviews engaged the individual in conversation about their family situation of growing up with a sibling with a disability, how their personality was shaped based on their relationship with their sibling, the experiences they had because of their sibling, and how these factors may or may not have influenced their career interests.

Table 18

Summary of Sibling Demographics of Interviewees

Name	Age	Experience/Exposure to those with disabilities	Interest in a Helping Profession	Diagnosis of Sibling with a Disability	Sibling Age	Sex of Sibling with Disability
Gary	17	Sibling with a disability; volunteer work with special programs such as Special Olympics and summer camps for those with disabilities	No	Autism	19	Female
Rhonda	18	Sibling with a disability; volunteer work with special programs such as Special Olympics, summer reading programs for those with disabilities; attending college with a major in special education	Yes	Mental Retardation/ Down Syndrome	32	Male
Aiden	14	Sibling with a disability; has participated with sibling in sports programs for those with disabilities	No	Autism	8	Male
Renee	15	Sibling with a disability; has volunteered at summer camps for those with disabilities	Yes	Autism	18	Female
Krystal	19	Sibling with a disability; volunteer work with special programs such as Special Olympics, summer camps for those with disabilities; has participated with sibling in sports programs for those with disabilities; attending college with a major in special education	Yes	Mental Retardation	13	Male

The interviews were analyzed based on common terms and themes found within the transcribed interviews. Each sentence and paragraph of the interview was thoroughly reviewed line-by-line and key words or topics were separated for analysis. The first stage of line-by-line coding resulted in 86 initial codes. From the initial codes, one core category was developed, *My Personality and Experiences on my Planned Career Choice,* and four related key categories were formed. From the four key categories, several subcategories emerged.

Overview of the Categories

The emerging themes, found within the interviews, described the experiences of the high school siblings who have a brother or sister with a disability and their influence on their future career plans. These themes, or categories, evolved from the analysis of the participants' interviews. The core category of *My Personality and Experiences on my Planned Career Choice* incorporated the real meaning of the participant's experiences through the four related key categories: Roles and Responsibilities of Siblings, Personality Traits and Self-Descriptions, Exposure to those With Disabilities, and Career Influences, all of which were motivations and reasons for Planned Career Choice. Figure 7 displays a visual representation of the core category of *My Personality and Experiences on Planned Career Choice* and the related key categories.

Roles and Responsibilities of Siblings

Roles and responsibilities of Siblings was one of the key categories considered to be a part of the participant's experiences when considering a future career, particularly in the helping professions. The participants described many ways in which growing up with a sibling with a developmental disability has affected their roles and responsibilities within the home. The parents of the participants also offered their

perceptions of the relationship between their children and the influence it may have had on their child's career interests. Siblings typically engaged in basic chores such as making their bed and doing lawn work, as do most teenagers. However these siblings often discussed additional roles that appeared to be similar among the group. These roles and responsibilities may have both directly and indirectly affected them in leading them to a career in the helping professions. The category of *Roles and Responsibilities of Siblings* is comprised of three subcategories that emerged among the group: the "Older Sibling Role," which suggests that although these participants may not be the chronologically oldest child, they take on the role of the older sibling to their sibling with a disability (Farber, 1960); the Role of Caregiver within the Home; and the Family as a Team when approaching responsibilities within the home.

"Older sibling role." Three of the five participants that were interviewed were younger chronologically when compared to their sibling with a disability. In each case, the participants voiced that their role in the family was that of being the older child. These siblings did not present this at all in a negative tone, but recognized the uniqueness of their family situation in regard to birth order and the duties that come with being the older sibling. Gary, Rhonda, and Renee each spoke of this trend.

Gary acknowledged this by saying, "I would definitely say that I am the big brother although my sister is older." He went on to note that he believes that he has "more of a parenting role than what a brother would be." Gary's mother reinforced this idea by explaining that "he takes on the role of being very mature. He has a lot of leadership qualities." Rhonda is the youngest in a family of four children. Her brother with Down Syndrome is 32 years old. She expressed this concept in noting that "Of course I am the little sister with my two older brothers, but when it

comes to David, I am like the older sibling because I have to take care of him and I have to be home to baby-sit him often." Rhonda's mother gave examples of how Rhonda fills that older sibling role with her brother:

> Especially, like on the weekends if we sleep in, she will get him breakfast and make sure that he gets his medication. And of course, just watching and caring for an older brother is not something that a youngest sibling usually does.

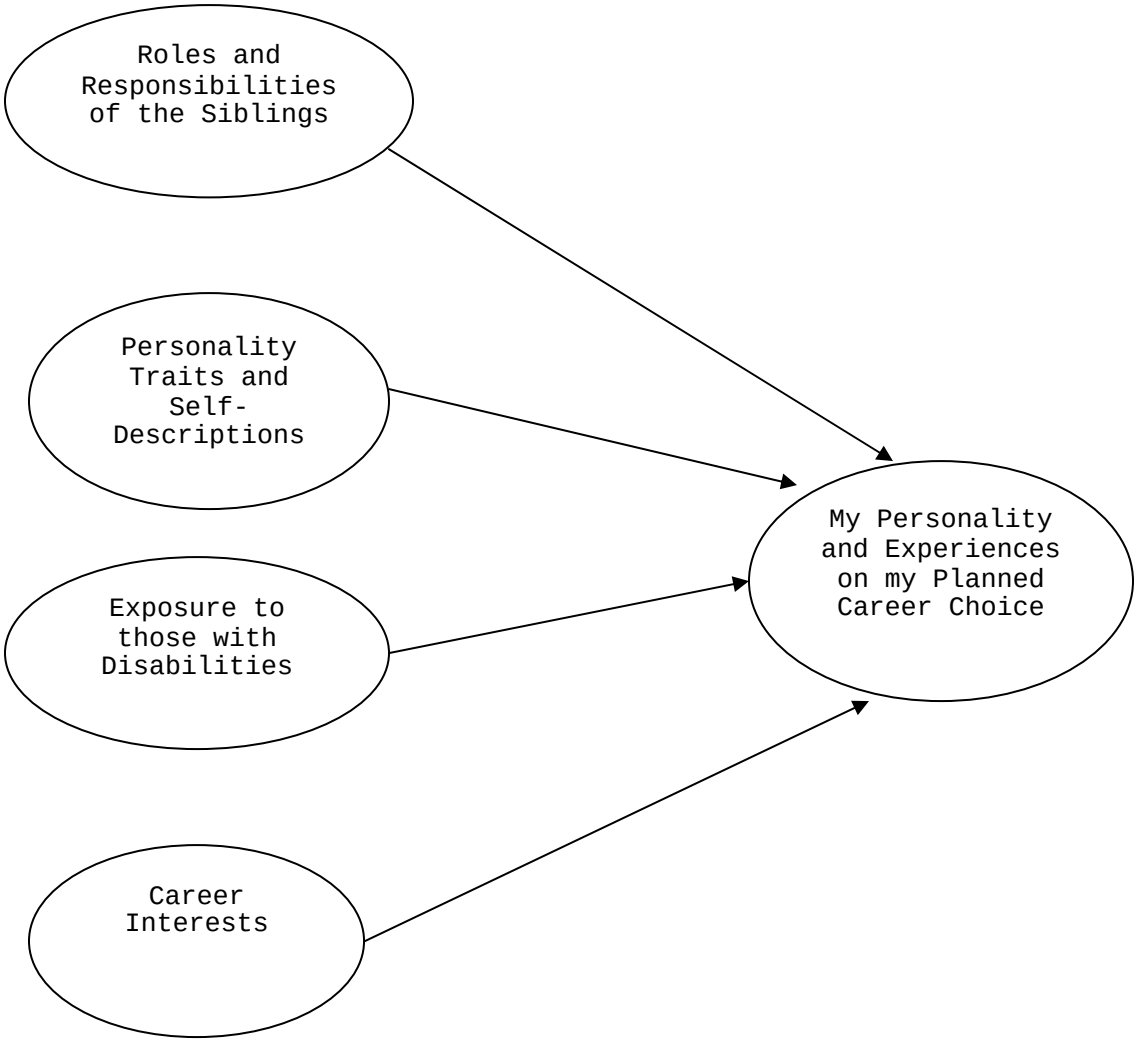

Figure 7: Visual model of the influences of students who have a sibling with a developmental disability on planned career choice.

Renee also feels like the older sister towards her sister with autism who is three years older: “I still feel like the older sister. Like, I will help with cooking sometimes and if they go out, I will help my sister get her stuff done.” Renee gave an example of that older sibling role by explaining how she works with her sister to accomplish everyday household tasks:

> Like, she didn’t know how to do the dishes that well, so I was having her dry them and I will wash them because she can’t do that. She can do them, but it takes her a really long time because she has to get everything. So, I have this system where she just does that and I wash them.

Caregiver in the home. Along with assuming the “oldest child” role within the family, comes the naturally occurring role of caregiver in the home. Most siblings agreed that they often take on a caregiver role within the family, despite the fact that many of their parents have expressed that they have tried to keep this from happening. When Aiden was asked about his role in the family, he described it as, “just a caregiver, well, yeah... and a big brother.” Aiden is the oldest of three children. He has a brother with severe autism, age eight, and a baby brother, age two. He reported that he helps his mother with chores often and helps with his little brother. His mother confirmed this role as caregiver and acknowledged that “he has been a help, as far as a care giver to Jordan.” She went on to recognize the great amount of care giving that Aiden does within the home:

> He assists Jordan. He’s my autistic son. He assists him with toileting, with bathing, feeding times, especially now that I have the baby, he can be an extra set of hands for me. He helps walk him to and from places we are going. For short periods of time, I can leave Jordan home with him, so that I can run to the store. So pretty much with every aspect of Jordan, he is a help.

Rhonda and her mother also described the significant support that Rhonda provides as care giver to her brother with Down Syndrome. Rhonda’s

mother noted that “of course, she has done a lot of child care for me.” Rhonda explained:

> I cook him dinner often. He has a breathing machine that he uses for his sleep apnea, so sometimes at night, if my mom is tired, I will get him ready for bed and put his machine on. Sometimes I have to check in on him when he is taking a bath because he forgets to take the shampoo out. I make sure that he is not getting bored around the house. I will play videogames with him and stuff like that. If he feels too cooped up in the house, he gets annoyed, so I will try to help with that like drive him to McDonalds or something.

Other participants, like Krystal and Gary, noted that they try to help out whenever they can with child care, even when they are not asked to do so. Krystal’s mother described her as a “helper” and reported that “she transports, baby-sits, and befriends him and keeps an eye out for him.” Krystal expressed that she helps her mother out a lot when she is home from college and will take her brother places. Krystal reflected on her senior year in high school and of the effort she put forth to care for her brother before her mother and father were home from work:

> My senior year of high school, I left school early because my brother got home from school before me and my brother’s bus got there before mine. I left school early so that I could be home for my brother and help take care of him. I would be home for him and give him a snack and stuff like that.

Gary often takes on care giving roles within the home, but admitted “they don’t force me to do it.” His mother also stressed that she and her husband, “never wanted him to feel like he was her caretaker.” Gary’s mother went on to note, that he goes “over and above what he needs to do. He is very helpful. He will occasionally watch Hannah, but we try not to have him baby-sit her.”

Family as team. An interesting theme emerged in talking with the families of children with disabilities. Even though the participants and their parents acknowledged the increased care giving responsibilities associated with having a household member with a disability, they often described their family as team oriented and of always pitching in when

needed without needing to be told or asked to do so. This was not a specific idea brought to the participants by the researcher, but one that presented itself naturally, as the participants were caught somewhat off guard when asked about their specific responsibilities within the home. Surprising to the researcher, most did not have designated responsibilities, but held the expectation that you just do what is needed without being asked to do so in an effort to support the family and keep the family system functioning efficiently.

Gary expressed this idea well in saying, “whenever I think of our family, I think of it more as team than two parents and kids. Whatever we do, we have to work together to make it happen.” Furthermore, Gary reported:

> If I see something, I don’t have to be asked to do it, you just do it. You know, if something needs to be done, you don’t wait. That just makes it easier for everybody in the long run. You know, whether that is simply just doing the dishes or taking Hannah up to the mall to give my mom some time to relax.

Similarly Rhonda noted:

> We all share responsibilities. There is no certain job. It’s like if you see something that needs to be done, you do it. So, like if the recycling bin is outside and you see if first, you get the bin. If the mail is in the mailbox, you get it. If David is hungry, you feed Dave. There are no given responsibilities in our family.

Both Krystal’s and Gary’s mother further discussed this trait in their children. Krystal’s mother stated, “None of my children have to be told that they have to do something, it is just natural in our family to go ahead and do things.” Likewise, Gary’s mother noted that “he doesn’t need to be asked to do anything.” “He goes over and above what he needs to do.”

The key category of *Roles and Responsibilities of the Sibling* shared some similarities to the next key category, *Personality Traits and Self-Descriptions*, as both may directly and/or indirectly affect their future

career interests. For example, these siblings' roles as caregiver and team players coincide with the development of their personality and as they age, their vocational personality.

Personality Traits and Self-Descriptions

Personality Traits and Self-Descriptions was a category that developed based on the specific personality traits parents described their children as having along with the self-descriptors given by the siblings themselves. Admirable qualities and traits were given to these siblings and often based on their interactions with their sibling with a disability. Many parents and siblings believed that their family member with a disability helped to shape their outlook on life and influenced their personality. These qualities and personality traits included adjectives such as caring, patient, tolerant, protective, nonjudgmental, passionate, sensitive, understanding, assertive, and compassionate. Clearly, these interactions with their siblings began much earlier than high school and have molded them into the people they are today. The four subcategories that emerged most fully were Having Patience, Understanding of Others, Being Tolerant and Nonjudgmental, and Being Passionate.

Having patience. Patience was a trait that each of the five participants labeled themselves as having. This quality was one that was learned early on from having and living with a sibling with a developmental disability. And, many participants connected this trait of having patience to how it may affect them in their planned careers endeavors.

Gary and Aiden spoke of the need for patience when having a brother or sister with a disability. Gary explained that his sister helped shape his personality by making him more patient. He went on to say, "more patient, that's a given, you have to be with kids like that." Gary reflected and indicated that he is grateful for his sister and wondered

what he would be like if he didn't have a sister with a disability. He acknowledged that even though things can be bad at times, "it is mostly very, very, good."

Aiden agreed, "You have to be patient with him. Like you tell him how to do something and he may not be able to do it the first time." Aiden further added that his brother with autism has made him a stronger person. Aiden's mother described her son as being "more patient and more apt to help others in general whether they have a disability or not," because of his brother. Both Gary and Aiden also believe that patience will be beneficial in the future with their careers. Gary mentioned that people have recognized this quality within him when they see him with his sister, "they say the patience I have would be good in this field or that field." Krystal believes that "working with special education students takes a lot of patience and some people just don't have the knack for it." Neither Gary nor Aiden plan to pursue a career in the helping professions, but recognize the need to have patience with others in the work force regardless of the ability level of those with whom you are working.

Understanding of others. Along with patience there is understanding. As with patience, many participants felt that growing up with a sibling with a disability enhanced their ability to be sensitive, caring, and understanding towards others. Their parents also accredited their children with having these qualities. Gary's mother found that his sister with autism "helped him to be more compassionate and loving, and understanding of people with disabilities." Similarly, Krystal's mother believes that Krystal's brother has fostered "compassion and understanding of other people with disabilities" in her. Her mother went on to say that Krystal's brother "has helped her realize that people with disabilities still have feelings and emotional needs."

Being tolerant and non-judgmental. This increased level of understanding of those with disabilities has also influenced the participant's level of tolerance for those less able and has made them less judgmental of others. Many of these siblings have internalized these feelings and have used this sense of understanding in advocating for those with disabilities, educating others about disabilities, and taking on protective roles with their siblings.

When describing Rhonda's personality and her son with Down Syndrome's influence in shaping her personality, Rhonda's mother pointed out that "living with a child with a disability makes you more tolerant of other people's differences." Furthermore, his influence has helped with:

> making her sensitive to other people's needs. She is willing to look out for another person. I think it has helped all of my children because David is who he is and he doesn't care about what everybody else thinks, so all of my children have grown up not caring so much about what other people think.

Rhonda's mother believes that this has helped her children through their teenage years. Aiden's mother also believes that Aiden's experiences with his brother with autism have increased his level of tolerance towards kids with disabilities. Rhonda reported the way that her brother with mental retardation has shaped her personality, specifically in her tolerance of others:

> He has definitely made me more aware of other people's feelings and not quick to judge a lot of people. I have met a lot of his friends who on the outside look normal, but mentally they are not. It has definitely made me less of a judgmental person.

Krystal has "built more of a respect for kids and families of children with special needs." She went on to report:

> I have gone through life seeing the reactions of other people around people with special needs. I think I just have a great respect for people with special needs.

Gary also finds a deep respect for families of people with disabilities and feels that, because of his experiences with his sister, he has become

more sympathetic towards other people. “I won’t automatically look down on someone because they look different or act different.” Gary admires families that have children with disabilities and appreciates their adversity.

> It is amazing what families like mine can do. Both of my parents work and I try to keep a 4.0. My sister is severely handicapped, but like I said, it helps you think that things aren’t perfect in this world and you are gonna have some tough moments, but you can overcome them and nothing can stop you. I am sure when my parents found out that my sister was going to be mentally handicapped they were scared out of their mind, but it is just something you live with and I think that I am much better off because of the way she is. I am glad that she is who she is because she has made me who I am.

Because of the respect that the participants have for people with disabilities and their families, many of them want to educate others about disabilities, in an effort to promote tolerance of these individuals. Renee’s mother explained that her daughter often provides education to her friends about disabilities. “A lot of her friends haven’t been exposed to it and she will explain, or because they are around her, they will learn more about people with disabilities.” She also noted that Renee has encouraged her friends to volunteer with the special needs population.

Both Krystal and Rhonda are already pursuing careers in the helping professions and are currently enrolled in college and studying special education. When applying for college, Krystal used her experience with those with disabilities in her essays:

> I wrote them based on the ideas that I wanted to make a difference in both regular and special education. I want regular education students to understand kids with special needs better. I want special education students to know that they can learn and it may be a little harder, but that they shouldn’t get themselves down. They need to know that they are smart, but learn differently.

Likewise, Rhonda wants to “teach people not to be so ignorant of people with disabilities.”

> I have a really low tolerance for disrespect. When I hear the “R” word, I get really offended. When I am in the schools, I want to

> teach all of the kids, regular education kids, at an early age, that just because mentally they are different, doesn't mean that they don't have feelings or are not normal people.

Many times, this educating of others transforms itself into advocacy or protective roles in these siblings. Several parents of the participants expressed the assertive nature of their children in standing up for their siblings and in assuming a protective role of them. Krystal's mother reported that Krystal "doesn't like certain terminology that they might use and she will bring it to their attention." Similarly, Rhonda's mother finds her daughter to be more assertive because of having a brother with special needs, "She defends him. If someone in public teases, she stands up for him quicker than I do." Gary's parents both find this protective quality in their son as well. His mother noted, "He is like her protector, almost to the negative. He feels that he has to watch over her and be her guardian." His father agreed and added, "He's only been in three fights in his life and they were because of amazingly crude comments made by young men who came to regret their statements." Gary's father went on to say, "He would walk through fire for his sister and is compassionate towards those who are less able to fend for themselves, for whatever reason."

Rhonda and Renee also admitted to feeling the need to advocate for their siblings in social situations. Rhonda expressed her feelings in saying:

> Yes, I stick up for him a whole lot. I have been in plenty of arguments at school because they always make fun of him and I don't like it. He didn't choose to be born with Down Syndrome and he is one of the most caring people in the world and shouldn't be made fun of.

Renee expressed a similar sentiment and has accredited her tolerance to the experiences that she has had with her sister:

> I tend to stand up for other kids and I don't judge them as much. And, I feel like it...like I feel like if I didn't have her as a sister, I wouldn't have taken the time to learn who these kids are.

> Like you see them and think, “they are so weird.” But if you take the time to get to know them, most of them are so sweet.

Gary, one of two interview participants that is not planning to enter a helping profession, is interested in pursing a job in politics. Even though his plans do not include teaching or serving those with disabilities directly, he notes “it is admirable that people want to go into special ed.” Gary has thought of other ways to encourage tolerance and advocacy for those less able in a political realm.

> If I ever got into the government... worked for a senator or congressman, I would love to do something with special needs. Anyone could say that they want to help out, but unless you have been through it, you really don’t know.

Gary believes that there is a lot more to be done in the field of special education, particularly with funding. Gary’s mother also envisions him supporting “handicapped kids or special needs” groups in the event he obtains a government position.

> If he is in the government and there is a way that he could influence special needs interests, I am sure that he will do that. I think it would be a top priority. He did mention about Palin and her interest in special needs. He thinks that’s wonderful, so maybe he would do something like that.

Being passionate. The voices of these brothers and sister who have siblings with disabilities are often expressed with passion, determination, and enthusiasm. They believe that they can make a difference in our society and in the welfare of those less able. Their willingness to share their experiences and plans for the future along with the excited tone in their voice demonstrated such passion. Krystal “wants to be thought of someone who can make a difference.” “I really think that I am someone who can make a difference.” Her mother specifically described her as a “passionate” person. “And, with her passion, she follows her heart and when she does something, she does it with a lot of vim and vigor.” Gary’s mother is also proud of her son and of the endeavors that he takes on so passionately, “It is nice and a good

feeling knowing that your child has a passion. Some people don't get that for 20 years."

Exposure to those with Disabilities

With the sibling interactions that have occurred throughout these individual's lives, these siblings have had the unique experience of being exposed to people with disabilities, both within the home and outside of their family. Many of the participants believed that because of their awareness and exposure to those less able, they have developed a greater sense of how to impact the lives of people with disabilities. Feelings of pride often emerged when they spoke of their increased knowledge and skills in interacting with those less able. They also believe they have an advantage over those who may be involved in helping professions that have not personally experienced the impact of a disability first hand. Subcategories that emerged from the key category of *Exposure to those with Disabilities* included: Family with a disability; Experiences with their sibling; and Special experiences, such as volunteer work and Special Olympics.

Family with a disability. Growing up in a family with a child who has special needs not only gives its members that experience with that one individual, but also opens the door to many other opportunities to interact with this special population. As discussed earlier, siblings of people with disabilities believe that they have a unique family situation compared to those families that do not have a person with a disability within the home.

Families have been described as using a team approach to everyday tasks and responsibilities. A sense of pride was also found within these families from knowing of their accomplishments and their perseverance through difficult situations. I refer back to Gary who noted, "It is amazing what families like mine can do" and his positive attitude in

saying, “things aren’t perfect in this world and you are gonna have some tough moments, but you can overcome them, and nothing can stop you.”

These siblings have also attributed many of their own personal traits and strengths to having grown up with a brother or sister with a disability. Several of the participants have commented that they are who they are because of their sibling.

Experiences with siblings. As discussed in an earlier section, siblings of children who have developmental disabilities reported having a care giver role in their interactions and experiences with their sibling. As the brothers and sisters of those with disabilities will admit, sacrifices are sometimes required to support the family. And as Gary has said, “we have to work together to make it happen” and “that just makes it easier for everybody in the long run.” Despite the hardships that are endured, all of the participants discussed the many positive interactions and experiences they have had with their sibling and some reflected on the impact they have had on them as human beings. Gary explained, “I think I am much better off because of the way she is. I am glad that she is who she is because she has made me who I am.” Gary described his sister and noted that “she is amazing at putting a smile on your face.”

Rhonda described her older brother with Down Syndrome as “her best friend.” Her mother reported that Rhonda, “takes him out to dinner and plays videogames with him and will put him to bed on the weekends, because he will stay up with her.” Rhonda added to this, as she laughed, “Every time my mom says that he has to go to bed, he comes and hides under my covers.” Krystal also described a very loving relationship with her brother with mental retardation.

> I really enjoy hanging out with Ryan. When I go home, he is usually the one that I am happiest to see. I like being with him and his friends. I really enjoy it and he has made me want to be in the field that I am studying.

Krystal's mother reflected on the bond that Krystal and her brother share:

> I think that the two of them together have a very special different type of relationship from the rest of them, but I think he has brought a lot of sunshine and light into her... and, compassion and understanding of people with disabilities.

Having a person in the home with a disability predisposed these participants to learning about differences among people and special needs. And because of this initial exposure, many additional opportunities and special experiences have presented themselves to these siblings through volunteer work, participating in Special Olympics and other sports related activities for children with disabilities, as well as summer camps. Many of these activities have further fostered a desire to help those that are less able and, in some, have inspired them to pursue secondary education in fields such as special education.

Special experiences. Each participant expressed that they have been involved with special experiences because they have a brother or sister with a disability. All of the participants reported having been involved with volunteer activities such as Special Olympics, summer camps for children and adults with developmental disabilities, as well as sports activities such as Challenger League baseball, swim team, and bowling leagues. These experiences all began because of the support they were giving to their sibling. Gary has volunteered with Special Olympics and loves taking his sister to the pool. Aiden has attended summer camp with his brother with autism and has participated on a baseball team with him. His mother explained that, "He is Jordan's helper on the Challenger League. And that is something that if Jordan wasn't autistic, he wouldn't be doing."

Other participants also reported attending summer camps to support people with disabilities because of their sibling. Renee attributes attending these activities to her interest in wanting to help others:

> I think she has helped me to get more opportunities to work with more kids so I get more used to it and more experience with it at a younger age. So, I think it will help me with other careers.

Krystal has also volunteered for several special needs activities. Currently she is away at college, but explained that when she lived at home, she helped out with her brother's special needs baseball team:

> My brother was on the special needs baseball team so I helped out with that. It was like a buddy system and I would play baseball with him. Now, I just go out and support him since I am not around all of the time to be his buddy. I would stand with him while he batted so that he didn't get hit by a ball.

Krystal went on to note that she also cheers for him at basketball games and enjoys supporting her brother, as she stated, "I love doing it and it is why I am in the major I am now." Krystal's mother noted:

> Her life experiences have affected her wanting to be a teacher. And then with friends and family, special education has been added on. She has a love of the children. She was thinking about being a doctor or pediatrician and then nursing, so it has always been about helping other people.

Krystal is studying to be a special education teacher and believes that her experiences and exposure to those with disabilities has made her an optimal candidate for the field.

> I think it will help me be a better special education teacher because I have had the experience prior to entering the classroom. I have been around my brother, his friends, and around people on his baseball team. I can incorporate things that I have learned over the years to teach them and to help them learn better in the classroom. I have been exposed a lot earlier than some of the people I am in classes with now.

Similarly, Rhonda reported:

> I think I have kind of one up on other people who are becoming special education teachers, because I have that personal experience. I know about life skills and I know how to help with those things and I have more experience. I think I am really good for it because I know how to deal with it like when to stop pushing when they just aren't getting it.

Like Krystal's mother, Rhonda's mother believes that Rhonda's life experiences with those who have disabilities have helped lead her towards the helping profession. Rhonda's mother is a special education teacher

and discussed Rhonda's experience assisting her in a summer reading academy for children with disabilities:

> She was wonderful with the children. She was able to be consistent yet caring with the discipline. She was able to show initiative and was able to modify things on the run. Many aids that I have worked with have needed step by step telling them what to do and she was just in there and I never had to say, Rhonda, do this..." The kids related very well to her. And, also at "special populations," which is for adults with handicaps, everybody loves her and gives her hugs and asks, "Where is Rhonda?" She just has that natural ability within her.

Rhonda's mother added that she believes that, "she has had the experience with her brother and all of the social experiences that go along with him. Because it is not just her brother; she has had a lot of exposure to the special needs population."

Because children of those with brothers and sisters with developmental disabilities are exposed to those less able both inside the home and in the community, it is reasonable to assume that one's career interests could be influenced by both the family situation of growing up with a sibling with a disability and the experiences and opportunities that arise in the community because of their sibling. The researcher was interested in investigating the various influences that may affect one's planned career decision, particularly if they were interested in pursuing a helping profession.

Career Influence

In this next section, the key category of Career Influence will be reviewed. Within the category of Career Influence, the subcategories of Sibling Influence, Parental Influence, and School Influence emerged.

Many participants felt that growing up with a sibling with a developmental disability has impacted their interest in following a career path toward the helping professions. One participant's parent felt that her son's responsibilities in the home and his brother with autism may have pushed him away from the helping profession. However, a number of

other influences have shaped these siblings and contributed to their planned career endeavors. Of the five participants, Rhonda and Krystal reported that they were currently enrolled in college studying special education. Although Renee did not report a specific career choice at this time, she did note that she plans to work in a helping field. The two males, Gary and Aiden, do not plan to pursue careers within a helping profession.

Sibling influence. Participants were presented with the question, "Who do you believe had the most effect on your career plans?" Renee, Rhonda, and Krystal all attribute their wanting to go into a helping profession to their sibling with a disability. Krystal explained that she has wanted to be a teacher ever since she was five years old, but because of her family, she moved toward special education. When asked about her biggest influence, she responded by saying, "I think that my brother did, honestly." "I really enjoy it and he has made me want to be in the field that I am studying." Similarly, Renee responded by noting, "Probably my sister." Renee believes that because of her sister, she has been able to get more involved in activities for those less able, such as summer camps, volunteer work, and Special Olympics. Likewise, Rhonda explained that David, her brother with Down Syndrome, was probably the most influential. She went on to explain that she originally wanted to be an occupational therapist, but after her experience with her brother and in her mother's classroom, she realized how much she loved working with people with disabilities. Rhonda reported:

> I think definitely having to help my brother out a lot made it, made me want to do it. Like using the VCR, I have to keep teaching him and keep teaching him, but then there is that one day that he actually does it, it gives you so much satisfaction and it is all worth it. I want to do that for the rest of my life. It is a good feeling.

Rhonda's mother agreed and said that David has been the greatest influence on Rhonda's desire to be a special educator, "because she became interested and willing to help out because of him."

On the other hand, Aiden's career interests lie in the mechanical field of collision repair. He has been described by himself and his mother as a student who prefers hands on type activities. Aiden's mother believes that his experiences as a caregiver to his brother with autism have actually moved him away from an interest in serving and helping those with disabilities. "I don't think that he will go into a caregiver field or a field that helps people with special needs because he has got that so much at home." She went on to explain that he may have been more apt to go into a service field had he not had the additional responsibilities at home because of his brother. "So, for being the oldest and having an autistic sibling both affected him into not wanting to do a caregiver career. He has already fallen into that role, so I don't think he would want to do it more."

Throughout the analysis of the data, the participants' career interests were reportedly influenced by their brother or sister with a disability; however, other influences were present as well. Several participants also admitted that their parents had large influences on them and their career pursuits, particularly their mothers.

Parental influence. For the most part, the group of interest participants acknowledged that it was their brother or sister with a disability who influenced them most in pursuing a career in the helping professions. However, several participants also credited their family as a whole and their parents as impacting this decision. Both Krystal and Rhonda have mothers who work in helping professions. Krystal's mother is an instructional aid for an elementary school, while Rhonda's mother is a special education teacher for an elementary school. Through their

mother's jobs, these participants have been exposed to the field, have been in their mother's classroom to observe their jobs, and have had opportunities to volunteer and work with their mothers.

Although, Rhonda's mother believes that her son, David, has had the greatest influence on Rhonda's desire to be a special education teacher, she also thinks that having a parent as a special educator has affected this. "I think she just has examples from myself and my father. We were both special educators." Rhonda acknowledged this, "Yeah, and because my mom is a special education teacher. After school, I would always be in her classroom and help kids in her classroom." Krystal's mother also believes that, because she herself works in the school system, her daughter has had the additional parental influence.

Gary has chosen not to pursue a career in the helping professions, but attributes his interest in pursuing a career in the military and/or government to his family. Gary believes that "the military is the most honorable profession there is." Gary explained that his whole family comes from a military background. He noted that his mother believes that it was his father who has made him want to go into the military; however, Gary explained that it was a lot of people who have helped him develop the interest.

> I look up to people who have chosen that field. My mother just retired as a colonel. How cool is that. I don't think she realizes how much of an impact that she has had. I don't think many people can say, "well my mom is one step away from being a general in the air force." So, it's pretty cool. And my whole family has been that way. My grandfather and my dad have been in politics their whole life. And I love and am very interested in politics and the government.

Gary noted that because of his parents, he has had opportunities to go to the United States Capitol. His mother noted that he went to the Republican National Convention as a page, which caught his attention and is further leading him into a government career.

Renee and Aiden's mothers do not believe that they or their spouses have influenced their children to pursuing professions related to their own career. Renee's mother explained:

> My husband is IT and works on computers and she has never really tried to get any information from him. She just wants dad to fix the computer if it needs it. She really doesn't get excited about that as a job. My family has a bakery business and I work there a few days a week and she has no interest whatsoever in that. She has no desire to go there... both of those jobs, she has shown no interest.

Similarly, Aiden's mother does not attribute her or her husband's influence on Aiden's career choice.

> Not me, because I obviously would want him to do something more academic than collision repair. No, not really his dad... You know, I really think that Aiden has chosen on his own. I don't think it is anything that we have done. If anything, he is doing the opposite of what we would have wanted although I am happy that he has found something for him.

Aiden's mother feels that Aiden has had the most effect on himself.

> I think he realizes that he doesn't read as well and doesn't like to do desk type of work. He likes to work with his hands in like a mechanic or engineering type way where he can make things. He found out on his own what is the best thing for him to do.

The participants have supported the notion that their experiences and interests have played a significant role in the development of their vocational goals. Aiden's career path seemed to be most influenced by his skills and aptitude and his self-awareness of his academic strengths and weaknesses. In talking with all of the participants and their mothers, the researcher was interested in learning of how the school helped prepare them for post-secondary education and/or work following high school.

School influence. The third subcategory that emerged when exploring the influences on career choice was that of the school's influence. Discussion with the participants about the school's influence was directly questioned by the researcher. The participants themselves did not spontaneously credit the school as providing significant guidance in this area. When asked if the school helped guide her in career decision making,

Krystal knew about a career center in her school, but responded by saying, “not really. I don’t think so.” Krystal noted that she didn’t really see the importance of it. “I don’t think it helped me with my major or anything like that.”

The parents and the student participants did not seem to know what was available through the school system in terms of vocational planning and career counseling support. The participants typically discussed formal classroom activities and projects or just the knowledge that there was a guidance counselor who was available if they had any questions. A few participants mentioned that their school had a career center and that they could talk to someone there if they didn’t know what they wanted to do for a career.

Despite the lack of awareness of what the school could offer, most participants did not expect the school to help them in this area. One parent noted that her son’s teachers have all been “phenomenal” and provided a lot of support academically. However she noted that in terms of vocational planning, “I don’t know if I believe that the school has to be involved.” She explained that she thinks that “it is more of the parent’s responsibility than the school’s responsibility.” Gary indicated that he has had great teachers and has been very lucky, but went on to note that no one has guided him in his career decision making. He stated, “I have always known what I have wanted to do and the teachers really haven’t played a role.” He also mentioned:

> I knew what I wanted to do and I didn’t need a teacher breathing down my back to tell me what I should do with my life. I have never, maybe it was there, but I was never open to it. I always knew what I wanted to do and everyone knew what I wanted to do in life.

Aiden, the youngest of those who participated in an interview, did seem to benefit from a vocational program offered through the school system. Aiden and his mother described a career and technology program

that offered various programs for career exploration. This program requires an application process and utilizes a hands on approach to education. Aiden was accepted into the collision repair program and credited his guidance counselor for helping him reach that goal. According to his mother, this is a fairly new program that requires application in middle school. Therefore, Aiden may have been the only student offered this resource, since all other participants are older than he is.

Participants were also asked the question “what do you think school personnel should be aware of when helping a child who has a sibling with a disability when career planning?” Nearly all of the participants and their parents believed that they should not be treated any differently than their peers in this area. Renee noted, “I don’t think there is any need for them to know that their sister is special.” Gary’s mother indicated, “Same thing they would do for anybody. It is no different, in my opinion, whether you have a sibling or not.” Krystal’s mother agreed, “I don’t know if having a child with a disability should have an effect on how they help kids with their career choice.” Krystal also indicated that she thinks that they should be treated the same as any other student.

Although Rhonda indicated that she wouldn’t want anyone to look at her differently as far as feeling sorry for her, she admitted that she would appreciate it if they acknowledged her by saying that she may be good at something due to her experiences. Rhonda and her mother indicated that it may be a good idea for the school to pay attention to these sibling pairs and to consider that they may be more likely to enter helping professions. Rhonda spoke of being disappointed with the school system because they did not offer opportunities for her to volunteer or to work within the school with the special needs population.

> I would have liked to have had a shadowing program type of thing where I could have gone to a special education teacher's classroom, and someone that wasn't my mom, and gone in and shadowed them and seen how they like it and observed their approach. If I could have done something like that, I probably wouldn't have originally gone to college as an occupational therapy major. I would have gone straight into special education.

Krystal would have also liked the school to offer opportunities for exposure to working with the special needs population. She indicated that as she was getting ready to graduate, the school started a program called "Best Buddies." She explained that students were paired up with other students in the school who had disabilities.

> I wish it would have started earlier. You could hang out with other students with disabilities in school and out of school and do different programs with them. It really didn't get started until I was leaving my senior year, though. I believe it is going really well now and I hear about my brother's high school friend's, "best buddy."

The advice that the participants had for those working in the school system, when helping any student plan for their future career was fairly simple. Participants and their parents suggested that school personnel get to know each student and become aware of their interests, what they are good at, and what would make them happy. Renee commented, "talking to you about what you would be good at doing and telling you more about career opportunities... like tell you... I don't know exactly how they would do it, but just let you know what options you could do... that could help." Similarly, one parent advised that the school encourage students to look into many options, since they may not know what is available to them in the workforce. Rhonda would like teachers to focus less on how much money you may make doing a certain job and more on what a person might be happy doing.

Motivations. There are several reasons for why someone may be interested in a particular field, such as money or power. However, as Rhonda stated, there is also the importance of being happy in your career.

Gary will be attending college to study political science with hopes of obtaining a job in the government. Aiden is currently involved in a program that teaches collision repair at his high school. He plans to continue this course of study and obtain a job in collision repair. Rhonda and Krystal are currently enrolled in college and are studying to be special education teachers. Lastly, Renee, who did not list a specific career choice, did know that she wanted to pursue a job helping others.

> I just think that I am really good at helping people with their problems. Like, I have helped people through a lot of things and I seem to be really good at it. I really like helping people, it makes me feel good knowing that my friends are okay and I don't really seem to be interested in anything else. I don't know exactly what I want to do yet, but that is the one thing that I am interested in.

Of the five interview participants, three acknowledged that they were going to pursue a career in the helping professions, while the two male participants indicated that they would not be pursuing a helping profession.

In the quantitative analysis section of this chapter, the following three motives were listed as being the most frequent based on the questionnaire data of the nine total interest group participants: strong interest in that field, strong interest in helping others, and experience with a brother or sister with a disability. Other reasons for their interest in pursuing a helping profession included: a desire to improve services for individuals with disabilities, because of parental influence, a strong belief in the social justice and rights of those less able, to influence views on special education, to learn more about disabilities, it is a career of high status, and because of their skills and aptitude in that area. These motivations also appeared as reoccurring themes found within the qualitative analysis of the interview data.

Since variables, such as sibling influence, parental influence, experience with people with disabilities, as well as the strong interest

in helping and advocating for those less able, has already been reported in earlier sections of this chapter. This final section will focus on the siblings' voice and their enthusiasm for pursuing a career in the helping professions.

In analyzing the data, it was clear that these siblings had seriously taken their life experiences, as well as their interests and aptitudes into consideration when developing their career goals. Although Aiden and Gary are choosing to pursue careers that do not directly involve helping others, they have based their decision on their interests and aptitudes and have not overly identified with their family situation.

Rhonda, Renee, and Krystal have also demonstrated a strong sense of self-awareness and have taken advantage of the many experiences they have been offered because of their sibling with a disability. They have sought teaching opportunities through summer camps and have volunteered for Special Olympics and various social groups available to families of people with special needs. They appear to truly understand what it takes to work in a helping profession. These young women have reported the personal satisfaction that they feel when involved in helping others. They are pursuing these careers for themselves and do not appear to be pressured by their families to go into these fields because of their siblings.

When asked about the reasons that they decided to pursue a career in the helping profession, both Rhonda and Krystal explained that it gives them satisfaction knowing that they are making a difference in someone's life. Rhonda reported, "It gives you so much satisfaction and it is all worth it. I want to do that for the rest of my life." She went on to explain, "And, I think it would be a job. I could wake up every morning and think, "I am going to help somebody today," You know, eventually, I could change somebody's life."

Similarly, Krystal stated, “I just like teaching, I enjoy it. It is great to see a child finally get what is going on after they have struggled. I enjoy enriching people’s lives.” Krystal wants to be thought of “someone who can make a difference.” And, she believes that she is someone who can make a difference. “I want to try to make a difference in the world when raising the acceptance of people with disabilities.”

Summary

Results of the quantitative data analyses showed no significant differences in reporting a planned interest in helping professions in children who have a sibling with a developmental disability when compared to those who do not have a sibling with a developmental disability. There was no significant difference found in reporting an interest in pursuing a helping profession based on sex, birth order or size of family. Results of the Chi Square statistic as well as the Fisher’s Exact Test indicated that students who report an interest in a helping profession are more likely to have the social (S) personality trait in the first position of the Holland Personality Code. Other research questions were not statistically analyzed due to the limited sample obtained in the study, especially when looking at the interest group. The research questions and the experiences of children who have siblings with developmental disabilities were more fully explored through the qualitative analysis of the interviews conducted with students and parents from the interest group.

Through the qualitative analysis process, each participant reported that having a sibling with a developmental disability influenced their planned career choice in some way. All female participants reported that they will be pursing a career in a helping profession. This decision was largely influenced by their roles and responsibilities within their home,

opportunities that were available because of their sibling, and the personal experiences that they had with their sibling. And, although, Aiden and Gary are not pursuing careers in the helping profession, they believe that their experiences with their sibling will help them in their careers. Gary spoke of wanting to advocate for those with special needs in a political realm and has a great respect for families of those with disabilities and those who enter helping professions. Aiden believes that his patience with people will help him when working with people in his field of collision repair.

The specific areas and the degree of the influence varied among participants, but everyone reported being inspired in some way by their sibling with a disability. These participants and their families shared common roles and responsibilities within the home and used a team approach in supporting the needs of the family to keep it running efficiently. The participants did not speak of their lifestyle as being a burden, but one of reward. They spoke of the family experiences with pride and in a positive light. Many of these participants believed that they have become who they are today because of their brother or sister with special needs.

Additionally, these siblings described themselves as having several positive attributes and believed that their sibling helped shape their personality. Qualities such as being patient, understanding, caring, compassionate, tolerant, nonjudgmental, assertive, and passionate were common traits given to these siblings by themselves and their mothers. These strengths were enhanced over years of interactions with their sibling, as well as their interactions with their siblings' social groups and through volunteer work. These activities further fostered the participants' understanding of what it takes to enter a helping profession. These experiences often led these siblings to feel that they

had “one up” on other people going into the helping field because of their experiences.

Having a sibling with a developmental disability appeared to be a global influence on the participants’ interest in pursuing a helping profession, but the additional influences of the participant’s parents, particularly their mothers, and the opportunities within the community, could not be ignored. Both Rhonda and Krystal have mothers who have established careers in a helping profession, specifically in education. Because of their mothers, they also have grown up listening to their mother’s work experience, have been exposed to their mothers’ classrooms, and have worked with students through various school volunteer opportunities. Even Gary acknowledged that his mother has been a large influence on his interest in the military and government.

Also, participants often assumed advocacy and protective roles due to their experiences and their belief in standing up for those less able. A few participants spoke of the negative comments that people have made to their siblings or other people with disabilities. These siblings may have developed assertive traits because of this and have defended their brothers and sisters, as well as other people who could not fend for themselves. The participants in turn want to educate people about disabilities and promote tolerance of people’s differences. Krystal and Rhonda plan to educate students about individual differences in their future as educators.

The core category of *My Personality and Experiences on my Planned Career Choice* contained the spirit of the participant’s experiences through their own voice. The specific influences on the participants’ lives and their vocational development were presented in four key categories: Roles and Responsibilities of the Child, Personality Traits and Self-Descriptions, Exposure to those with Disabilities, and Career

Influences. But overall, those who reported wanting to enter a helping profession are doing so because of the personal satisfaction they feel when helping others. They are passionate and truly believe that they can make a difference in our society through enlightening and enriching people’s lives.

CHAPTER V

A DISCUSSION OF THE STUDY

This chapter discusses the relevant conclusions of the study. The proposed research questions and their related findings are examined. Quantitative findings will be followed with qualitative findings, with similarities and differences being explored with past research studies. Complications and limitations are presented and the effects of these limitations on the outcome of this study are discussed. Finally, recommendations for future research will be offered.

This study used descriptive statistics and qualitative methods to examine the effect of having a brother or sister with a developmental disability on one's planned career choice. Data from participant and parent questionnaires, as well as results of the Self-Directed Search (SDS) provided the basis for the investigation. Interviews added rich data and further meaning to the quantitative data that were obtained.

While there is a body of research focusing on the challenges of siblings growing up with children with disabilities, there is a shortage of literature pertaining to sibling career interest. The few investigations of this link have shown conflicting results from past to present making it difficult to form conclusions as to whether growing up with a sibling with a developmental disability influences one's career decision. This study addressed variables and influences related to career choice and the emergence of themes among children who have a brother or sister with a developmental disability and the effect it has had on their planned career choice. The study also explored reasons and motivations for their planned vocational endeavors. Several research questions were not statistically analyzed due to the limited sample size obtained for this study. Those questions that were statistically analyzed will be discussed first followed by the others. Although some questions were not

investigated quantitatively, results were obtained through qualitative measures and will be discussed later in this chapter.

Quantitative Findings

Helping Profession and Sibling

To explore the relationship between having a brother or sister with a developmental disability and choosing a helping profession, the following research question was asked: Are teenage siblings of children with developmental disabilities more likely to report an interest in helping professions when compared to their peers who do not have a sibling with a developmental disability? To analyze the data, the Crosstab procedure was utilized to compare group differences between those participants who had a sibling with a developmental disability and those who did not have a brother or sister with a developmental disability. The Pearson Chi Square test and Fisher's Exact test was used to compare the difference among these groups.

Given the assumption by several researchers, authors, and siblings themselves that children who grow up with a sibling with a developmental disability often gravitate towards the helping professions (Cleveland & Miller, 1977; Farber, 1963; Grossman, 1972; Marks, et al., 2005; Seligman & Darling, 2007; Meyer & Vadasy, 2007; Siegel & Silverstein), the following hypothesis was formed: A greater number of students who have grown up with a sibling who has a developmental disability will report an interest in pursuing a helping profession when compared to students who do not have a sibling with a developmental disability. Nevertheless, results revealed no significant difference between those who had a brother or sister with a disability and those who did not when examining career interest. These results were commensurate with the more recent studies investigating this correlation. Konstam and Drainoni (1993) and Burton and Parks (1994) found no statistically significant differences between

the career aspirations of individuals with disabled brothers and sisters and those of classmates with nondisabled brothers and sisters.

It is possible, however, that no significant differences, between the two groups, may have been observed in this study, due to the small sample size. Although, results were not statistically significant, results may be of clinical importance, because there appears to be some differences between the groups. The majority of siblings who have a brother or sister with a disability reported an interest in a helping profession (55.8%) whereas the comparison group's interest in a helping profession was only 23.5%. Data were analyzed several ways to explore this relationship, such as by comparing the specific stated career interest by job title, by general career category, and through analysis of the highest vocational code of Holland's RIASEC model. In each instance, the sample size may have contributed to the outcome. Given a larger sample, significant differences may have been detected. Also, nearly half of the overall sample did not report a particular planned career interest, which may also have affected the outcome.

Helping Profession and Predictor Variables

The relationship between variables such as sex, size of family, and birth order among children with siblings who have developmental disabilities were not statistically analyzed due to the small number of participants within the interest group. In an effort to relate this study with past research in terms of the effect that sex, size of family, and birth order have on career choice, the sample as a whole was analyzed regardless of sibling status. The following research question was posed: Do variables such as sex, size of family, and birth order correlate with the likelihood of choosing a helping profession?

Sex

Researchers have studied the stability of vocational interests among high school students and sex has been found to relate to career choice (Mullis, et al; 1998; Osborn & Reardon, 2006; Schulenberg, et. al, 1991). Females tend to score significantly higher than males on social, artistic, and conventional themes (Mullis, et al., 1998). Schulenberg, et al. (1991) found substantial gender differences on most career scales, with gender differences consistent with traditional sex-role stereotypes, such as males scoring higher on science and technology related interests and females scoring higher on art and service related interests. Similarly, Osborn and Reardon (2006) concluded that the most common aspirations for girls were teacher, lawyer, and singer, while professional athlete, lawyer, and doctor were the most common for boys.

Given these findings, the current researcher formed the hypothesis that females are more likely than males to enter a helping profession. Pearson Chi Square statistics, as well as the Fisher's Exact Test were performed to compare the differences among females and males in their report of pursing a helping profession. Results revealed that there was no significant difference among these two groups suggesting that females are no more likely than males to report an interest in pursuing a helping profession. These results did not support previous research findings found within the literature and suggests that sex role differences may no longer play a part in vocational decision making as they once did in the past.

However, it possible that the limited sample size may have affected the outcome. Although, results were not statistically significant, results may be of clinical importance, because there appears to be a difference between the males and females in the study. The majority of the females

reported an interest in a helping profession (70%) whereas the males' interest in a helping profession was only 30%.

Size of Family

To investigate the effects of the family size on whether or not one may choose to pursue a helping profession, family size was made into a dichotomous variable of being either large family or not large family. This distinction was made based on the definition by the U.S. Census Bureau of a large family containing five or more persons (Retrieved on October 16, 2008 from) (http:www.hcd.ca.gov/hpd/housing_element/examples/screen09largefamilies.pdf). Data analysis was conducted through examination of Pearson Chi Square and the Fisher's Exact Test data.

Bank and Kahn (1997) have discussed the evidence that family size has shrunk considerably since the turn of the century. The current researcher was interested in learning if the size of one's family correlated with one's interest in pursuing a helping profession, as larger families may be more prone to socialization and have more care giving responsibilities within the home. If such a difference was found, it could suggest that the shrinking family size may have contributed to the differences found between earlier studies when compared to more recent investigations. However, results of this analysis suggested that no significant difference was detected with regard to the family size and the likelihood of reporting an interest in pursuing a helping profession. This result has positive implications, given that family size has dropped considerably over the past century. It appears that one's planned career choice is not influenced by family size and suggests that there will continue to be people who seek jobs in service and humanitarian fields.

Birth Order

To explore the relationship between birth order and one's likelihood of pursuing a helping profession, the sample was divided into two groups: the oldest child and not the oldest child. Pearson Chi Square statistics and the Fisher's Exact Test were performed to determine if there was a difference among these groups.

A few researchers have found a relationship between birth order and vocational interest (Bryant, 1987; Sullivan & Schwebel, 1996). Sullivan and Schwebel (1996) note that a sibling's experiences differ within the family environment relative to his or her birth-order position in the family constellation.

Given the literature that suggests that oldest children often develop personalities that promote an interest in social type professions, such as teaching and medical science, it was expected that oldest siblings would report a greater interest in pursing a helping profession when compared to middle and youngest children. Still, no significant difference was found among the groups suggesting that oldest children are no more likely to enter helping professions when compared to their younger siblings. These results may suggest that career interests do not vary based on birth order alone, but occur as a result of several personality and environmental factors.

It is possible, however, that no significant differences may have been observed in this study between the groups due to the majority of the participants being the youngest child in their family. Of the sample, 46.2% of the sample described themselves as the youngest child in their family, whereas only 26.9% of the sample described themselves as the oldest sibling.

Helping Profession and the Self-Directed Search (SDS)

Statistical significance was found among students who reported an interest in a helping profession and their having the social (S) personality type in the first position of their Holland personality code. This suggests that the social (S) personality type is one that is dominant and extremely important to those interested in the helping professions. Several researchers have had similar results when associating the dominant social (S) personality type with helping professions (Miller, 2006; Schuttenberg, et al., 1990; Toomey, et al., (2008). These results also complement the validity of the Self-Directed Search (SDS) as a vocational assessment tool when evaluating one's career interest in a helping profession. Also, all participants who had brothers and sisters with developmental disabilities had the social (S) personality type within their Holland Personality code regardless of their interest in pursuing a helping profession, which may be of clinical importance.

Qualitative Findings

In addition to collecting and analyzing quantitative data, this study used qualitative methods to examine the experiences and influences that affect the vocational personality of children who have brothers and sister with developmental disabilities. Data from interviews provided the basis for the emerging themes that will be discussed. The core category, which accounted for the participants' personalities and experiences, was *My Personality and Experience on my Planned Career Choice.* This core category described the multitude of factors that may influence one's decision when planning his/her vocational future. Participants identified many specific aspects of their development that may be different from their peers who do not have a sibling with a disability. Overall, participants felt that their experiences with their sibling positively shaped their personality and influenced their career choice. There were

four key categories related to the core category: *Roles and Responsibilities of the Child, Personality Traits and Self-Descriptions, Exposure to those with Disabilities, and Career Influence.*

Relationship to Research Questions and Literature

The qualitative research question that presented itself after the focus and direction of this study developed into a more qualitative design was, "How does having a sibling with a developmental disability affect the planned career choice of high school students?." This broad question guided the study and included the many variables associated with the experiences of growing up with a sibling with a developmental disability, influences on their vocational personality, and motivations for career choice, all of which have been based on the review of previous sibling literature and literature related to vocational education.

Several of the themes and commonalities that presented themselves in the core category and key categories were reflected in the literature. The core category of *My Personality and Experiences on my Planned Career Choice* was supported in many ways by previous research on siblings and their career choice. The themes described among the core category were similar to those found in two relatively recent qualitative studies (Chambers, 2007; Marks et al., 2005). In the current study, all of the students who were planning on pursuing a career in a helping profession felt that growing up with their sibling had influenced their career choice.

Marks et al. (2005) interviewed a small sample of adults who had a brother or sister with a developmental disability who were in the field of education. All of the participants in the Marks et al. (2007) reported that they felt in some way that it was their life experience of having a sibling with a disability that led them down their career path. And, some believed that if it were not for their sibling, they may have followed a

different vocational path. Chambers (2007) explored the perspectives of individuals who have siblings with disabilities who have entered the disability field as well. Participants in the Chambers (2007) study also acknowledged that they had general experiences and opportunities that moved them toward the disability field.

Key Categories

Roles and Responsibilities of the Child

The key category of *Roles and Responsibilities of the Child* is consistent with trends found within sibling research. The participants acknowledged that they have needed to take on additional responsibilities within the home to help support the family. Many of the responsibilities that the participants reported were very typical of any teenager. However, these participants also described care giving roles that may not be typical for most adolescents. Despite the recognized sacrifices that were made among these siblings, their overall impression of their family situation was positive and most believed that they had actually benefited from the experience. This view was consistent with a study by Stalker and Connors (2004) who interviewed children who had siblings with disabilities. These siblings did not view their situation, being the sibling of a disabled child, as in any way tragic. The differences that they reported were accepted as an integral part of their sibling relationship. Similarly, Pilowsky, et al. (2004) found that having a brother or sister with autism has actually shown a positive effect on the sibling.

Each of the themes that emerged within the key category of Roles and Responsibilities in the current research reinforced the findings from the clinical and research literature. Participants in this study described a variety of ways that having a sibling with a developmental disability affected their roles and responsibilities within the home.

Early research by Farber (1960) found that regardless of birth order, the child with severe mental retardation progressively becomes the youngest child in a social sense. As the typically developing child acquires roles appropriate to their sex and age, the child with mental retardation, in contrast, changes slowly and thereby assumes the status of younger sibling. This same theme emerged within the current study. Each sibling described themselves as the older child or big brother regardless of their chronological birth order. Three of the participants were younger than their sibling with a disability and specifically voiced that even though their brother or sister was older than they chronologically, they assumed the “older sibling” role.

The reoccurring responsibility of being a care giver in the home has also been found in past research on siblings of children with disabilities. Participants in the current study reported that they often take care of their brother or sister through baby-sitting duties, cooking for them, taking them places to give their mothers opportunities to relax, and tending to their medical needs. This was evidenced by both the males and females in the group. Early research on siblings of children with developmental disabilities often focused on the care giving demands and responsibilities assumed by these siblings (Cleveland & Miller; Lobato, et al., 1987; Schwirian, 1976; Seligman, 1983). Although it has not been firmly established that siblings of children with disabilities have more childcare and home responsibility than siblings of typically developing children (Damiani, 1999), Cleveland and Miller (1977) believed that the oldest daughters were often pushed into a surrogate parent role for the child with a disability.

These roles and responsibilities within the home led to an interesting theme among the participants and one that had not been found within the literature. The idea of family as a team was presented by

participants and their parents. The families of children with developmental disabilities often did not report designated responsibilities within the home, but stressed the importance of working together to get things accomplished in an effort to support the family system. The participants reported that they did not need to be asked to do something; they just naturally pitched in whenever it was needed. For the most part, the parent's confirmed this and noted that their children do not need to be told to do something and often go over and above what is expected of them in regard to taking on responsibilities in the home.

Personality Traits and Self-Descriptions

Several authors, researchers, and experts in the field of sibling research have commented on the unique personality traits that are developed by children who have brothers and sisters with developmental disabilities (Chambers, 2007; Grossman, 1972; Strohm, 2005; Meyer & Vadasy, 2007; Pilowsky, et al., 2004); Seligman & Darling, 2007). A classic study by Grossman (1972) found that siblings of children with mental retardation were described as having a better understanding and compassion for others, and more sensitivity toward prejudices. These siblings were also found to be more tolerant of others. Similarly, a recent study by Chambers (2007) found that participants, who were siblings of those with disabilities, described themselves as being empathetic, understanding, patient, persevering, and more credible. These participants felt that these qualities made them better professionals in the field of education.

From early investigations, such as Grossman's 1972 study, to Chambers' recent 2007 study and the current study, these personality traits have continued to be evident throughout the decades in these siblings. In the current study, the participants and their parents believed that their sibling with a disability helped shape their

personalities and some participants noted that their sibling made them the people they are today. The qualities and personality traits that these participants and their parents described included: caring, patient, understanding, protective, nonjudgmental, sensitive, tolerant, assertive, and compassionate. These participants and their parents agreed with past research findings that these qualities enhanced their ability to work with the special needs populations and made them favorable candidates for the helping professions (Chambers, 2007; Farber, 1963; Grossman; Marks et al. 2005; Strohm, 2005).

In the current study, the most frequent themes that arose were that of Having Patience, Understanding of Others, Being Tolerant and Nonjudgmental, and Being Passionate. The participants in the study connected these traits to how they may benefit them in their planned career endeavors. For instance, the trait of being tolerant and nonjudgmental led to more personal feelings about the rights of those with disabilities and wanting to advocate for people who are less able to fend for themselves. Several of the participants voiced concern about the disrespect that people with disabilities are shown in life. The participants expressed an interest in making a difference in this area, have taken on protective roles towards their siblings, and have decided to educate their friends and others about disabilities. A few participants who have already decided to be teachers indicated that, as educators, they planned to teach all students about individual differences to promote respect and tolerance of others, especially those with disabilities. As they and their parents comment, the participants are very passionate about their goals and truly believe they can make a difference in the world.

Exposure to those with Disabilities

The current study found that siblings of those with developmental disabilities often discussed their exposure to people with disabilities as

being beneficial, especially if they were considering a job in the helping professions. This exposure was gained because of their family situation of having a person with a disability in the home, through their interactions with their sibling with a disability, and because of the additional opportunities that presented themselves due to their sibling having a disability. Siblings often participated in volunteer opportunities such as Special Olympics, academic camps, sport events, and various social activities. This also supported past research found in the literature.

Grossman (1972) found that college students who had brothers or sisters with mental retardation were more prone to do volunteer work in human services than were those who did not have a sibling with mental retardation. Although not found to be significant when compared to their peers with nondisabled brothers and sisters, Konstam and Drainoni (1993) found that 55% of their sample of adults who had a brother or sister with a developmental disability reported that they had engaged in volunteer human service positions.

In the current study all of the interviewees reported engaging in volunteer activities. Holland (1997) believed that people seek environments that will let them implement their skills and abilities, express their attitudes and values, and take on agreeable problems and roles. These participants have done this through their volunteer work. They have all volunteered to help with Special Olympics, summer camps for children with developmental disabilities, adult programs for those with disabilities, summer reading camps, or participated on their sibling's sports teams. These were experiences that the participants valued. Three participants, who have decided to pursue helping professions, believed that these experiences and the experiences that they have with their

sibling have given them an advantage over others who have not had those experiences prior to entering the college classroom.

Chambers (2007) also found this theme in her recent investigation, as her participants believed that they were more "credible" as professionals. These siblings believed that they had much to offer to the disability field because of their exposure to the field through their siblings. Furthermore, they noted that their relationship with their sibling gave them insight into what families of these individuals face.

Career Influences

Findings from the qualitative portion of this study suggested there are several motivating factors for wanting to enter a helping profession, but the largest influence appears to be that of the participants' sibling with a disability. Research has shown conflicting results from past to present years regarding the relationship between one's family situation of growing up with a sibling with a disability and career choice. However, through qualitative methodology, there appears to be some evidence that this relationship exists.

As with the current study and the complications that arose because of the limited sample size, the investigation by Konstam and Drainoni cautioned about the generalizability of their results due to the uniqueness of the characteristics of their sample. Similarly, Burton and Parks's (1994) sample only consisted of 60 students which was also a limitation. The uniqueness of the population of siblings who have brothers and sisters with developmental disabilities often leads to a relatively small sample size due to the availability of participants. Recent studies of large populations on this topic have not been found. Because of this limitation of being able to generate a large sample, investigations have moved more toward a qualitative approach when investigating this population.

The current study supported the qualitative findings of Marks, et al. (2005) and Chambers (2004) in regard to the belief that the career path of their subjects was directly related to their subjects' experiences with their sibling with a disability. The participants who reported that they were going to enter a helping profession attributed this desire to their experience with their sibling and named their sibling as their greatest influence. The parents of these participants agreed and noted that it was because of their sibling that they first became interested in the field.

Those who reported an interest in pursuing a helping profession included each of the female participants. The remaining male participants indicated that they would not be pursing a helping profession, but admitted that they believed that their experiences and the qualities that they developed because of their sibling would benefit them in the future with their careers. Although the sample of participants was small, one may suspect that women are more likely than men to pursue a career in the helping professions, as was found in previous research studies (Farber, 1963; Mullis, et al., 1998; Osborn & Reardon, 2006; Schulenberg, et al., 1991).

Throughout the analysis of the data, it was obvious that the participants were influenced greatly by their brother or sister when considering their future career; however, other influences were present as well. Of most note, was the influence that the mother appeared to have on their children in terms of their vocational interests.

In the current study, two of the participants had mothers who were in the field of education. Both admitted that in addition to their sibling's influence, they were also influenced by their mother's occupation. These participants had been exposed to the career early on and had also spent time in their mothers' classrooms. Also, one of the

male participants who was not interested in a helping profession reported that his mother was a large influence on his career decision and probably more of an influence than she realized. These results complement the work of Trice and Knapp (1992) who found that the influence of the mother's occupation was greater that that of the father's occupation on their children's vocational preference, possibly due to the exposure the children had to their mother's work.

Surprisingly, one influence that did not present itself as being significant for the participants was that of the school. Overall, the participants did not believe that the school had impacted them or helped them in any way prepare for their vocational future. They acknowledged that resources were available to explore various jobs; however, the participants did not see the importance of what the school could offer. Parents also did not necessarily believe that the school should take on the responsibility of vocational education.

Finally, motivations for career choice were found throughout each of the key categories and an important piece of the data collected. The reasons for one's career choice found in this study were consistent with what was found by Marks, et al., (2005). Although the Marks, et al. (2005) study investigated those who were already involved in helping professions, the current study had similar findings. The most frequent reasons the participants listed for wanting to pursue a helping profession were: a serious interest in the field, a strong desire to help others, and their experience with a brother or sister with a disability. Other reasons for their interest in following a vocational track in the helping professions was their desire to improve services for individuals with disabilities, parental influence, a strong belief in social justice and rights of those less able, views on special education, to learn more about disabilities, because it is a career of high status, and because of their skills and

aptitude in that area. These participants were not as interested in the amount of money that they would make in their career as they were interested in being happy in their career and experiencing job satisfaction.

Marks et al. (2005) indicated that the participants in their study reported that is was their life experience of having a brother or sister with a developmental disability that led them down their career path. Other reasons for their career choice were because of their desire to improve services for individuals with disabilities, their feelings of responsibility for their brother or sister with a disability, wanting to contribute to helping improve the lives of their siblings and others with disabilities, a belief that they have been shaped to have an open mind and be more accepting of circumstances outside the norm, and having an interest in inclusive education.

The current study also complements Farber's (1963) early study of these siblings. Farber found that both boys and girls who had continuous interaction with their sibling with mental retardation ranked devotion to a worthwhile cause and making a contribution to mankind as high. Farber concluded that perhaps the feeling that they are serving the welfare function in the family provides the frequent reinforcement that motivates them to achieve in a welfare profession. Some of the participants in the current study were very passionate about their convictions in their pursuit of a career in the helping profession. Overall, those who reported wanting to enter a helping profession were doing so because of the personal satisfaction they feel when helping others. They mentioned that they want to make a difference in someone's life and explained the extreme gratification and reward that they feel when they have enriched someone's life.

Limitations of the Study

There were several limitations of the current study. Despite efforts to recruit a large sample, the rate of interest in the study as well as the return rate of the materials was low, which threatened the validity of the study. Due to the small sample, all of the variables being investigated had limited representation and in most cases had to be made dichotomous when being statistically analyzed.

One major complication occurred due to data collection taking place within a public school system. Collecting data within a school system was extremely difficult due to the many stipulations placed upon the researcher for data collection. Since the examiner was not permitted to collect data during school hours or on school grounds, all correspondence was conducted through mailings, which led to a low rate of response for student/parent consent and also a low rate of return of the research materials. Also, because the study collected data through a mailing, participants did not have the researcher or a representative available to answer any questions or provide clarification if they did not understand the research materials. The potential subjects were also of high school age and may have lacked initiative to participate in research.

Randomization of the sample was not possible. This study utilized a convenience sample of the population to obtain subjects to participate in the quantitative data collection. Students were solicited from the school district that was available to the examiner. In the initial stages of this project, an attempt was made to match the interest group and comparison group participants by sex, grade level, and school location in an effort to accurately represent these variables. However, as the study progressed and the subject size became a critical factor, matching of the sample was not possible.

In addition, the diversity among the participants was minimal, as participants were mostly Caucasian and from two parent households. Of the 26 total participants, only one father participated. And, of the five parent interviews, all were conducted with the child's mother. Fathers may have presented a different perspective. Although the socio-economic level of the participants was unknown, it is believed that those who participated were not from low socio-economic families. Results may have varied if families from lower socio-economic homes participated. A lack of resources and other factors may have led to less favorable circumstances and negative feelings toward the family situation of having a person with a disability in the home. This composition of participants limits the generalizability of the results to the general population.

Because of the limited available participants, all those who were interested in the study were included, which may have also threatened the validity of the results. Those who were invited to participate, but who did not believe that they had something relevant to share, may not have chosen to take part in the study. Also, those with negative feelings toward the subject matter may have chosen not to participate. Similarly, participants who expressed an interest in the study may have felt more comfortable discussing their experiences as a sibling of someone with a developmental disability. Siblings who may have had mixed or negative feelings about their family situation may not have responded to the initial request for their participation or may have been more apprehensive about sharing their family story.

The amount of time that elapsed between the beginning and the end of data collection was also a limitation. The delays in completing the data collection were mostly due to attempts to obtain additional participants for the study. Since interviews were not conducted until the questionnaire and Self-Directed Search data were obtained, a few

participants had graduated from high school and had begun college. Also, one participant's career goals had changed within that year's time. Although the time elapse was not ideal, the data collected and the interviews conducted did not seem to be greatly affected by the delay. All but one participant was available for an interview despite the elapsed time and the participant's career interest in a helping profession or non-helping profession did not change within that year's time.

Student and parent questionnaires were developed by the researcher and were not standardized, which was a limitation. Efforts were put into place to reduce the effect that the researcher developed materials may have had on the project. Experts and researchers in the fields of sibling relationships and vocational education reviewed the questionnaire contents and provided feedback and suggestions. Also, a pilot study was conducted with a small group of students and their parents to finalize the understandability of the questionnaires and the overall mailing process.

Researchers studying sibling relationships have often investigated variables of sex, age, birth order, size of family, socio-economic status, and disability of the sibling (Bank & Kahn, 1997; Lobato, 1990; Lohman, et al., 1985; Sullivan & Schwebel, 1996; Marks et al., 2005). These variables have also been viewed as important when considering vocational goals (Bryant, 1987; Kerka, 2003; Mullis et al., 1998; Phillips, et al., 1987; Trysty, et al., 2000; Valdez, 1998; White et al., 1997). The small sample in this study made it difficult to find patterns related to these influences, especially among the interest group and interview participants. The utilization of a large sample may provide sufficient statistical power when addressing these important variables.

Limitations to this study, particularly in regard to the sample size initially obtained, were addressed in part by using a qualitative approach. Through qualitative analysis, an in-depth exploration of the

complex experiences that children who have siblings with disabilities face was possible. Advocates of qualitative research believe that phenomenon can not be isolated into multiple variables that can be studied independently. Qualitative research purports that an event is more than a sum of its parts and must therefore be studied in a holistic manner (Frances, Coughlan, & Cronin, 2007).

Although it is believed that the qualitative approach was most appropriate due to the nature and complexity of studying this unique population, limitations often develop within the qualitative framework. Of note is the possibility of researcher bias. This researcher was very interested in understanding the relationship among children who have brothers and sisters with disabilities and their future career endeavors. The researcher's attachment to this project may have led to the report of data that supports the research hypothesis. Knowing these validity concerns may arise in qualitative research, the researcher utilized means to ensure truthfulness of the results and accuracy of the participant's voice. All interviews were audio-taped and transcribed verbatim and analyzed using QUALRUS, which aided in coding the themes thoroughly and accurately.

Recommendations for Future Research

This study used both a descriptive method and qualitative design to explore the experiences of children who have a brother or sister with a developmental disability and the effect that those experiences had on their interest in pursuing a helping profession. The findings offer a model for future researchers in investigating this connection. The existing literature is sparse, and this study complemented several quantitative studies available through the rich data obtained through the qualitative interviews and the participants' voices. A few topics presented as areas to consider in the future when investigating families

of children with disabilities and vocational influences of high school students.

The emerging theme in the current study of “family as team” has not been found in the literature regarding families of children with disabilities. This trait appeared to be a familiar commonality among the participants in this study and may warrant further investigation. The participants often described their family as team oriented and of always pitching in when needed without needing to be told or asked to do so. This was not a specific idea brought to the participants by the researcher, but one that presented itself naturally among the group. Surprising to the researcher, most did not have designated responsibilities, but held the expectation that you just do what is needed without being asked to do so in an effort to support the family and keep the family system functioning efficiently.

The influence of the mother’s occupation on one’s career preference is an area worth further investigation. It is possible that children are more exposed to the careers of their mothers compared to the careers of their fathers. This may lead toward a better understanding and greater comfort level in that particular field. The possible implications for job shadowing are interesting and the possible need for fathers to participate important.

Another unanticipated theme found from the in-depth interviews of the participants was that neither they nor their parents believed that the school offered valuable resources to them for vocational planning. The parents and the student participants did not seem to know what was available through the school system in terms of career planning and vocational education. Despite the lack of awareness of what the school could offer, most participants did not expect the school to help them in this area and some believed that it was not really the school’s

responsibility to be an influence on their future goals past high school. This was concerning to me, as an educator, who values the information and resources that schools have to offer their students transitioning to work or post-secondary education. Future studies could investigate the variables that are associated with vocational education and could provide recommendations for supporting the families and high school aged students early in their high school career in the area of post secondary transition planning.

As noted earlier, the small sample and lack of diversity among the sample was a limitation and is an important consideration for future research on this population. This study obtained a low rate of response as well as a low rate of return of the research materials. Statistical significance was not found among most of the variables that were addressed; however, there may have been a different outcome if a larger sample were obtained. If larger samples could be obtained, further insight could be provided to establishing firm conclusions about the link between children who have a brother or sister with a developmental disability and their interest in pursuing a helping profession.

The current study, as well as other recent qualitative investigations of the career choice and motivations of children who have siblings with developmental disabilities (Marks et al., 2005; Chambers, 2007) included small interview samples of this population. Common topics and themes emerged among all three studies including the personality traits of the sample, influences on their career choice, and reasons for pursing a helping profession. An interesting addition would be to replicate one of the studies with the additional piece of having in-depth interviews with a comparison group of people who do not have a sibling with a developmental disability. Comparisons could be made to further distinguish the differences among the two groups in terms of their unique

personality traits and beliefs about those with disabilities. Also, future researchers may want to include multiple raters when developing the categories and themes within the qualitative framework. This may help establish interrater reliability and minimize the possibility of researcher bias.

Summary

This chapter has presented a discussion of the results and has been interpreted within the framework of previous research findings. In addition, the limitations of the present study, as well as recommendations for future research directions, have been presented.

In summary, the present study supports the most recent quantitative research studies investigating the brothers and sisters who have siblings with developmental disabilities and the likelihood of them pursing a career in the helping professions (Burton & Parks, 1993; Konstam & Drainoni, 1993), as it has revealed no statistically significant differences between those who have a sibling with a disability and those who do not. However, the qualitative data obtained through interviews added rich information that complemented early quantitative research studies (Cleveland & Miller, 1977; Farber, 1963; Grossman, 1972). Themes and commonalities of the current study were also found in the recent qualitative investigations of Marks et al., (2005) and Chambers (2007), suggesting that additional research is needed in order to form firm conclusions about the relationship of having a brother or sister with special needs and career decision. Larger sample sizes are needed in this area of research to facilitate the exploration of this population and variables associated with career choice.

Complications in conducting this study were noted with regard to the availability of participants, time lapse in data collection, and lack of diversity among the sample, all of which limit the generalizability of the

results and overall validity of the study. However, the qualitative approach provided additional rich data in an effort to alleviate and address the limitations and lack of statistical power.

The current study adds to the small body of research present in the literature related to the career aspirations of children who have a brother or sister with a developmental disability. Future research is necessary to explore the complex nature of this population and the variables that may influence vocational goals. Through additional research, information may be gathered to help support students as they plan for their futures. With the role of the school psychologist expanding, there is opportunity for school psychologists to become involved in supporting these families. The move toward a more consultative and a therapeutic model for school psychologists provides the school psychologist with time to devote towards helping our transitioning youth through vocational counseling and support services. Because school psychologists are knowledgeable about disabilities, vocational assessment, as well as adolescent development, and counseling techniques, they are optimal candidates to provide this service. Families and school systems are encouraged to work together to help students investigate career opportunities and to provide programs that facilitate their vocational development. It is through these support systems that our future generation of teachers, therapists, doctors, and service providers meet success in the workforce, experience job satisfaction, and make a difference in our society.

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Appendix A

Date:

Dear Parents,

Leslie Eget, a school psychologist employed by the public schools, will be conducting a study which examines the career choices of high school students who have siblings with developmental disabilities and reasons for their choice. She will be comparing students who have siblings with developmental disabilities to those who do not. If you are being asked to participate and do not have a child with a disability, you are participating as part of a comparison group.

The study will require parents to complete a questionnaire. Students who choose to participate will be asked to complete a questionnaire as well as The Self-Directed Search (SDS), an interest inventory. For completion of the questionnaires, your and your child's participation will require approximately 30 to 40 minutes.

Ms. Eget's research is an independent undertaking associated with the doctoral program at Indiana University of Pennsylvania. This study will not be completed in conjunction with any public school activity. However, this research proposal has been thoroughly reviewed and is supported by the Special Education, Research and Assessment, and the Psychological Services Departments of the public school system. The information this study will provide will likely be important to educational research for students with and without disabilities.

If you and your son or daughter agrees to participate in this study, please complete the attached form and return it to:

Public Schools
Special Education Coordinator
Special Education Department

I am quite certain you and your child will find this to be a valuable experience.

If you have any questions, please contact me by phone or via email.

Sincerely yours,

Special Education Coordinator
Public Schools

Appendix B

Date:

Dear Parents,

Leslie Eget, a school psychologist employed by the public schools, will be conducting a study which examines the career choices of high school students who have siblings with developmental disabilities and reasons for their choice. She will be comparing students who have siblings with developmental disabilities to those who do not. If you are being asked to participate and do not have a child with a disability, you are participating as part of a comparison group.

The study will require parents to complete a questionnaire. Students who choose to participate will be asked to complete a questionnaire as well as The Self-Directed Search (SDS), an interest inventory. For completion of the questionnaires, your and your child's participation will require approximately 30 to 40 minutes.

Ms. Eget's research is an independent undertaking associated with the doctoral program at Indiana University of Pennsylvania. This study will not be completed in conjunction with any public school activity. However, this research proposal has been thoroughly reviewed and is supported by the Special Education, Research and Assessment, and the Psychological Services Departments of the public school system. The information this study will provide will likely be important to educational research for students with and without disabilities.

If you and your son or daughter agrees to participate in this study, please complete the attached form and return it to:

Public Schools
Supervising Psychologist
Department of Student Services

I am quite certain you and your child will find this to be a valuable experience.

If you have any questions, please contact me by phone or via email.

Sincerely,

Supervising Psychologist
Public Schools

Appendix C

Participate in a Doctoral Research Study

Siblings of those with developmental disabilities: Career exploration and likelihood of choosing a helping profession

Growing up in a family of a student with a developmental disability, specifically mental retardation, autism, and those consistent with significant mental limitations, can be a challenging experience. Siblings of these children are often faced with more responsibilities and sacrifices because of their sibling's needs. Despite the hardships of growing up with a sibling with a disability, most brothers and sisters report a rewarding life and an unconditional love for their sibling. They are often compassionate, responsible, and have unique life experiences that make them optimal candidates to work with the special needs population in our schools, hospitals, and clinics.

Professionals studying sibling relationships between children with disabilities and their non-disabled siblings have speculated that career choice may be affected by this relationship. According to Seligman and Darling (1997), basic life aspirations of nondisabled siblings may be affected when a child with a disability is present in the family. A child's vocational choice may be shaped by having interacted with and cared for a less able brother or sister.

The purpose of this study is to obtain information on teenagers who have a sibling with a developmental disability with a particular focus on their future career interests following high school. The study will also examine influences on that decision and reasons for their choice. If your family meets the following criteria and wishes to participate or if you would like additional information, please contact Leslie Eget. Your participation is greatly appreciated.

- You have a child in high school who is typically developing (Your child does NOT need to know what they want to be when they grow up)
- You have one child with a developmental disability of any age
- One parent or guardian and your non-disabled child are willing to complete a mail-in survey

About the Researcher:
Leslie Eget is a Nationally Certified School Psychologist currently completing her doctoral degree at Indiana University of Pennsylvania. This research is under the direction and supervision of Victoria B. Damiani, Ed.D. Dr. Damiani can be reached at724-357-3783.

Leslie Eget
395 Maple Trail
Crownsville, MD 21032
Phone: 301-751-8800
E-mail: Leslie.Eget@gmail.com

Appendix D
Informed Consent: Parent Agreement

Date:

Dear Parent/Guardian:

You are invited to participate in a research study. I am a doctoral student at Indiana University of Pennsylvania. The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions or would like additional information, please do not hesitate to contact my doctoral research advisor or me.

Moving on from high school to post-secondary life can be an exciting time in a young adult's life. One's skills, life experiences, interests, and environment play a key role when making career decisions. Children who grow up living with a brother or sister with a developmental disability begin their education on disabilities earlier than their peers and because of this, may feel that they have much to share and offer to that world of work. While there is a great deal of research focusing on the circumstances of brothers and sisters growing up with children with disabilities, there are few studies related to sibling career interest.

The enclosed form requests permission for you and your child, NAME, to participate in a doctoral research study through Indiana University of Pennsylvania (IUP). **This study will examine career goals of children who have brothers and sisters with a developmental disability. If you do not have a child with a disability, you and your child are being asked to participate as a part of the comparison group.** Students who choose to participate in the study will be asked to complete a questionnaire as well as the Self-Directed Search, 4th Edition (SDS). The SDS is a well researched and widely accepted career interest survey used in schools and guidance centers. A parent will also be asked to complete a questionnaire. These forms will be sent to your home for completion once we receive your parent and student agreement forms. For completion of the questionnaires, your and your child's participation will require approximately 30 to 40 minutes. A small number of students will be asked to participate in an interview, which is completely voluntary. This interview will take place at a location agreed upon by the researcher and your family or may occur through a phone interview. The interview will take about 20 minutes.

With your participation, you will have the opportunity to receive the results of your child's Self-Directed Search assessment. This assessment will provide you and your child with information about your child's interests as related to careers. It supplies suggestions for careers consistent with one's personality and interests.

Indiana University of Pennsylvania supports the practice of protection of human subjects participating in research. This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724-352-7730). There are no known risks or discomforts associated with this research. Please be aware that even if you and your child agree to participate in this research study, you both are free to withdraw at any time and you may do so without negatively affecting your relationship with the researcher. Although your participation is requested, it is strictly voluntary. For those students attending the school that employs the researcher, parameters will be put into place to uphold anonymity of the individual responses from the researcher. If parents and the student would like the individual Self-Directed Search results, a psychologist, not affiliated with this school, will share this with the family. Questionnaires and the SDS will have a numeric code for mailing purposes only. This number is used to simply record returned surveys. Your name or your child's name will never be placed on a survey and names will not in any way be connected with any of the findings. All information obtained will be kept confidential and incorporated into group data. If you and your child agree to participate, your involvement in this study requires student and parental consent.

Please check if applicable:

□ My child and I agree to participate in this study. You may access my child's basic information such as address, phone number, and school of attendance from the school system. My child's agreement form is enclosed.

If you choose not to participate, you may discard this form.

Parent/Guardian Signature **Date**

We appreciate your time and cooperation and look forward to receiving your consent form.

Sincerely,

Leslie A. Eget, Ed.S., NCSP
Doctoral Student
Indiana University of Pennsylvania
P.O. Box 277
White Plains, MD 20695
(724) 357-3783
Leslie.Eget@gmail.com

Victoria B. Damiani, Ed.D., NCSP
Professor, Educational & School Psychology
Indiana University of Pennsylvania
246 Stouffer Hall
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(724) 357-3783
vdamiani@iup.edu

Appendix E
Informed Consent: Student Agreement

Date:

Dear ___(NAME)_____:

You are invited to participate in a research study. I am a doctoral student at Indiana University of Pennsylvania. The following information is provided in order to help you make an informed decision whether or not to participate. If you have any questions or would like additional information, please do not hesitate to contact my doctoral research advisor or me.

Moving on from high school to post-secondary life can be an exciting time in a young adult's life. One's skills, life experiences, interests, and environment play a key part when making career decisions.

The enclosed form requests permission for your participation in a doctoral research study through Indiana University of Pennsylvania (IUP). This study will investigate career goals of children who have brothers or sisters with a developmental disability. **If you do not have a brother or sister with a disability, you are being asked to participate as part of a comparison group.** If you choose to participate in the study, you will be asked to complete a questionnaire as well as the Self-Directed Search, 4th Edition (SDS). The Self-Directed Search is a career interest survey that may help you explore what occupations to follow. Your parent will also be asked to complete a questionnaire. The questionnaires will help us learn more about you and your career interests. A small number of you will be asked to participate in an individual interview with the examiner, which is completely voluntary. This interview will take place at a location agreed upon by the researcher and your family or may occur through a phone interview.

If you and your parent agree to participate, your involvement in this study requires student and parental consent. I encourage you to talk about this with your parent.

Please check if applicable:

□ I agree to participate in this study. You may access my basic information such as address, phone number, and school of attendance from the school system.

If you choose not to participate, you may discard this form.

_____

Student Signature **Date**

We appreciate your time and cooperation and look forward to receiving your consent form.

Sincerely,

Leslie A. Eget, Ed.S., NCSP
Doctoral Student
Indiana University of Pennsylvania
P.O. Box 277
White Plains, MD 20695
(724) 357-3783
Leslie.Eget@gmail.com

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vdamiani@iup.edu

Appendix F

Reminder Card for Consent (14 Day)

Date:

Approximately two weeks ago you should have received a parent and student agreement form to participate in a doctoral research study. The study will investigate career interests of students who have siblings with a developmental disability and students who do not have a sibling with a disability.

If you have already returned the forms, thank you. If not, please do so today. Your input is important. Although your participation is requested, it is strictly voluntary.

If by some chance you did not receive the parent and student agreement forms or they were misplaced, please call me at (724-357-3783) or email me at Leslie.Eget@gmail.com and I will immediately mail you additional forms.

Sincerely,

Leslie A. Eget, Ed.S., NCSP
Doctoral Student
Indiana University of Pennsylvania
P.O. Box 277
White Plains, MD 20695
(724) 357-3783
Leslie. Eget@gmail.com

Victoria B. Damiani, Ed.D., NCSP
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Indiana University of Pennsylvania
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Appendix G

Reminder Card for Materials (14 days)

Name of non-responding respondent
Street Address
Town, State Zip

Date:

Dear Parent,

Approximately two weeks ago, you should have received questionnaires and the Self-Directed Search (SDS) as part of your participation in a doctoral research study. As of today, I have not received your forms. I would very much appreciate your participation. The purpose of the study is to investigate career aspirations and characteristics of children who have siblings with a developmental disability and those who do not.

Your input is important. Although your participation is requested, it is strictly voluntary. Please consider returning the forms as soon as possible.

Please contact me at (724) 357-3783 or at Leslie.Eget@gmail.com if you have misplaced your copies so I may mail new copies to you.

Thank you for your help!

Sincerely,

Leslie A. Eget, Ed.S., NCSP
Doctoral Student
Indiana University of Pennsylvania
P.O. Box 277
White Plains, MD 20695
(724) 357-3783
Leslie.Eget@gmail.com

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Appendix H
CAREERS AND BROTHERS AND SISTERS WITH DISABILITIES: PARENT QUESTIONNAIRE

Thank you for participating in this doctoral research project. The purpose of the study is to obtain information about students and their choice in careers following high school. Some of you have been asked to participate because you have a child with a developmental disability as well as a high school aged child without a disability. Others have been asked to participate as part of a comparison group. This questionnaire asks about you and your family. Please complete with your nondisabled, high school, or recently graduated child who was asked to be a part of this study in mind. There are questions about your perception of their interests and personal goals following their high school education. Please complete this questionnaire independently. You and your child are asked not to discuss your responses or compare your answers. Please return the student and parent questionnaires, along with the Self-Directed Search (SDS) in the self-addressed stamped envelope included with this packet. Thank you.

1. In what county do you live? _____

2. What is your sex? **(please mark one)**

   ☐ Male

   ☐ Female

3. What is your age? _____

4. What is your race? **(please mark one)**

   ☐ American Indian ☐ Black (non-Hispanic) ☐ Hispanic

   ☐ Asian/Pacific Islander ☐ White (non-Hispanic) ☐ Other

5. What are your and your partner's highest educational level completed: **(Please check one for each adult)**

You	Partner	
☐	☐	Did not finish high school
☐	☐	High school graduate or GED
☐	☐	Greater than high school, but less than 4-year college degree
☐	☐	College graduate
☐	☐	Master's degree or equivalent
☐	☐	PhD, MD, or other doctoral degree
	☐	Not applicable (N/A)

6. Which of the following describes your family's living situation? **(Please check all that apply)**

   ☐ Single Parent-Mother

   ☐ Single Parent-Father

   ☐ Two Parents living in the home

   ☐ Grandparent(s) raising children

   ☐ Extended Family living within the home (aunts, uncles, grandparents)

   ☐ Joined Family (step father, step siblings, etc.)

7. Please indicate your and your partner's occupations below. If you or your partner holds more than one job, please write in the primary occupation.

You: _____Partner: _____ or N/A

8. Please list your children by sex and age. Include step children, adopted children, and/or foster children. Please indicate if the child is not a biological child by writing, step-child, adopted, or foster. **Please put a box around** your high school aged or recently gradated, nondisabled child involved in this study.

e.g., Female, 10 years, step-child

Male, 17 years

9. Is there any person in the home who has a disability?

☐ Yes

☐ No

10. Do you have a child with a disability? **(please mark one)**

☐ Yes

☐ No

If no, skip to question 12.

11. What is your child's disability? **(please mark one)**

☐ Intellectual Disability/Mental Retardation ☐ Other **(please specify)**:_____

☐ Autism ☐ Don't Know

☐ Multiple Disabilities (a combination of two or more of the following: mental retardation, severe physical limitations, deaf, blind hearing impaired,….)

Reminder: For the remaining questions, please complete with your high school aged or recently graduated, nondisabled child, who was asked to be a part of this study in mind.

12. Based on your opinion, on a scale of 1 to 4, please rate how much of an influence your child with a disability has had on your nondisabled child's career interests **(please circle one)**?

1	2	3	4
No Influence	Some Influence	Quite a bit of Influence	Large Influence

13. Which three of the following **best** represents your child's personality and characteristics: **(Please rank from 1 to 3 the three categories that are most like your child, with 1 being the most like your child.) <u>Mark only three</u>**

_____Category 1:
- Strong mechanical, psychomotor, and athletic abilities; honest; loyal; likes the outdoors; prefers working with machines, tools, plants, and animals.

_____Category 2:
- Strong problem solving and analytical skills; mathematically inclined; likes to observe, learn, and evaluate; prefers working alone; reserved; and idea generator

_____Category 3:
- Creative; complex; emotional; intuitive; idealistic; flair for communicating ideas; prefers working independently; likes to sing; write, act, paint, think creatively

_____Category 4:
- Friendly; outgoing; finds fulfillment in helping others; strong verbal and personal skills; teaching abilities; impulsive

_____Category 5:
- Confident; assertive; sociable; good speaking and leadership abilities; likes to use influence; strong interpersonal skills; status conscious

_____Category 6:
- Dependable; disciplined; precise; persistent orderly; efficient; practical; detail oriented; clerical and numerical abilities

14. In what career would your nondisabled, high school or recently graduated child be most successful? Please list a profession in the line below.

_____

15. Which category below **best** represents your child's career plans: **(please mark one)**

☐ Category 1:
- Automobile mechanic, aircraft controller, surveyor, farmer, electrician, engineer…

☐ Category 2:
- Biologist, chemist, physicist, anthropologist, geologist, medical technologist, physician….

☐ Category 3:
- Composer, musician, stage director, writer, interior decorator, actor/actress…

☐ Category 4:
- Teacher, religious worker, counselor, clinical psychologist, psychiatric caseworker, speech therapist…

☐ Category 5:
- Salesperson, manager, business executive, television producer, sports promoter, buyer, lawyer…

☐ Category 6:
- Bookkeeper, stenographer, financial analyst, banker, cost estimator, tax expert…

16. How certain are you that your child will choose a career within the category you chose?

1	2	3
Very Uncertain	Somewhat Certain	Very Certain

17. Which of the following reasons do you have for believing your child will likely choose a career in that category? **(please rank the top four reasons in order from 1 to 4, with 1 being the highest)**

_____ a desire to improve services for individuals with disabilities
_____ because of parental influence
_____ to influence views on special education
_____ to learn more about disabilities
_____ strong interest in that field
_____ previous experience with someone with a disability that is not a brother or sister
_____ experience with a brother or sister with a disability
_____ previous experience with a helping profession
_____ it is a high paying career
_____ strong interest in helping others
_____ it is a career of high status
_____ your child has a strong belief in social justice and the rights of those less able
_____ your child's skills and aptitude in that area of work
_____ your child grew up helping their brother or sister with a disability and would like to pursue something other than a helping profession

18. Are there any additional reasons you believe your child will likely choose a career in that category? If so please list them:

19. Please check one of the following:

☐ My child may participate in an interview to discuss this topic further.

☐ I do not wish for my child to participate in an interview about this topic.

20. Please check one of the following:

☐ I am interested in obtaining a copy of the results of this study.

☐ I am interested in reviewing the results of my child's Self-Directed Search.

☐ I am interested in obtaining a copy of the results of this study and reviewing the results of my child's Self Directed Search.

☐ I am not interested in obtaining any of these

Is there anything else you would like to say about how or why your child will likely choose their career? If so, please comment:

Appendix I
CAREERS AND BROTHERS AND SISTERS WITH DISABILITIES: STUDENT QUESTIONNAIRE

This questionnaire asks about you and your family, your interests, and your personal goals following your high school education. Please complete this questionnaire on your own. You and your parent are asked not to share your responses or compare your answers. Thank you.

1. What is your sex? **(please mark one)**

   ☐ Male

   ☐ Female

2. What is your age? _____

3. What is your grade level? _____

4. What is your race? **(please mark one)**

   ☐ American Indian ☐ Black (non-Hispanic) ☐ Hispanic

   ☐ Asian/Pacific Islander ☐ White (non-Hispanic) ☐ Other

5. How many brothers and sisters do you have? (Please include step-siblings, adopted siblings, and/ or foster siblings) _____

6. How many of your siblings grew up with you in your home? _____

7. What is your position in your family? **(please mark one)**

   ☐ Oldest Child

   ☐ A Middle Child

   ☐ Youngest Child

8. Which three of the following categories **best** represent your personality and characteristics: **(please rank in order 1 to 3 with 1 being the most like you and 3 being the least). <u>Mark only three</u>**

   _____Category 1:
   - Strong mechanical, psychomotor, and athletic abilities; honest; loyal; like the outdoors; prefer working with machines, tools, plants, and animals.

   _____Category 2:
   - Strong problem solving and analytical skills; mathematically skilled; like to observe, learn, and evaluate; prefer working alone; reserved; idea producer

   _____Category 3:
   - Creative; complex; emotional; intuitive; optimistic; flair for communicating ideas; prefer working independently; like to sing; write, act, paint, think creatively

   _____Category 4:
   - Friendly; outgoing; find fulfillment in helping others; strong verbal and personal skills; teaching abilities; impulsive

   _____Category 5:
   - Confident; assertive; sociable; good speaking and leadership abilities; likes to use influence; strong interpersonal skills; interested in career advancement

   _____Category 6:
   - Dependable; disciplined; precise; persistent; orderly; efficient; practical; detail oriented; good clerical and numerical abilities

9. Which three of the following categories **best** represent the type of work environments where you are most interested in working: **(Please rank in order 1 to 3 the three categories that you are most interested, with 1 being of most interest). Mark only three**

_____Category 1:
- Structured; clear goals and lines of authority; work with hands, machines, or tools; casual dress; focus on concrete results; engineering, military, skilled trades

_____Category 2:
- Nonstructured; research oriented; intellectual; discover, collect, and analyze ideas/data; science, math, medicine, and computer related; labs, universities, high tech, hospitals

_____Category 3:
- Nonstructured; creative; flexible; rewards unconventional and artistic values; creation of products and ideas; arts, organizations, films/TV, publishing, advertising, museums, theater, galleries

_____Category 4:
- Pleasant; friendly; work on people-related problems/issues; inform, train, develop, cure, or enlighten others; team oriented; human resources; training, education, social service, hospitality, health care, nonprofit

_____Category 5:
- True business environment; results oriented; driven; high-quality service and product orientation; entrepreneurial; high prestige; power focused; sales, management, politics, finance, retail, leadership

_____Category 6:
- Orderly; clear rules and policies; systematized manipulation and organization of data; control and handling of money; high income potential; accounting, business, finance, administration

10. Do you have a brother or sister with a disability? **(please mark one)**

☐ Yes

☐ No

If no, skip to question 15.

11. How old is your brother or sister with a disability? _____

12. Which of the following applies to your brother or sister with a disability?

☐ Older than you ☐ We are twins

☐ Younger than you

13. What is your brother or sister's disability? **(please mark one)**

☐ Intellectual Disability/Mental Retardation ☐ Other **(please specify)**:_____

☐ Autism ☐ Don't Know

☐ Multiple Disabilities (a combination of two or more of the following: mental retardation, severe physical limitations, deaf, blind,….)

14. On a scale of 1 to 4, please rate how much of an influence your sibling has been on your career plans **(circle one)**?

1	2	3	4
No Influence	Some Influence	Quite a bit of Influence	Large Influence

15. Have you decided on a career to pursue after high school? **(please mark one)**

☐ Yes

☐ No

If yes, what career are you interested in pursuing? _____

If no or undecided, go to question 17

16. How long have you known that you wanted to pursue this career goal? **(please mark one)**

☐ Ever since I can remember

☐ During Elementary School

☐ During Middle School

☐ During 9th grade

☐ During 10th grade

☐ During 11th grade

☐ During 12th grade

☐ After high school graduation

17. Which of the following categories **best** represents your career interest category: **(please mark one)**

☐ Category 1:
- Automobile mechanic, aircraft controller, surveyor, farmer, electrician, engineer…

☐ Category 2:
- Biologist, chemist, physicist, anthropologist, geologist, medical technologist, physician…

☐ Category 3:
- Composer, musician, stage director, writer, interior decorator, actor/actress…

☐ Category 4:
- Teacher, religious worker, counselor, clinical psychologist, psychiatric case worker, speech therapist…

☐ Category 5:
- Salesperson, manager, business executive, television producer, sports promoter, buyer, lawyer…

☐ Category 6:
- Bookkeeper, stenographer, financial analyst, banker, cost estimator, tax expert…

18. How certain are you that you will choose a career in that category?

1	2	3
Very Uncertain	Somewhat Certain	Very Certain

19. Which of the following reasons do you have for choosing that category? **(please rank the top 4 reasons in order from 1 to 4, with 1 being the highest)**

_____ a desire to improve services for individuals with disabilities
_____ because of parental influence
_____ to influence views on special education
_____ to learn more about disabilities
_____ strong interest in that field
_____ previous experience with someone with a disability that is not a brother or sister
_____ experience with a brother or sister with a disability
_____ previous experience with a helping profession
_____ it is a high paying career
_____ strong interest in helping others
_____ it is a career of high status
_____ I have a strong belief in social justice and the rights of those less able
_____ my skills and aptitude in that area of work
_____ I grew up helping my brother or sister with a disability and would like to pursue something other than a helping profession

20. Are there any other reasons that you would like to pursue a career in that category? If so, please list them.

21. Please check one of the following:

☐ I would be willing to participate in an interview to discuss this topic further.

☐ I do not wish to participate in an interview about this topic.

22. Please check one of the following:

☐ I am interested in obtaining a copy of the results of this study.

☐ I am interested in reviewing the results of my Self Directed Search.

☐ I am interested in obtaining a copy of the results of this study and reviewing the results of my Self Directed Search.

☐ I am not interested in any obtaining any of these

Is there anything else you would like to say about how or why you chose your career? If so, please comment:

Appendix J

DIRECTIONS FOR ADMINISTRATION OF STUDENT QUESTIONNAIRE AND SDS

Thank you for participating in this doctoral research project. The purpose of the study is to obtain information about students and their choice in careers following high school. You may have been asked to participate because you have a brother or sister with a developmental disability. Or, you may have been asked to participate as part of a comparison group.

Please complete the enclosed student questionnaire. The questionnaire asks you about you and your family, your interests, and your personal goals following high school.

In addition, please complete the Self-Directed Search (SDS), an interest inventory. The Self-Directed Search may help you explore what occupations to follow. If you have already made up your mind about an occupation, it may support your idea or suggest other possibilities. If you are uncertain about what occupation to follow, the booklet may help you to locate a small group of occupations for further consideration. Most people find that filling out this booklet is helpful and fun. If you follow the directions carefully, you should enjoy the experience. Please complete pages 4 to 9. You do not need to score this assessment, as I will do that for you. Do not rush; you will gain more by approaching the task thoughtfully. Use a lead pencil, so you can erase easily.

Appendix K

Permission to Audiotape

Date:

Participant Name:

Researcher: Leslie Eget

Thank you for participating in the doctoral research study titled: Siblings of those with developmental disabilities: Career exploration and likelihood of choosing a helping profession. As part of the study, you have agreed to participate in a voluntary interview to further explore this area of research. We would like to tape this interview to ensure that your responses are accurately noted. Therefore, we are seeking your permission to tape the interview. Your permission is totally voluntary and the interview can still take place if it is not taped. Please indicate below how you would like to proceed with this interview.

Please check one of the following:

□ I agree to an audio taped interview.

□ I do not wish to be audio taped, but agree to participate in an interview.

Participant Signature: _____

Parent Signature: _____

Appendix L

CAREERS AND BROTHERS AND SISTERS WITH DISABILITIES: STUDENT INTERVIEW

Siegel, B. & Silverstein, S. (1994). *What about me? Growing up with a developmentally disabled sibling*. Cambridge, MA: Perseus Publishing.

Marks, S.U., Matson, A., & Barraza, L. (2005). The impact of siblings with disabilities on their brothers and sisters pursuing a career in special education. *Research and Practice for Persons with Severe Disabilities, 30*(4), 205-218.

Interview questions adapted from if not taken verbatim from Dr. Bryna Siegel, November 3, 2006 and Dr. Susan Marks, October 16, 2006, with permission.

The following questions will be asked in an interview format at a location mutually agreed upon by the researcher and family. Students who participated in the study will be selected from those who have indicated that they would be willing to participate in a follow-up interview. The researcher or a colleague (doctoral level psychologist) will conduct the interview.

1. Describe your role in your family.

   Tell me some things you do in that role.

2. What are your responsibilities within your family? (Look for things they do…like baby-sit, chores, etc.)

3. ** Were there times when you were asked to do special things because you have a sibling with a disability (e.g., special Olympics volunteer, help with schoolwork)? What were they? (Only ask to students who have siblings with developmental disability)

4. In what way do you feel your sibling(s) (specify disabled sibling if applicable) helped shaped your personality?

Please tell me three words you would use to describe yourself.

5. How do you think your experiences with your sibling (specify disabled sibling if applicable) will affect your career?

6. Did your role in the family affect your career decision?

7. Who do you believe had the most affect on your career decisions? Mother? Father? Sibling?

How has that person influenced you?

What do you think they want you to do in your career?

8. Has the school helped guide you in career decision making?

Who, at the school, has had the most affect on your career decision?

Has anything been taught in your classes that has helped with career decisions?

What type of support services are available at school to help with career decisions and helping students plan for careers past high school?

What career support would you like to have from the school?

9. What do you think school personnel should be aware of in helping a child with career/vocational planning?

10. What do you think school personnel should be aware of in helping a child who has a sibling with a disability when career/vocational planning?

9. You have mentioned that you would like to pursue a job as a _____ or in the field of _____. What are the reasons that you would like to pursue that type of work?

10. Is there anything else you would like to say about how or why you chose your career?

Appendix M

CAREERS AND BROTHERS AND SISTERS WITH DISABILITIES: PARENT INTERVIEW

Siegel, B. & Silverstein, S. (1994). *What about me? Growing up with a developmentally disabled sibling*. Cambridge, MA: Perseus Publishing.

Marks, S.U., Matson, A., & Barraza, L. (2005). The impact of siblings with disabilities on their brothers and sisters pursuing a career in special education. *Research and Practice for Persons with Severe Disabilities, 30*(4), 205-218.

Interview questions adapted from if not taken verbatim from Dr. Bryna Siegel, November 3, 2006 and Dr. Susan Marks, October 16, 2006, with permission.

The following questions will be asked in an interview format at a location mutually agreed upon by the researcher and family. Students who participated in the study will be selected from those who have indicated that they would be willing to participate in a follow-up interview. The researcher or a colleague (doctoral level psychologist) will conduct the interview.

1. Describe your child's role in your family. (The child who was asked to participate)

   Tell me some things he/she does in that role.

2. What are this child's responsibilities within your family? (Look for things they do…like baby-sit, chores, etc.)

3. ** Were there times when your child was asked to do special things because you have a child with a disability (e.g., special Olympics volunteer, help with schoolwork)? What were they? (Only ask to parents who have a child with a developmental disability)

4. In what way do you feel your child(ren) (specify disabled child if applicable) helped shaped this child's personality?

   Please tell me three words you would use to describe this child.

5. Do you think your child's experiences with his/her sibling(s) will affect his/her career choice? (specify disabled sibling if applicable) will affect his/her career?

   If so, how do you think those experiences with affect your child's career choice?

6. Do you believe that your child's role in the family has affected his/her career decision?

   Do you believe that your child's role <u>will</u> affect his/her career decision?

7. Who do you believe had the most affect on your child's career decisions? Mother? Father? Sibling?

   How has that person influenced your child?

   What does that person want for your child's career?

8. Has the school helped guide your child in career decision making?

Who, at the school, has had the most affect on your child's career decision?

Has anything been taught in your child's classes that has helped with his/her career choice?

What type of support services are available at school to help with career decisions and helping students plan for careers past high school?

What support/services would you like to have from the school in helping your child plan for their career following high school?

9. What do you think school personnel should be aware of in helping a child with career/vocational planning?

10. What do you think school personnel should be aware of in helping a child who has a sibling with a disability when career/vocational planning?

11. You have mentioned that you believe your child would be successful as a _____ or in the field of _____. What are the reasons that you believe your child would be successful in that type of work?

12. Is there anything else you would like to say about how or why your child will likely choose his/her career?

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