A Dissertation

Entitled

Rural, Urban, and Small Town/Suburban Parents’ Satisfaction Toward Special Education Services for Young Children with Disabilities in Northwest Ohio

By

Bander Mohaya Alotaibi

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the

Doctor of Philosophy Degree in Special Education

_________________________________________
Dr. Richard Welsch, Committee Chair

_________________________________________
Dr. Leigh Chiarelott, Committee Member

_________________________________________
Dr. Noela Haughton, Committee Member

_________________________________________
Dr. Dawn Sandt, Committee Member

_________________________________________
Dr. Amanda Bryant-Friedrich, Dean
College of Graduate Studies

The University of Toledo

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An Abstract of

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The purpose of this study is to investigate the parental satisfaction toward special education services by identifying differences in parental satisfaction among rural, urban, and small town/suburban parents, and describing those differences toward special education services their children receive. In addition, this study attempted to find relationships between parental satisfaction of the following specific factors: parental satisfaction toward environment, toward communication between parents and special education professionals, and toward aspects of special education service processes with family characteristics.

Participants in this study consisted of parents and caregivers of young preschooler children with disabilities, ages 3 through 5, who were enrolled in public school system within Lucas, Wood, Paulding, and Fulton counties were recruited to participate in the study. Four hundred and fifteen parents were recruited to participate in this study. Result of this study shows that 91.8% of parents reported that they are satisfied toward the special education services. Additionally, the multivariate analysis of variance (MANOVA) showed significant differences in
the location groups toward the parental satisfaction toward the communication and environment elements of special education. The satisfaction average scores of Small-town/suburban parents were statistically lower than the average satisfaction scores of rural and urban parents. The average satisfaction score of Small-town/suburban group suggested lower levels of satisfaction than the average satisfaction scores of rural and urban groups toward the communication aspects of special education.

In addition, Spearman correlation test showed a weak negative relationship between parental satisfaction toward the environment of special education with number of children with disabilities per family variable. This correlation implies that parents with more than one child have a lower level of satisfaction toward the environment of special education. In other words, parents with one child have a higher level of satisfaction toward the environment of special education comparing to those who have more than one child. No significant result was found when testing other demographic variables.
I dedicate this work to my precious mother, Meznah and to the memory of my loved father, Mohaya, who died while I am doing all those years of studying.

I also dedicate this work to my little loved daughter, Andalus, my loved wife, Aljawharah, my wonderful brother Naif, and my lovely sister Badria.

I also dedicate it to the rest of my loved ones--those who helped me without stopping, and who supported me without counting.

To the same people who witnessed the stress I had, who saw the difficulties I faced, and who treated my frustrations with the words of optimism.

To the same people who believed in me, who sense success, who love glory, and who know how to reach the accomplishment in various ways of life.

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Chapter One

Introduction

Parents and caregivers of children with disabilities have many experiences with the schools in which their children attend. The variety of these experiences, along with family characteristics, might impact how satisfied parents are with the education services which are provided to their children. For example, parents in rural areas may have different experiences than families who live in urban centers. As educators and service providers encounter rapidly changing classroom demographics (Diken, 2006; Hardin, Roach-Scott, & Peisner-Feinber, 2007), they also face different parental expectations and experiences. It is important to understand parental satisfaction in relation to family characteristics and intrinsic educational experiences. This study was designed to survey parents and caregivers of young children with disabilities, who live across geographic locations, with the intent to explore how their experiences and characteristics impact parental satisfaction towards educational services.

As a group, parents of children with disabilities are afforded unique legal involvement within their child’s education. The Individuals with Disabilities Education Improvement Act (IDEA) protects the rights of individuals with disabilities (Yell, 2005) and increases parental participation and decision making by including parents in the development of their child’s Individualized Education Plan (IEP) (Yell, 2005). IDEA involves and empowers families of children with disabilities as active participants in the decision-making processes of their children's education.

Despite being the intended beneficiaries of the educational process, children with disabilities receiving services under IDEA, and their parents, often face obstacles in the special education services system. Families often approach schools with vague expectations and limited
understanding of special education services (Applequist, 2009). Because IDEA requires schools to involve parents in special education services, that process should provide basic principles for families and the choice to collaborate with schools. Parents can participate in the selection and implementation of identified services (Bruder, 2000; Dunst, Hamby, & Brookfield, 2007). Through IDEA, parents are provided with additional participation opportunities to improve the educational outcomes for their children with disabilities. Identifying parental opinions about the special education services provided to their children, along with parents’ wishes for their children, is very important. Such information has been crucial to informing federal special education law and is an important consideration in designing appropriate special education services (Yell, 2005).

Furthermore, as parents of children with disabilities advocate for their children, they can be viewed as consumers of special education services (Duncan, 2003). Understanding parents’ satisfaction as consumers is vital for schools to ensure successful implementation of special education services and appropriate placements for their children (Lindsay & Dockrell, 2004). Assessing the views of different populations of those consumers will provide a more appropriate and accurate understanding of parents’ desires and needs (Livingstone, 2008). Information gained by studying parental satisfaction can help schools with developing and improving special education services. In addition, the child’s educational success can be gained through the clarification of parent satisfaction with the school program and services (Epstein et al., 2002; Russell, 2003; Livingstone, 2008).

**Statement of the Problem**

The current literature regarding satisfaction of parents of children with disabilities is mixed. Many studies have reported that parents of children with disabilities have reported
positive interactions with education service providers (Applequist & Bailey, 2000; Hurtubise & Carpenter, 2011; Jackson, Traub, & Turnbull, 2008). This suggests a recognition that children’s positive outcomes (e.g., improved quality of life and improved relationship) are related to the care provided by education service providers (Epley, Summers, & Turnbull, 2011).

On the one hand, research reported that most parents and caregivers have positive experiences with special education services. Parents have reported positive, nonjudgmental interactions with service providers. In turn, parents themselves have demonstrated positive traits such as creativity, sincerity, care, support, and responsiveness to the service providers (Applequist & Bailey, 2000; Hurtubise & Carpenter, 2011; Jackson et al., 2008; Wade et al., 2007). This referred to the fact that they recognized that their children’s positive outcomes (e.g., improved quality of life and improved relationship) are related to the care provided by service providers (Epley et al., 2011).

On the other hand, dissatisfaction has been reported as well. In fact, negative experiences have been the greater focus in special education literature (Montes, Halterman, & Magyar, 2009). Studies have shown a considerable proportion of polled parents have reported dissatisfaction (Starr, Foy, Cramer, & Singh 2006; Whitaker, 2007). For example, parents have reported uncertainty about their role in the development of IEPs and frustration with pre-service wait times (Bailey, Scarborough, & Hebbeler, 2003; Bailey, Hebbeler, Scarborough, Spiker, & Mallik, 2004). Other studies have reported that parents are frustrated when professionals are unknowledgeable, unreliable, unorganized, and unresponsive (Grindle, Kovshoff, Hastings, & Remington, 2009; Patterson & Smith, 2011). Furthermore, a few studies have reported that the cost of service delivery is a negative experience for families with young children with disabilities (Grindle et al., 2009; Webster, Feiler, Webster, & Lovell, 2004). Mackintosh, Goin-Kochel, &
Myers, (2012) surveyed 486 mothers of children (mean age = 8.3 years) with autism, Asperger’s Syndrome, and pervasive developmental disorder regarding their satisfaction with special education and found 70% of mothers reported dissatisfaction with the treatments provided for their children. This high percentage of parent dissatisfaction suggests more follow-up studies are needed to identify the factors behind parental dissatisfaction. Parental satisfaction regarding special education services remains an important topic for further investigation.

It could be that specific factors may contribute to whether parents are satisfied or dissatisfied. Overall, studies have identified some factors influencing parents’ satisfaction and treat these elements as issues necessitating investigation. These factors include: the amount and appropriateness of services (Bitterman, Daley, Misra, Carlson, & Markowitz, 2008), overall quality and quantity of collaboration, communication, and partnerships with parents (Mackintosh et al., 2012); the availability and continuity of services (Ruble, Heflinger, Rnfrew, & Saunders, 2005), and the annual cost of services (e.g., Liptak et al., 2006).

Within the line of research on parent satisfaction, the examinations generally include parents with children in the following age ranges: 6-13, and 13-17 (Blackorby et al., 2004; Newman et al., 2011). All in all, studies have focused on parental satisfaction toward services for children with disabilities ages 6 through 17, as opposed to younger children ages 3 through 5. Findings by Spann, Kohler, and Soenksen (2003) reiterate the dissatisfaction, specifically, with parents of older children with disabilities. The children ranged in age from 4 to 18 years of age, and each had an IEP. Here, parents felt that schools were not doing all they could to meet their children’s needs. More follow-up studies are needed to identify the factors behind parental dissatisfaction, especially to focus on the satisfaction of parents with young children in preschool. Many studies do not sufficiently address the experiences of parents who have
children with disabilities, ages 3 through 5, and how these parents in different settings perceive services and do not sufficiently address comparing satisfactions of parents among those different settings (Bailey et al., 2004).

Another factor influencing satisfaction maybe the location of where families live and receive special education services. Measuring parental satisfaction may require greater consideration toward differences in satisfaction in urban, suburban, and rural locations within the United States. Jimerson (2005) found that rural school districts are often geographically isolated, operate with fewer financial resources, and face many more challenges in recruiting qualified service staff than schools in urban centers. Though rural communities are becoming home to a growing number of individuals from various ethnic and social backgrounds, suburban and urban communities tend to be most diverse. A United States Department of Agriculture (2014) report indicated that 21% of rural residents are racially or ethnically diverse. For instance, between 2000 and 2010, in the nonmetropolitan, minorities grew by 1.8 million 21.3% compared to a gain of just 382,000 of .95% among the much larger non-Hispanic white population. Thus, while nonmetropolitan America remains less diverse than urban America (which is 36% minority), minority growth now accounts for most rural population increase, just as it does in urban areas. (Johnson, 2013). Therefore, rural parents of children served under IDEA may have different strengths and needs when compared with their counterparts in urban or suburban communities.

In fact, in comparison to suburban and urban families, rural families were most likely to experience barriers to accessing special education and related services (Applequist, 2009). When asked, rural parents of children with disabilities stated concerns about the limited types of services available in their communities (Applequist, 2009; Brasfield, 2008; Darling & Gallagher, 2004), the low quality of available services (Brasfield, 2008), and the distance required to access
services (Applequist, 2009; Brasfield, 2008). In rural Alaska, parents of children with complex needs were concerned about flexibility and long-term relationships with staff (Ryan-Vincek, 1995), whereas parents in rural Texas emphasized desire for a wider range of services (Haring & Lovett, 2001). Another study indicated that rural parents do not have enough access to support services compared to urban parents. Support services included programs and services that support local school districts in their efforts to provide special education and related services to students with disabilities. (Darling & Gallagher, 2004).

**Purpose of the Study**

The purpose of this study is to gain a deeper understanding of parental satisfaction toward special education services by identifying differences in parental satisfaction across rural, urban, and small town/suburban settings in Northwest Ohio, and describing the differences in the special education services their children receive. Parents of young children with disabilities (ages 3 to 5) living in rural, urban, and small town/suburban settings will be surveyed, and the results between these groups will be compared to better understand community setting as one factor influencing parental satisfaction.

This study seeks to find relationships between parental satisfaction in this demographic and the following specific factors: environment, communication between parents and special education professionals, and aspects of special education service processes. The study will attempt to investigate these issues through five research questions:

**Research Questions**

1. What is the level of satisfaction in parents of children ages 3 through 5 with disabilities in regard to their personal experiences with special education services?
2. What, if any, are the group differences between parents of children with disabilities, age 3-5, who live in rural, small town/suburban, or urban areas on satisfaction of the special education programs and services?

3. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities per family, distance from home to school variable), and the environment/services factor of special education services that their children receive?

4. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities per family, distance from home to school variable), and the communication factor of special education services that their children receive?

5. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities per family, distance from home to school variable), and the processes factor of special education services that their children encountered?

**Significance of the Study**

Special education service enriches developmental outcomes of young students with disabilities and contributes to positive family relationships. It is important to seek an understanding of parents’ satisfactions toward special education service. Understanding the level of parent satisfaction of special education service that their children receive will likely contribute to improved school practices. As their satisfaction relates to the quality of special education service, studies need to measure satisfaction that parents hold. As a result, it is important to continue learning about parent satisfaction with special education services in order to improve the service (Trivette & Dunst, 2004). As such, this study is important to the field of early childhood education services because it underscores the necessity of successful special education services for children with disabilities.
As mentioned previously, raising a child with a disability can be very challenging to parents. Parents of children with disabilities typically have higher levels of depression, feelings of anger, and levels of parenting stress than parents of typically developing children (Smith, Seltzer, Tager-Flusberg, Greenberg, & Carter, 2008; Baker-Ericzen, Brookman-Frazee, & Stahmer, 2005). Also, examining parental satisfaction with their child’s service is substantial for understanding the conflicts between schools and parents. Understanding the satisfaction of parents about the service their children receive will also help professionals provide better services and supports to children with disabilities, which will better meet the parent’s needs. Yet, there is a lack of research that examines the satisfaction of parents who live in small town/suburban, urban, and rural settings. Comparing satisfactions of parents among those settings has not been adequately investigated (Bailey et al., 2004). Many studies do not sufficiently address the experiences of parents who have children with disabilities, ages 3 through 5, and how these parents in different settings perceive services.

Therefore, the main significance of this study is its in-depth examination of the satisfaction of geographically diverse parents of young children with disabilities, ages 3 through 5, toward the special education service. This gap in the literature that this study intends to address is the need to include participants from these various locations. Ozonoff and Rogers (2003) reported that even though disabilities exists equally in all socioeconomic groups, cultures, and ethnic groups, literature has not extended the focus to include parents with children with disabilities from various settings.

The results of studying the satisfaction of parents with a complex condition such as disabilities across diverse geographical locations might help bring awareness to the barriers that hinder parental satisfaction. Furthermore, the results of this study can contribute to the field of
special education research because it intends to study the parental satisfactions from few important dimensions in terms of locations; rural, urban, and small town/suburban, uniqueness of the disabilities, and the unique voice of parents of children with disabilities age 3 through 5 in a unique phase in preschool.

Subsequently, this study may reveal to educators what some parents want in order to develop better satisfaction of special education services across rural, small town/suburban, and urban settings. Also, comparing the satisfaction of parents of children with disabilities in those settings may bring a unique understanding about differences of those parents’ satisfactions. Also, the result of this study may provide a better understanding of creating new effective tools for communication between parents and schools.

On the contrary, overlooking parent voices about their satisfaction may not bring parents closer to being involved in the learning process of their child. Instead, it could expand the gap in communication between homes and schools and cause miscommunication as special education services are delivered to children with disabilities.

**Definition of Terms**

This dissertation contains several terms that are specific to the field of special education services. The following definitions are provided to assist the reader in understanding the literature and information discussed.

**Children with disabilities.** Children with the following characteristics or diagnosis: intellectual development disorder, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbances, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific
learning disabilities; and by reason thereof, need special education and related services (IDEA, 2004).

**Free Appropriate Public Education (FAPE).** FAPE refers to a group of special education services that are been provided at public expense, under public supervision and direction, and without charge; meet the standards of the State educational agency; include an appropriate preschool, elementary, or secondary school education in the state involved; and are provided in conformity with the individualized education program required under section 614(d) [20 U.S.C. § 1414(d)] (IDEA, 2004).

**Rural, Urban, and Small Town/Suburban (geographical location terms).** According to Ohio’s definition, rural school districts are located in small towns within rural areas of the state. They tend to have median income levels similar to suburban district schools, but with lower rates of college participation and professional occupations among its population. Additionally, rural districts tend to have a below average poverty percentage. For the purposes of this study, rural districts will be defined as districts likely to have agricultural industry located away from urban areas (Ohio Department of Education [ODE], 2007, Typology of School Districts section).

Urban school districts are defined as high population density that include medium-sized towns and large cities. These districts are characterized by low to median incomes and high poverty rates. Population concentrations are high in urban districts and usually have a very high percentage of minority students. For the purposes of this study, urban districts will be defined as districts that have high population concentration (ODE, 2007, Typology of School Districts section).
In contrast to Ohio’s state definitions of rural and urban settings, small town/suburban school districts can be generally defined as the districts located around major urban centers. While a small town/suburban district’s poverty level may range from low to above average, these small town/suburban districts generally tend to have high median incomes as well as high percentages of college graduates, professionals, and workforce. Those districts may have smaller population numbers than nearby urban districts (ODE, 2007, Typology of School Districts section).

**Individual Education Plan (IEP).** An individualized written document detailing the plan for special education and related services for a student with disabilities. IEPs are designed and developed by a team of federally mandated participants (Wright & Wright, 2006). This term is defined by statute and regulation, 20 U.S.C. § 1401(11); 34 C.F.R. §§ 300.340-300.350, (IDEA, 2004).

**Least Restrictive Environment (LRE).** According to the IDEA, students with disabilities can be taught alongside students without disabilities, can receive a free appropriate public education, and can be educated in a regular educational environment, to the maximum extent appropriate (Rozalski, Miller, & Stewart, 2011).

**Related Services.** A term that refers to the types of services necessary to assist a student with a disability in benefitting from special education. Those services can be developmental, corrective, or other support services. Speech therapy, physical therapy, occupational therapy, classroom aides, transportation services, and special devices are examples of related services used to assist children with disabilities within school settings.

**Section 504.** Section 504 of the Rehabilitation Act of 1973 is a federal law that prohibits discrimination against individuals with disabilities.
Special Education. This term describes the special education and related services that children and youth between the ages of 3-21 receive under IDEA, Part B. A free and appropriate public school education for eligible children and youth ages 3–21.

Professionals and Providers of Special Education Service. Those terms refer collectively to teachers, early interventionists, specialists, speech language pathologists, physical therapists, and occupational therapists. In the context of this study, the term “provider” refers to any professional who delivers special education services.

Young Children. Preschool and elementary aged children. This definition is specifically identified in this study as children with disabilities who are between three and five years old, currently enrolled in the public-school system, and are eligible for services under IDEA, Part B.

Organization of the Dissertation

The focus of this dissertation is to consider factors and family characteristics; location, parental role, parent education level, number of children with disabilities, and distance from home to school factor) to be studied in term of satisfaction of parents with children with disabilities age 3-5. The study is organized in five chapters. Chapter one includes the introduction, statement of the problem, purpose, research questions and definition of terms. Chapter one focus on introducing the problem of reporting dissatisfaction and the satisfaction of parents with children with disabilities

Chapter two begins with an overview of the history of federal laws pertaining to special education and then reviews the literature concerning the role of parents as advocates in special education and the importance of parental involvement and participation. Finally, this literature review addresses issues related to historical overview of special education laws, parental satisfaction in relation to the parents’ feelings and understanding of special education, the needs
of parents with children with disabilities, parental role in special education, parental satisfaction and understanding of their role in special education, parents’ awareness of needs and satisfaction, the barriers to parental satisfaction and communication issues, and other important issues regarding parental satisfaction in different geographical locations of urban, suburban, and rural locations.

Chapter three describes the research design. In addition, it includes the selection of the participants and the sample frame. Chapter describes the research questions, research design, data collection procedures and it also includes the reliability and validity. Chapter four focuses on the findings and discussion of the research. It includes the analysis of the quantitative data. The chapter is organized to answer each research question using the appropriate analysis for each question. data set(s).

Chapter four interprets the results of the statistical tests to answer’s the study’s questions. It presents, in sufficient detail, the research findings and data analyses, and describes the systematic and careful application of the research method. This includes the psychometric properties of the original survey and the modified instrument content validity of this present study, construct validity, and finally, includes the results of tests of normality and outliers’ detection, the statistics, multivariate analysis and the correlation analysis.

Chapter five, the final chapter of this dissertation, provides the purpose of the study, the research questions, and a summary of the findings. The contributions, limitations, implications, recommendations for future research of the study, and conclusions are also discussed in this chapter. It also, considers the implications of this research and offers a discussion regarding parent satisfaction as it relates to the literature. Chapter five further, includes results and
discussion regarding each of the research questions. Recommendations for schools as well as for future research of the study presented also in this chapter.
Chapter Two

Literature Review

This chapter begins with an overview of the history of federal laws pertaining to special education and then reviews the literature concerning the role of parents as advocates in special education and the importance of parental involvement and participation. Finally, this literature review addresses issues related to parental satisfaction in relation to the parents’ feelings and understanding of special education, the needs of parents with children with disabilities, the barriers to parental satisfaction and communication issues, and the different geographical locations.

Historical Overview of Special Education Laws

Special education has dramatically changed from the early twentieth century to present day (Turnbull, Turnbull, Shank, Smith, & Leal, 2012). Prior to the 1960s, schools discriminated against children with disabilities by excluding many children, not providing them with appropriate or effective education service (Turnbull et al., 2012). Turnbull et al. (2012) also reported inaccurate diagnoses—children diagnosed with one disability while they in fact, had another kind of disability—as a common problem during that era.

In the early 1970s, educators, parents, advocacy groups, and civil rights lawyers began to mobilize and advocate for students with disabilities. These activists began by targeting local school officials who had violated students’ rights, and then suing state officials, arguing that exclusion and misclassifications violated the students’ rights to an equal education opportunity under the U.S. Constitution. Relying on the Supreme Court’s decision in Brown v. Board of Education (1954), activists argued that because Brown held that schools may not segregate by
race, schools also may not segregate or otherwise discriminate by ability or disability (Turnbull et al., 2012; Max, 2012).

Amidst these court battles, the U.S. Congress enacted The Rehabilitation Act of 1973, an important federal civil rights law that guaranteed special education services to children and youth with disabilities from birth through age 21, as well services to their families (U.S. Department of Education, 2010). Designed to protect the rights of individuals of disabilities, The Rehabilitation Act of 1973 set a policy of nondiscrimination in the employment and education fields; allowing only positive discrimination, and encouraging the employment of persons with disabilities (Office of Special Education and Rehabilitative Services [OSERS], 2000). This Act has been amended several times, and is referred to by its specific sections. For example, Section 504 (added in 1998) established that public schools are not allowed to discriminate on the basis of disabling conditions (OSERS, 2000).

Passed in 1975, the Education for All Handicapped Children Act (EAHCA), or Public Law 94-142, guarantees a free and appropriate public education (FAPE) for all children with disabilities from ages 5-21. The law also determined that special education should be free and designed to meet the needs of students with disabilities. Consecutively, in 1990, The Americans with Disabilities Act (ADA), or Public Law 101-336, passed (OSERS, 2000), and began to positively and dramatically affect the lives of children and adults with disabilities. This happened by preventing discrimination toward individuals with disabilities in aspects of their lives; specifically, by preventing discrimination in the areas of employment, transportation, public accommodations, and the state and local level (Turnbull, Turnbull, Shank, Smith & Leal, 2012).

IDEA Part B Section 619, which was included in the 1986 amendment to the Education for All Handicapped Children Act (EHA, 1975) was first known as the Preschool Grants
Program. It was created to help states provide preschool aged children with disabilities between 3-5 years of age with special education and related services. At that time, only 50% of states provided services to children with disabilities in preschool settings. Because of IDEA Part B, the number of children served nationwide increased from 265,000 in 1987 to an estimated 710,400 in 2011 (Council for Exceptional Children, 2011).

The Individuals with Disabilities Education Act (IDEA) is a legislation that ensures students with disabilities are provided with Free Appropriate Public Education (FAPE) that is tailored to their individual needs. IDEA was previously known as the Education for All Handicapped Children Act (EHA) of 1975. IDEA protects the rights of individuals with disabilities and enhance parental participation and decision making by including parents in the development of their child’s Individualized Education Plan (IEP) (Yell, 2005). IDEA provides opportunities for families of children with disabilities to be active participants in the decision-making processes of their children’s education.

Under the six principles of IDEA, special education service does not only identify children with disabilities and provide information to their families about the services they are entitled to; it also determines the educational benefits. The specification of both the service and the benefits can be seen through the principles of IDEA. IDEA also emphasizes the development of an IEP for each child eligible for special education and related services. All children and youth with disabilities are to be educated, to the maximum extent appropriate, in inclusion settings. IDEA gives parents the right to participate in every decision related to the identification, evaluation, and placement of their children. Parental consent must be given for any initial evaluation, assessment or placement decision (IDEA, 2004).
IDEA is based on six main principles. The first is the zero reject principle, which ensures that children receive the appropriate education, regardless of the severity of disabilities. IDEA’s second principle is the right to nondiscriminatory identification and evaluation methods in order to minimize discrimination and misclassifications in the evaluation process. For instance, schools must use nonbiased, multifactored methods of evaluation to determine whether a child has a disability and, if so, whether special education service is needed. This must be done without discriminating based on culture, and racial background. Additionally, all tests must be administered in the child’s native language, and identification and placement decisions cannot be made based on a single test score. The third principle of IDEA is free, appropriate public education (FAPE), which ensures that children with disabilities receive appropriate education through a specific and individualized education plan (IEP). Education may be implemented in regular or special education classrooms. Least Restrictive Environment (LRE) is the fourth principle of IDEA, which stipulates that in addition to providing each special education student with an IEP, their education should take place in the least restrictive environment, including all the integration and inclusion settings (Turnbull et al., 2012). LRE means that to the maximum extent appropriate, children with disabilities should be educated alongside their nondisabled peers and have the opportunity to interact with non-impaired peers in the same classroom. LRE requires the government to achieve inclusion and interaction purposes through the least restrictive means (Thomas & Rapport, 1998). The fifth principle is the right to procedural due process and safeguards, which stipulates that schools should protect the privacy rights of students with disabilities and their families. Parental consent must be obtained for initial evaluation, all subsequent evaluations, and placement decisions regarding their children’s special education. If parents and state or local education agencies disagree, and mediation is not successful, due
process will be invoked. The sixth principle of IDEA is parent and student participation and shared decision making. Parents have decision-making rights and must be able to participate in all aspects of the child’s education goal-setting (Turnbull et al., 2012).

An emphasis on parental involvement in all aspects of the special education process was again stated in the reauthorization of P. L. 94-142, the predecessor to IDEA. The term “parent,” as written in IDEA § 300.20, is defined as a natural or adoptive parent, guardian, or a person who acts in the behalf of a parent such as a grandparent or stepparent as stated in Federal Regulations for Implementation of Individuals with Disabilities Education Act of 1997. IDEA section 300.312 focuses on public charter school parents and their children with disabilities, emphasizing their rights to receive the same benefits as children in state public schools.

IDEA Section 300.345 stipulates that parents must be notified about IEP meetings and have the right to bring someone with knowledge or expertise to the meeting. IDEA changed the disabilities identification and child evaluation process by adding the parent perspective. One of IDEA’s major contributions was the addition of parent counseling and training, intended to help parents gain the skills needed to develop and support their children’s IEPs, § 300.24 (b) (7). This is in line with Section 682, which authorized parent training and the establishment of information centers intended to serve all parents and children with disabilities (Latham, 2002). The information centers exist in preschools to provide information to parents about their child’s disabilities, learn about the special education programs and services available in their area, assist parents in communicating effectively with special education service providers and make informed decisions regarding their child’s learning and school activities (Federal Regulations for Implementation of Individuals with Disabilities Education Act, 1997). In addition, parents can participate in parent training center activities, and provide information to teachers and other
special education professionals (Federal Regulations for Implementation of Individuals with Disabilities Education Act, 1997).

The most recent amendments to the Individuals with Disabilities Improvement Act (IDEA, P. L. 108-446), passed in 2004, stated that although EAHCA has helped to provide free, appropriate public education for children with disabilities, weaknesses and shortcomings still existed within special education services. Max (2012) reported that these 2004 IDEA amendments also recognized other issues, including America’s rapidly increasing ethnic profile. In 2000, one in every three children belonged to an ethnic minority or had limited English proficiency (Sec. 106, 10(B)). This rapid increase in the minority student population added a new challenge to maintaining the quality of special education services (IDEA, 2004).

Many factors influenced the 2004 amendments which reauthorized IDEA. Trohanis (2008) stated that these factors include “the needs of children and families, the documented benefits of early intervention and preschool services, and the role of families not only in the development of their children but also in policy development and services provision processes” (p. 141). Also, the most possible effective services were assigned to ensure accountability and the ideal outcome. Since P.L. 94-142 passed, few reauthorizations have altered special education law so greatly. Although some changes have been significant, the basic provisions of the original legislation have remained the same, as Smith (2005) stated. Subsequently, all children with disabilities must pass through a referral, evaluation, and eligibility determination process. Those children who meet the disabilities eligibility criteria must receive IEPs and all must be provided with a free, appropriate public education.

**Parental Roles in Special Education**
Special education is mandated for all children with disabilities, and parental participation in the special education process is an essential pillar of the IDEA. This federal law has empowered and protected the rights of parents in the development and implementation of their children’s educational programs. However, some parents of children with disabilities remain confused and unsatisfied by the process. Parental perceptions and opinions today continue to improve the educational process for children with disabilities (Max, 2012).

Ultimately, the frequent changes in federal legislation over the past decades have required schools to seek increased parental participation in special education processes while also requiring parents to become more aware of special education laws and their rights as parents. Special education professionals should consider reducing parental stress and promoting the benefits of parent collaboration as part of their jobs (Wang, Mannan, Poston, Turnbull, & Summers, 2004). Special education providers should aim to give parents the opportunities and information they need to actively participate and assist in educational planning for their children with special needs.

Involvement of parents has been found to enhance building strong and effective educational experiences for children with disabilities. Stoner et al. (2005) stated, “parental involvement, which encompasses the patterns and nature of parent-professional interaction, has been identified as a key to building strong and effective educational experiences for children with disabilities” (p. 39). However, the relationships between special education providers and parents of children with disabilities have not always been positive because of the attitudinal and implementation complexities (Stoner et al., 2005). Additionally, complexities exist regardless of the benefits that family-centered approaches to the delivery of early special education services and IDEA legal mandates provide (Cheatham, 2011).
In many studies, parents have reported a specific desire to improve early childhood special education services and a need to improve the intervention process for their children with disabilities (Duncan, 2003; Johnson & Duffett, 2002; Lindsay & Dockrell, 2004; Russell, 2003; Spann et al., 2003). Parents reported a need for clear information about the services available to them, and better understanding of the legal elements of special education services. Since federal law has changed many times over the last three decades, parents reported that they need assistance and support to understand certain elements of the services, in the interpreting and understanding the law and service terminologies, and in understanding their parental rights and responsibilities (Yell, 2005; Livingstone, 2008; TEA, 2004).

Over the course of history, parents of students with disabilities have assumed a variety of roles within special education services. In the past, parents have played the most important roles in pushing significant change and influencing lawmakers to pass legislation that not only protect children with disabilities, but provide needed definitions around the various disabilities. Parent-advocates have insisted upon government regulation and financing of special education (Giordano, 2007). Turnbull, Turnbull, Erwin, Soodak, and Shogren (2015) described how during the 1970s, parents of children with mental handicaps were battling, suing, and winning in court the right to a free, appropriate education for their children. This win encouraged parent-advocates to continue pushing strongly for federal legislations to implement the various court decisions in favor of expanding special education. This win also became the basis for the 1975 Education for All Handicapped Children Act (P.L. 94-142), the first piece of federal legislation governing the education of students with disabilities as Turnbull & Turnbull, (2001) stated. With the passage of IDEA and the endowment of parents as accountable decision-makers in the special education processes, the traditional provider-driven model began to yield to a more
parent-centered model of service delivery (Turnbull et al., 2015). The shift toward a parent-centered model has encouraged parents to become more involved in the educational decision-making activities and processes in their children’s schools.

The current emphasis on partnership creation in the family-centered/family-driven model is based on the informed assumption that parents and schools, working together, are better equipped to handle the issues and problems within special education services delivery (Pinkus, 2003). Parents play an important role as advocates for their children (Green & Shinn, 1995) and ensure that they receive the appropriate education and the services. Parents are knowledgeable about their children. They can be considered their children’s first teachers, just as passionate and caring teachers mirror a role similar to parents (Rockwell, Andre, & Hawley, 1996).

Parent-advocates have an important role in their children’s special education processes, but many parents are still unaware of the active role they could play. For example, researchers in an interview-based study conducted by Lynch and Stein (as cited in Green & Shinn, 1995) asked parents if they had an active role in the development of their children’s IEP. 71% of those parents responded with “yes”. Of the percentage of parents believing themselves to be involved, only 47% reported making suggestions during the IEP meeting with their children’s service providers (Green & Shinn, 1995). Hence, it appears that the majority of parents do not effectively participate in the IEP process.

Because of legislation, parents have gained the right to document the events, meetings, and discuss documents and telephone calls, support and be an advocate for their child’s benefits in events, and meetings. The parental role is very important in addressing various aspects of special education programs. For example, parents tend to hold strong opinions about the inclusion and integration programs their children experience, as well as how placement will impact their
children (Palmer, Borthwick-Duffy, & Widaman, 1998). Therefore, they make great advocates when dealing with specific issues, such as their opinions and understanding when placing their child in an inclusive setting or institution.

Each parent and special education professional holds a unique role in the delivery and creation of special education services, and they all represent various points of view. Regardless of differences, parents will at times seek advice from professionals about special education services, as Seligman and Darling (1997) reported. Parents who collaborate and interact with other parents may gain a deeper understanding of special education services through information exchange (Seligman & Darling 2007).

Because of the resistance of many parents for a long time battling for the rights of their children with disabilities, and because of the change and improvement of the field of the special education service, thus, make parents viewed as the source of their child’s disability. Keen (2007) claimed that history has informed and shaped the parent and special education service provider relationship over time. Keen also noticed that parents were more motivated about their children’s placement in schools or other places when they believed that their children had a better chance of growing up in a nurturing environment under the care of a trained professional (Keen, 2007).

Bailey (2000) observed, “parents should be active participants in planning services for their children and themselves and that services should enable families to feel and be competent in advocating for their families” (p. 213). These aspects form the basis of family centeredness and are in direct contrast to how families and their children with disabilities were treated, as reported by Keen (2007). Kaczmarek et al. (2004) observed that considering the needs and
concerns of parents is the most effective support strategy when their children are receiving special education services.

Parental advocacy has been widely investigated and studied in the literature. Wang et al. (2004) studied 78 family members of children with disabilities; it is one of multiple studies showing that families can become strong advocates for children with disabilities and push for the services they feel their children need (Stoner et al., 2005; Wang et al., 2004). The study used participants from various racial groups, including African Americans (n = 42), Caucasians (n = 26), and Hispanics (n = 3). Only four participants marked their race as “other” and three participants did not disclose information about their race. The researchers conducted this study using focus groups and individual interviews. There were five themes regarding parents’ understanding of advocacy activities and effective parental advocacy on the life of parents. Parents have reported that advocacy is a commitment. Stoner et al. (2005) found that parents perceived themselves as not skilled enough and needing to learn more important skills, such as “understanding their child’s disabilities, knowing their rights, knowing how to get resources and information, knowing how to ask for help, and documenting conversations, requests, or events” (p. 148). Many parents do not want to spend a long time battling for the rights of their children with disabilities but feel they have no choice. Parents reported facing negative, as well as positive, results as special education advocates. More importantly, parents in this study said that dissatisfaction with the special education services generally was the main reason they felt they had to advocate for their children (Stoner et al., 2005).

In contrast, some parents were satisfied with the services received by their children and did not feel like they had to fight against special education professionals. When parents had to “fight for services,” they had less trust (Stoner et al., 2005), however, “foundations of trust were
developed when expectations between parents and professionals were clearly defined, when promises and expectations were met, and when parents believed that professionals’ genuine intent was to do the best they could for their children” (Stoner et al., 2005, p.48).

**Parents’ Feelings towards Their Roles**

Parental emotions are a major consideration when dealing with children with disabilities. Many of the special education service providers do not realize that parents have feelings when dealing with their child’s special situation (Leff & Walizer, 1992; Nesbit, 2014). Further, the feelings of parents with children with disabilities have been associated with their views toward their roles in the special education services. Greenberg and Carter (2008) reported that parents experienced more stress, anxiety, and depression when working together with special education service professionals. Also, those findings supported what other previous studies of parental feelings in advocacy training, counseling or consultation than in other parts of the service delivery processes (Simpson, 1990; Leff & Walizer, 1992). Helping parents manage these negative feelings so that they can be fully involved within the school partnerships that determine their children’s educational plans may be a logical pre-step to the development of the IEP.

Participating in IEP development can bring significant stress and anxiety to parents. Leff and Walizer (1992) reported that parental concerns when dealing with special education services include fear, anxiety, vulnerability, guilt, and isolation. This study observed that parents’ concerns seem to have “common threads: vulnerability, guilt, and isolation” (p. 136). Parents reportedly felt guilt around many aspects, including setting up meetings for their children, and work roles (Leff & Walizer, 1992). Parents were anxious; they questioned whether or not they had provided enough for their children and tried to quantify the consequences of a missed therapy session. These represent just a few lines of self-questioning and illustrates the deep guilt
many parents experience (Leff & Walizer, p. 137). Special education providers within schools should consider working with parents to overcome their feelings of guilt and prioritize the setting of manageable short-term and long-term goals.

The time of diagnosis can often be challenging for some parents. After being informed that their child has a disability, many parents go through a difficult period of grief that resembles a mourning period (Hornby, 1995). Cantor and Cantor (1995) explained that there are essentially several ways to deal with the emotions of parents. For instance, parents need to know, and to feel, that they are not alone. This provides initial, essential support for parents with children with disabilities. In addition, parents need to learn everything about their children’s situations and express their perspectives and their point of views about their child’s needs in all the areas, sharing even their medical and educational ideas. To deal with the parents’ feelings, research suggests different strategies and ways. For instance, Cantor and Cantor (1995) suggested that another important strategy (as cited in Latham, 2002), which is to teach and help parents to take care of themselves (Latham, 2002).

**Involving Parents and Listening to Their Desires**

Seligman and Darling (2007) claimed that lately, there has been a shift in social perspective. People now believe that parents should do more than just acquiesce to professional opinion, as they did in the past. The study reported that parents are more satisfied when they are more involved with special education teachers in schools. When developing their children’s IEPs, parents can be very helpful team members if they understand their roles in the process. They can help pinpoint what children need to achieve the IEP’s goals. Studies found that schools increasingly look to parents as partners in developing their children’s educational plans as Spann et al., (2003) stated. This perspective may lead to more positive outcomes and create effective
collaborations with parents, leading to extensive success in their children’s educational achievements. Epstein’s (2001) study of parent involvement found a strong correlation between parental involvement in the educational process and parents advocating on behalf of their children. In another study, Willems stated that Epstein concluded that student academic success is best achieved through cooperation between school, family, and community (Willems, 2012).

Parents say that they consider their child’s age and severity of disabilities as the core considerations about special education services. These reported concerns differed from educators’ expectations (Westling, 1997). Parents displayed deep desires regarding their children’s placement in regular education and integrated classroom settings (Perras, 1995). Others reported parental desires such as parents’ desire for better quality services for their children, a desire to place their children in the most possible unrestricted environments, and a desire to provide modifications and accommodations (Fidler, Lawson, & Hodapp, 2003; Ivey, 2004). Lange & Lehr (2000) report that parents want the most positive educational outcomes regardless of their children’s individualized learning needs.

Regarding the quality of inclusion settings, Buysse, Skinner, and Grant (2001) found that both parents and professionals think these settings can be improved through providing more training for classroom staff, and through appropriate teaching practices in the classroom (Buysse, Skinner, & Grant 2001). For inclusion settings to be effective, parents should be fully involved in the development of instruction programs. In a 2005 study, parents were shown to strongly believe that inclusion settings could benefit their children, especially in the domain of socialization (Johnson & Duffett, 2002).

**Parental Satisfaction with Special Education Services**
Parental satisfaction of parents of children with disabilities has been widely studied in current literature satisfaction. Many studies have reported that parents of children with disabilities showed positive interactions with education service providers (Hurtubise & Carpenter, 2011; Jackson et al., 2008; Wade et al., 2007; Coogle, Guerette, & Hanline, 2013). Parents have reported positive, nonjudgmental interactions with service providers. In turn, parents themselves have demonstrated positive traits such as creativity, sincerity, care, support, and responsiveness to the service providers (Hurtubise & Carpenter, 2011; Jackson et al., 2008; Wade et al., 2007). Parents reported that they recognized their children’s positive outcomes (e.g., improved quality of life and improved relationship) that are related to the care provided by service providers (Epley et al., 2011).

Statewide and nationwide surveys have been used to study parental satisfaction in detail. For example, in the Texas Self-Assessment, Region IX Education Service Center of the Texas Education Agency conducted a survey in 2004 called Statewide Survey of Parents of Children in Special Education Programs, using both English and Spanish (TEA, 2004). The statewide survey included two main elements: (a) questions to test parents’ understanding of special education processes, including parent’s knowledge of legal components, and (b) questions about the parents’ levels of satisfaction. The result of this Statewide survey suggested that the majority of parent respondents reportedly understood their roles in the legal process. However, 14% of the parents did not show a real understanding of the relationship between the general education curriculum and how IEP objectives were developed. In addition, only 25% of parents did not understand how their children’s placement decisions were made. Also, the majority of parent respondents said that they understood the explanations made during Admission, Review and Dismissal (ARD), a series of meetings for special education services professionals working in
the Texas public school (TEA, 2003). However, 25% of those parents had some difficulties understanding their roles in developing the IEP. The study indicated that more than half of the parents were completely satisfied with their children’s education, but 35% of parents were only somewhat satisfied. Parents were also surveyed about decision-making process behind student placements. Sixty one percent of parents reported being very satisfied with participation, but almost 29% of parents reported being only somewhat satisfied. 40% of parents did not believe classroom modifications were provided for their children. Lack of respect and cooperation, refusal of services, and inadequate support personnel were a few of many areas of dissatisfaction noted at the IEPs’ meetings (Livingstone, 2008; TEA, 2004).

The Pre-Elementary Education Longitudinal Study (PEELS) followed a nationally representative sample of 3,104 children, aged three to five years old, from 2003 to 2008 to examine the preschool and early elementary school experiences of children with disabilities. Researchers gathered data about the children's preschool environments and experiences, their transitions to kindergarten, their experiences of kindergarten and early elementary education, and the children’s academic and adaptive skills (Bitterman, A., Daley, Misra, Carlson, & Markowitz, 2008). Researchers found that over 90% of the families reported satisfaction with the type of services received by their children. The reported dissatisfactions focused around the amount of time their children spent in the general education classroom with typically developing peers and a desire for the school districts to provide more types of services (Bitterman et al., 2008).

Parents’ Awareness of Needs and Satisfaction

Since IDEA’s reauthorization, parental needs have received more attention. Therefore, many studies have attempted to identify issues concerning parents of children with disabilities, and studies concerning inclusion for children with disabilities into the regular education program
have been conducted as well. Perceived lack of time, money, and knowledge are some of the common needs parents experience that hinder their involvement and satisfaction with special education services (Palmer et al., 1998).

Parents’ economic status can be an impediment to parents’ being active participants and decision-makers. Ozonoff and Rogers (2003) reported that even though disabilities exists equally in all socioeconomic groups, cultures, and ethnic groups, both those from lower socioeconomic group have less access to resources. Economic conditions have an influential impact on parents’ abilities to attend meetings and programs, and many parents find it hard to attend the meetings because of work commitments, or the cost of taking a day or hours from their work. Studies reported that parents have concerns regarding their work commitments and family commitments (Gordon & Miller, 2003; Rafferty & Boettcher, 2000). García and Ortiz (2006) reported that teachers believe that low-income parents did not participate in their children’s educations. Likewise, Bailey et al. (2004) found that families with limited income and families with less educated mothers were less satisfied with special education services. Though economic situations presented impediments to effective partnership between parents and schools, parents from all different economic and cultural backgrounds wish for their children to do well in school (Henderson & Mapp, 2002).

A study by Pinkus (2005) identified the needs of parents who wanted to be involved in their children’s learning process and were willing to work with professionals to achieve their goals. Their needs included determining a goal or a purpose and setting up clear roles with equal involvement and accountability for every education partner. Pinkus (2005) found that a lack of agreement and out of sync communication between the parents and professional were major obstacles to effective collaboration (Pinkus, 2005). The way parents view and understand special
education services could be major influences on parents’ decisions to change their children’s programs (Kasari, et al., 1999). Similarly, some parents endure long lasting concerns and continuous struggles in the course of getting appropriate services for their children and for their unique needs (Summers, Hoffman, Marquis, Turnbull, Poston, & Nelson, 2005). It is noted that some parents are willing to move to different locations if those locations can provide more services, programs, and assistance for themselves and their children (Lange, Ysseldyke, Lau, & Lehr, 1995).

Bruce and Schultz (2002) reported that a communication can be an effective manner of between special education service providers and families ought to be effective in reducing parent stress levels. Seligman & Darling (2007) reported that these parents can be subject to discomfort and attachment to misconceptions that some parents carry, leading to significant losses comparable to losses resulting from death (as cited in Livingstone, 2008). However, communication can build a solid foundation of trust between parents and professionals (Livingstone, 2008; Seligman & Darling, 2007). Others show that communication reduces parents stress. Brookman-Frazee (2004) found that collaboration between professionals and parents in addressing the needs of the children can help parents to effectively reduce their current stress as well as future stress.

Parents’ satisfaction, in general, has been linked to several factors. A survey conducted by the Region IX Education Service Center of the Texas Education Agency (TEA) showed a relationship between the parents’ level of education and the level of parental satisfaction. In other words, parents with higher levels of education tended to be dissatisfied with their children’s special education experiences compared to others (TEA, 2004; Livingstone, 2008). This result differs from a previous study by Freeman, Alkin, and Kasari (1999), which found
significant association between the mother’s higher education level (beyond the bachelor’s degree) and a higher level of satisfaction with educational service in schools (Livingstone, 2008). Some other studies have been interested in finding factors on parent satisfaction with the services that their children with disabilities receive across a range of disabilities. These factors include parents’ awareness of special education services (Bailey et al., 1999), the age of the child and severity of disabilities (Bailey et al., 2003; Summers, Hoffman, Marquis, Turnbull, & Poston, 2005; Wang et al., 2004), and parents’ level of education, family income, racial background (Bailey et al., 2003).

Another factor that has been linked to the parental satisfaction also is the disability type of the child factor. Parental needs and satisfaction levels of parents of children with various disabilities has also been studied. Researchers have studied specific areas of children’s special education services and have compared parental satisfaction across the various disabilities, such as Autism Spectrum Disorder (ASD), Down’s Syndrome, and learning disabilities (Starr et al., 2006). In a study conducted by Kasari, Freeman, Bauminger, and Alkini (1999), parents of 209 children ranging from 4 to 21 years old, in the above disability categories, were followed, but researchers found differences among the parents of these groups. Parents in all three disabilities categories reported that effectively trained teachers were the most important unmet need, but parents of children with ASD were more likely than parents of children with Down’s Syndrome to request specialized methods of teaching (Kasari, Freeman, Bauminger, & Alkini, 1999). Another study compared the satisfaction of parents of children with ASD to the satisfaction of parents of children with other disabilities (Parsons, Lewis, & Ellins, 2009). The study included a sample of 125 parents recruited through an online resource designed to serve the families of children with disabilities. This study compared different themes of educational concerns across
the disability categories of ASD, emotional disturbances, learning disabilities, and speech/language disabilities. Results indicated a clear difference between the satisfaction rates of ASD parents and parents of children in other disabilities categories. Specifically, they were more dissatisfied and wanted to be able to choose their children’s educational settings (Parsons et al., 2009). Based on previous research, it is known that the stress levels of parents of children with disabilities impacted their levels of satisfaction with special education services. For instance, previous indicate that mothers of children with developmental disabilities, autism, and behavioral disorders experienced and maintained high levels of stress (Livingstone, 2008; Lessenberry & Rehfeldt, 2004). Also, Seligman and Darling (2007) found that a child’s disability could contribute to marital stress, and effect other important aspects of the parents’ lives. Knowledge of the disability and the intervention strategies appears to be the key to parental satisfaction (Livingstone, 2008).

Parental values and beliefs can also affect satisfaction. Duhaney and Salend (2000) found an association between parental beliefs and their satisfaction with the school programs. Parents’ beliefs drive their views about the academic goals and methods of educational programs. In addition, parental satisfaction has been shown to relate to the amount of external support, help they received, and related to their own beliefs and values (Livingstone, 2008; Duhaney & Salend, 2000). One potential problem with parental beliefs is that the beliefs parents carry can lead them to capitulate to a team decision out of respect for professionals without necessarily understanding what was discussed (Dabkowski, 2004).

Leiter (2004) found that other impediments to parent satisfaction in regards to professional collaboration included insufficient amount of training for professionals in the collaborative model, parents’ insufficient awareness and knowledge of legal rights, and parents’
personal commitments and home responsibilities (Leiter, 2004). There is a connection between parent–provider conflicts in a school setting and the parents’ perceptions of how these special education providers view their children, as reported by Lake and Billingsley (2000). Parents perceived their children’s schools negatively when they felt that the schools chose to look at their children as disabled rather than humans with different and various strengths and abilities, or when parents felt underestimated or badly treated. In addition, some parents reported they were not given opportunities and chances to choose among related services, nor were they informed of changes in services, or their children simply did not receive the services requested (Spann et al., 2003).

Other factors that relate to parental satisfaction toward their relationship with schools have been studied too. There are several studies targeting the conflicts in the special education process and its effects on the relationships between the families and schools (Duncan, 2003; Leiter & Krauss, 2004; Nowell & Salem, 2007). For instance, Duncan (2003) investigated what 10 parents thought about the conflicts and dissatisfaction between themselves and special education professionals, and reported that “parents in this study were all frustrated with the length of time taken to make any progress with their complaints, and all were exasperated by the way professionals seemed to hold power to operate the system to their own advantage” (p. 352). Similarly, Leiter and Krauss (2004) surveyed 1,863 parents who asked for additional services to discover how satisfied they were regarding their requests for additional special education services. Most parents said they had problems obtaining them, which “suggests that once a school system has agreed to a plan for a child, it may resist any proposed modifications to that plan” (Leiter & Krauss, 2004, p. 142–143). Parents often reported feeling dissatisfied with the service due to the providers’ resistance to their requests for additional services. The conflicts of
the relationship between schools and parents in terms of communication and collaboration have been the crucial part of parents’ concerns in literature review.

**Parental Satisfaction toward Communication with School**

All the above-mentioned factors might relate to the communication between parents and schools as it is the most effective collaboration tool, and a lack of communication between parents and schools can be a concern. In an early study on the topic of communication among special education service providers, MacMillan (1995) found that parents of children with disabilities tend to have had communication issues with their schools. MacMillan (1995) further reported that using deductive communication with parents can be a very effective way to solve or prevent the communication’ problems.

Similarly, Deitz (1997) claimed that using a variety of communicational methods with parents enhances the quality of communication. Flach (2000) stated that the collaboration between professionals and families in team meetings, plan making, assessment, and problem solving was beneficial for each child in school. Communicating with families and parents in an open, honest way will lead to better collaboration (Blue-Banning, Summer, Frankland, Nelson, & Beegle, 2004). Most parents and caregivers need sincere, honest, and open communication from educators to create positive partnerships they believe will be successful for their children (Livingstone, 2008). In order to meet needs, needs must be assessed using an effective communicative method. Valuable home support can be gained for the child’s educational success through clarification of parent satisfaction with the school program and services, and determination of the extent of parent understanding of programs and processes, parental education and family supports (Epstein et al., 2002; Russell, 2003; Livingstone, 2008).
However, teachers have reported stress when interacting with parents (Turnbull et al., 2015), and suffering from parents’ emotional sensitivity to the extent that teachers hesitate in bringing up some issues about their children (Cantor & Cantor, 1995). Conversely, parents have reported stress when communicating with teachers (Hornby, 2000). One obstacle that both parents and professionals face relates to working together as decision-makers in the special education process. Conversations at IEP meetings lead parents to think that school professionals have more technical information than they do, leading parents to think that they have no power or role in the discussion (Dow & Mehring, 2000).

Another communication barrier that can influence parental satisfaction and involvement are linguistic differences, as some cross-cultural studies have shown. Cultural and language differences have been shown to play a role in affecting the level of parental involvement in special education services (Salas, 2004; Kim & Morningstar, 2005; Pinkus, 2006; Lo, 2009). In general, Bailey et al. (2004) found that minority families were more likely to report negative experiences. In their studies on Korean-American students, both Park and Turnbull (2001) and Cho and Gannotti (2005) found parents were concerned about the schools providing language interpreters or translators who were not knowledgeable, trained in special education, nor familiar with terms the professionals used. One parent said her interpreter paid more attention to what the professionals said than to what she had to say, so parents reported they were not being able to communicate with IEP teams well (Cho & Ganotti, 2005). Despite these barriers, the parents still reported overall satisfaction with special education services, and were particularly satisfied with the knowledge and the professionalism of the providers and teachers (Cho & Gannotti, 2005; Park & Turnbull, 2001).
In an ethnographic study of urban elementary schools, Lareau (1989) found parents who could speak the language of the majority (Caucasians) were more involved in the education system. Other impediments include some parents’ lack of proficiency in English, insufficient experience working with schools, and the families’ cultural or racial backgrounds and related negative conditions (Sileo & Prater 1998). The communication issues are the main impediments to parental participation in the IEP process. In addition, parents may lack understanding of their school systems, lack knowledge of their child's disabilities, and have feelings of inferiority as Smith (2001) stated. Parents and professionals are now considered educational partners (Selgiman & Darling, 1997), and partnerships between parents and professionals will only thrive if equality and mutual respect is adopted. Parents and providers overcome the obstacles that prevent the best possible service for their children by working together (Selgiman a& Darling, 1997).

Similarly, language diversity can be a barrier to parental satisfaction. In the United States, around 10% of students in preschool through grade 12 enrolled in public school systems were English language learners who had limited English ability and parents with limited English ability, as Wilkinson, Ortiz, Robertson, and Kushner (2006) stated. Importantly, the language barrier is not always of a linguistic nature. For instance, special words or expressions that are used by a professional or groups in schools can be difficult for others to understand. Researchers found that the use of professional jargon in schools prevent parents from full active participation (Wright & Wright, 2006). Furthermore, if parents do not have the ability to understand the legal terminologies and words used in the educational documents, they subsequently become frustrated and confused. In addition, Miles-Bonart (2002) noted that different interpretations of perceived needs by different members of the IEP team cause parental dissatisfaction (Miles-
Bonart, 2002) along with the manner in which the professionals speak can cause a barrier among English speakers. Parents may not always understand or prefer the language used by professionals, and this may affect collaboration as well (Dabkowski, 2004).

Though IDEA has improved the quality of special education for children with disabilities, Bruder (2010) stated that “the field is facing many challenges because of the growing heterogeneity of children’s and families’ needs, the increasing complexity and variability of service systems, and dwindling resources available to support an infrastructure” (p. 339). Currently, many special education service providers are of Caucasian backgrounds (Diken, 2006), and appropriate training in working with families, especially bilingual and bicultural families among early intervention and special education professionals, are insufficient (Zhang & Bennett, 2003).

**Differences of Parental Satisfaction in Urban, Suburban, and Rural Locations**

A few studies of parental satisfaction about special education services target and compare geographically diverse settings, as previously mentioned. The satisfaction level of parents of children with disabilities is vague and varied and changes depending on school location (James, Kopechanski, Cameron & Hughes, 2008, Applequist, 2009). Studies of parental satisfaction in the United States may require a greater consideration toward school locations, as rural settings, urban settings, and small town/suburban setting all have different access levels to programs and resources.

It is worth mentioning that the majority of states in the nation include both urban centers and rural communities, which require more attention. Jimerson (2005) found that school districts in rural areas are often geographically isolated, operate with fewer financial resources, and face many more challenges when it comes to recruiting qualified service staff. Federal government
reports indicate that only 21% of rural residents are racially or ethnically diverse (United States Department of Agriculture, 2014). As the national population has become more diverse, educators, service providers, and professionals are faced with rapidly changing classroom demographics (Diken, 2006; Hardin, Roach-Scott, & Peisner-Feinber, 2007). Therefore, rural parents of children who are served under IDEA might have different needs compared to urban or suburban parents. Few studies have indicated that professionals in rural settings need certain professional skills and knowledge of training approaches. Rosenkoetter, Irwin, and Saceda (2004) found that typical training programs frequently do not teach the skills that a teachers and professionals need to work in rural areas.

In fact, families from rural settings are most likely to experience barriers to special education and related services when compared with suburban and urban families (Applequist, 2009). Parents of children with disabilities living in rural communities have stated some concerns about the limited services available (Applequist, 2009; Brasfield, 2008; Darling & Gallagher, 2004), the low quality of services (Brasfield, 2008) and distance required to access services (Applequist, 2009; Brasfield, 2008). Rural Alaskan parents of children with complex needs are concerned about flexibility and long-term relationships with staff (Ryan-Vincek, 1995), whereas parents living in rural Texas emphasized their need for a wider range of services and approaches for children (Haring & Lovett, 2001). Another study indicated that parents residing in rural areas do not have as much access to support services compared to parents living in urban settings (Darling & Gallagher, 2004).

Studying rural parents, Applequist (2009) explored the ways families from different geographic regions described their experiences for prospective special educators (Applequist, 2009). This study was conducted using semi-structured interviews with 32 parents and two
grandparents. The participants included different groups of 27 Caucasian parents, three Hispanic parents, one American Indian family, and one biracial family. The study included a wide range of students, aged 1 to 18 years, with a variety of disabilities. The researcher found that some families faced feelings of nonentity in their roles as parents when they learned their children had special needs. Some parents reported feeling ambiguity regarding the choices they made in their children’s educational planning, and reported that they did not feel fully informed while participating in the decision-making process with professionals. Some other findings from these studies indicated the parents were concerned about their children’s transition, lack of awareness of special education services, and feelings of helplessness in the context of their children’s education (Applequist, 2009).

Parental satisfaction with special education services at urban schools seem to vary depending demographic data. In a study targeting a huge metropolitan/urban area, Green et al. (2007) surveyed 853 parents of first through sixth grade students enrolled in a diverse metropolitan public school system in southern United States and found that parents of older children have weaker motivation to be involved than when their children were younger. Parental home involvement was impacted by the parents’ perceptions of time and energy level, their children’s invitation, and the parents’ self-efficacy impacted the parent-provider partnership and motivation to get involved with school. Similarly, in their study on the satisfaction of urban parents with children in preschool, kindergarten, and first grade, Fantuzzo, Perry and Childs (2006) found that the parents’ demographic factors impacted satisfaction ratings. The findings of the study showed that married parents were more satisfied with teacher contact, while employed parents were completely dissatisfied in all three areas. The study also found higher level of satisfaction rates amongst parents with preschoolers. In general, parents of younger students
were more satisfied than parents of older students.

Conclusion

In conclusion, the literature review has discussed the importance of legislative acts, especially IDEA, which requires schools to provide opportunities for parents to be part of special education services. IDEA, Part B requires full family engagement within special education service delivery, including providing families with choices in various aspects of the services and engaging parents to collaborate in their children’s learning process (Bruder, 2000; Craig, Roy, & Free, 2006; Dunst, Hamby, & Brookfield, 2007; Jung & McWilliams, 2005; Trivets & Dunst, 1998; A. Turnbull et al., 2007).

This approach enables parents to collaborate in their child’s learning process through the selection and implementation of their special education and related services (Bruder, 2000; Dunst, Hamby, & Brookfield, 2007). The review shows that special education programs and services are necessary to improve a child’s quality of life by enhancing their development and preventing additional developmental delays and/or disabling conditions (Barnett, 1995; Gwynne, Blick, & Duffy, 2009; Talay-Ongan, 2001). Studies indicate that involvement is more effective within the context of everyday family activities and routines (Bruder, 2000; Dunst, 2000; Farrell, 2009; Talay-Ongan, 2001).

There are many recent studies in which families of children with various disabilities had negative experiences and dissatisfaction toward special education services. (Wade et al., 2007; Montes et al., 2009). (Applequist & Bailey, 2000; Grindle et al., 2009; Patterson & Smith, 2011). Further, these negative experiences differ based on a variety of service elements. The lack of choices in the service delivery is a noted negative experience (Applequist & Bailey, 2000). Parents also had other concerns regarding the information they received from professionals and
their understanding of the information (Coogle et al., 2013; Hurtubise & Carpenter, 2011; Jackel, Wilson, & Hartmann, 2010; Lovett & Haring, 2003; Shannon, 2004; Wilcox, Dugan, Campbell, & Guimond, 2006). Parents in those studies reported that they were not satisfied and not certain when it comes to understanding their role in the development of the Individual Family Service Plan (IFSP). This vague understanding has led to parents’ dissatisfaction about social supports and service options (Jackson et al., 2008). In addition, parental frustration about the length of wait-time for receiving services is a common negative experience reported by many studies (Bailey, Hebbeler, Scarborough, Spiker, & Mallik, 2004; Haring & Lovett, 2001; Shannon, 2004; Wade et al., 2007; Coogle et al., 2013).

The lack of consistency in staff professionalism also contributes to the frustration of parents regarding the service. For instance, parents are frustrated when special education providers are unknowledgeable, unreliable, unorganized, and unresponsive (Grindle et al., 2009; Patterson & Smith, 2011; Rodger, Keen, Braithwaite, & Cook, 2008; Webster et al., 2004; Coogle et al., 2013). In some of the more recent studies, parents were asked to rate their overall satisfaction with their children’s education. Results indicate that a considerable number of parents were dissatisfied (Starr et al., 2006; Whitaker, 2007).
Chapter Three

Methodology

This study sought to further understand parental satisfaction toward special education services by identifying differences in parental satisfaction across rural, urban, and small town/suburban settings in northwestern Ohio, and describing the differences in the special education services their young children receive. Specifically, the study attempted to answer the following questions:

1. What is the level of satisfaction in parents of children ages 3 through 5 with disabilities in regard to their personal experiences with special education programs and services?

2. What, if any, are the group differences between parents of children with disabilities, age 3-5, who live in rural, small town/suburban, or urban areas on satisfaction of the special education programs and services?

3. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) and the parental satisfaction toward Environment/Services Aspects of special education services that their children receive?

4. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) and the parental satisfaction toward Communication Aspects of special education services that their children receive?

5. Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) and the
parental satisfaction toward Process Aspects of special education services that their children encountered?

To address all research questions, a self-reporting instrument (survey) was used with parents of young children with disabilities. In addition to non-identifying demographic information (Parental role, parent education level, number of children with disabilities, distance from home to school, and the type of the child’s disabilities), a Likert-type scale was used to collect recorded levels of satisfaction within the various components of special education services that their children received.

Participants

The target population of this study consisted of parents and caregivers of young children with disabilities in rural, urban, and small town/suburban of public school districts across Northwest Ohio. Specifically, Northwest Ohio was defined by Ohio’s State Support Teams (SST) in which Region 1 represented the targeted area. This area included the 12 counties geographically located in the northern most corner of western Ohio. The target population was 603 parents and caregivers of children, age 3 through 5, who received services under IDEA. That number was estimated based on the Ohio Department of Education Enrollment Database for 2015 (the most recent year data was available) in Northwest Ohio. (See Table 1).

The sampling frame consisted of parents and caregivers of young children with disabilities who live in four identified counties within Northwest Ohio (i.e., Lucas, Wood, Paulding, and Fulton counties). Those parents and caregivers who have children with disabilities, ages 3 through 5, who were enrolled in public school system within Lucas, Wood, Paulding, and Fulton counties were recruited to participate in the study. The Ohio Department of Education reported that 415 families met this criterion in 2015 (See Table 1). Those four counties were
chosen because of their appropriateness for the accessibility to participants and utility of scope of work for the researcher in Region 1 of Northwest Ohio. This was done to ensure that there was a good distribution of participants across the three settings; rural, urban, and small-town/suburban and to safeguard that the sample frame was representative.

With the concentration on exploring a variety of parents’ experiences rather than generalization, the study attempted to receive a census of all parents and caregivers within the sample frame. In other words, it was attempted to receive responses from all parents and caregivers of a minimum sample size of 256. Specifically, with a given sampling frame size of 415 parents and caregivers, and choosing (Confidence level) of 99%, along with a margin of error (Confidence Interval) of .05%, the sample size was computed to be 256 parents from four counties (Lucas, Wood, Paulding, and Fulton) in Northwest Ohio (See Table 1). This sample size for this study was based on what researchers and experts suggest (Krejcje & Morgan, 1970).

Table 1

*Ohio State Support Teams and Ohio Department of Education Database, 2015*

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Enrolled students age 3-5 served under IDEA Part B</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1/ Northwest Ohio</td>
<td>603*</td>
<td></td>
</tr>
<tr>
<td>Wood, Lucas, Paulding, and Fulton Counties</td>
<td>415*</td>
<td>Ohio’s State Support Teams (SST) and Ohio Department of Education Enrollment Database, 2015</td>
</tr>
</tbody>
</table>

46
Because the population in sample frame is finite and rather small, all parents and caregivers of the target population were recruited. The selection criteria were based on the following: (a) the family had at least one child with disabilities; and (b) the child’s age at the time of services ranged from 3 to 5 years old. Parents and caregivers from rural, urban, and small town/suburban settings, within Northwestern Ohio, were recruited to participate in this study. Only one parent/caregiver per student was recruited. Parents could read accurately and could fill out the survey.

Ideally, the percentage of each group of parents and caregivers with young children with disabilities were intended to be recruited in the sample of this study as follow: 17% from rural areas, 57% from small town/suburban setting, and 26% from urban setting. Those numbers were approximate and were congruent with the most recent Amended January 2013 Typology of Ohio School Districts Statistics report. These typology classifications are described in the Table below. (Ohio Department of Education, 2013, Typology of School Districts section ODE).

Table 2

<table>
<thead>
<tr>
<th>ODE’s Codes of Typology</th>
<th>Classification</th>
<th>Location Discription:</th>
<th>% of Typology</th>
<th>Number of Students in Typology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, and 2</td>
<td>Rural</td>
<td>Rural – Average and High Student Poverty. Very Small &amp; Small Student Population. Per district</td>
<td>17%</td>
<td>280,000</td>
</tr>
<tr>
<td>3, 4, 5, and 6</td>
<td>Small Town/Suburban</td>
<td>Small Town/Suburban - Low Student Poverty &amp; Average Student Population Size. Suburban - Very Low</td>
<td>57%</td>
<td>915,000</td>
</tr>
</tbody>
</table>
Data Collection and Procedures

After receiving the IRB approval, the researcher contacted the special education directors in each school district within Lucas, Wood, Paulding, and Fulton county. This included the directors at the Educational Service Center of Lake Erie West and Northwest Ohio Educational Service Center, which served schools in these identified counties. Eighteen school districts participated in distributing the surveys (see Appendix D).

The special education directors were the means to disseminate the surveys to participants. The prospective parents and caregivers were identified in those school districts and received a survey package during Fall 2016 through Winter 2017. The survey packet and reminder method were used. Reminder procedures were used to increase response rates to postal surveys, including three follow-up reminder letters (Edwards et al., 2003; Dillman, 2000). Data collection lasted until the end of school’s first semester (i.e., the middle of-January, 2017).

In details, pre-paid envelope containing the survey and a parental cover letter (Appendix D) was distributed to all parents and caregivers by all 18 schools located in four counties (N = 415). Surveys were delivered by each preschool; by the site director to teachers and then, to parents and caregivers. The parental cover letter described the purpose of the study and explained to participants that their responses were anonymous and confidential. As Dillman

<table>
<thead>
<tr>
<th>7, and 8</th>
<th>Urban</th>
<th>Student Poverty &amp; Large Student Population. Per district</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Urban - High Student Poverty &amp; Average Student Population.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urban - Very High Student Poverty &amp; Very Large Student Population.</td>
</tr>
</tbody>
</table>

recommendation, a reminder was given to parents and caregivers one week after the surveys’ delivery and was sent home to help increase the response rate in the study. This process was repeated three times; three reminders were sent over the whole period. Participants returned the surveys in prepaid envelopes to the researcher and other participants used the online website survey to complete the survey. As an effort to meet the needs of a wide range of participants, a web address/link to the electronic version of the survey was included in the introduction and the consent form of the mail/survey package. The electronic version and the “hard copy” survey had identical structure and questions. Online surveys may have the potential to reach populations that are more diverse than the typical sample, and may be as effective as mail surveys (Gosling, et al., 2004). Also, web surveys have been known to bring higher response rates than any other types of surveys (Fricker & Schonlau, 2002). Therefore, this study used both online and pen/paper method for the highest possible response rate.

Initially, 415 survey packets were delivered to the eighteen schools’ districts and the centers for distribution in middle of November, 2016. The distribution started in the middle of November in 2016, and ended at the middle of December 2016. The surveys were delivered to schools based on the availabilities of schools administrators and special education directors. Then, through and after the distribution time, the three reminders were sent to parents via schools. Reminders were sent in consecutive periods of time as followed: first reminder was sent at the end of November, 2016. Then, the second reminder was sent to parents in the middle of December 2016, and the last reminder was sent in the middle of January 2017.

There were 125 surveys returned. Therefore, a total of 114 were returned as completed responses, yielding a 27% response rate. The percentage of qualified respondents was calculated as follow: response rate was calculated as number of complete responses to survey divided by
number of people the survey will be sent to x100: \( \frac{114}{415} \times 100 = 27\% \) response rate. In addition, coding method was used to identify the incomplete responses of the returning packets. e.g. different colors of surveys’ papers and symbols were written on the envelopes to identify incomplete responses. Most of the envelopes were coded to identify respondents by schools and districts. There were 94 returned pen and paper’s complete responses and 20 complete online responses by participants.

Then, the collected data set were inputted in a spreadsheet format uploaded to the statistical assessment software of SPSS, where the statistical analysis conducted. Data was recorded and reviewed for accuracy by the researcher. Data, then, were analyzed utilizing the Statistical Program for the Social Sciences (SPSS) 21.0.0.0. to assist in analyzing the data collected in the study. Results of the survey are reviewed in Chapter Four.

**Research Design**

This current study applied a quantitative method to investigate the research questions (Creswell 2003). This quantitative method consisted of surveys, which were completed by parents of children with disabilities who live in rural, urban, and small town/suburban settings. Quantitative methodology represents a positivist, numerical model to test the hypotheses of the relationships of predetermined variables based on inquiries of proposed problems (Haneef, 2013). Quantitative methodology has the advantage of generalizing and formulating predictions from a sample group representative of a larger population, to allow the quantitative researcher a means to evaluate the data more precisely using statistical analysis (MacCarthy, Lewis, Voss, & Narasimhan, 2013). Quantitative methodology is deemed the most appropriate method for this study in proving the ability to conduct a statistical-based analysis of a sample population using more than one variable. Quantitative methodologies require the use of quantitative measurement
and statistical analysis is conducted on the data of the quantitative measures to explain the topic being investigated (Mustafa, 2011). This non-experimental cross-sectional survey research design was chosen because this study attempted to study parental satisfaction at one time and to gather data from multiple groups at the same time.

**Study’s Variables**

**Independent variables.** The study concentrated on the independent variable known as location. The locations were categorized as rural, urban, or small town/suburban settings. In other words, the parental satisfaction was measured based on the locations of where preschool special education services were received. Other independent variables presented the demographic information as followed: parental role, parent education level, number of children with disabilities, distance from home to school variable (See Table 3).

As mentioned before, the location term here referred to the same definition of the Ohio Department of Education (2007) Typology of School Districts Designation. As this study targeted parent and caregiver’s satisfaction of special education in rural, urban, and small town/suburban settings, according to Ohio’s definition, rural school districts were located in small towns within rural areas of the state. They tend to have median income levels similar to those in a suburban district but with lower rates of college participation and professional occupations among its population. Additionally, rural districts tend to have a below average poverty percentage. In order to identify this study’s population, rural districts were defined as districts with small populations that are located away from urban areas and are likely to have agriculture industry (Ohio Department of Education, 2007).

On the other hand, urban school districts were defined as districts with a high population concentration that includes medium sized towns and large cities. These districts were identified
by low to median incomes and high poverty rates. Population concentrations are high in urban districts and usually have a very high percentage of minority students. Subsequently, urban districts were defined for this study as districts that have high population concentration (The Ohio Department of Education, 2007, Typology of School Districts section).

Likewise, the state defines suburban school districts as the districts located around major urban centers including small town districts. While a small town/suburban districts poverty level may range from low to above average, these Suburban districts generally tend to have high median incomes as well as high percentages of college graduates, professionals, and workforce. Suburban districts are ones located around major urban centers. (The Ohio Department of Education, 2007, Typology of School Districts section).

A description of the demographic variables included the following: parental role variable referred to the parents or any term “parent,” as written in IDEA § 300.20, was defined as a parent, a caregiver or a person who acts as parent such as a grandparent or stepparent (IDEA, 1997). Also, parental education level variable refers to the level of education that parents or caregivers have. Number of children variable refers to the number of children with disabilities that the parent and caregiver has under his/her care. In addition, distance from home to school variable refers to the approximate distance from their household to their child’s school program.

**The dependent variables.** The dependent variables were satisfactions held by parents of young children with disabilities. Three factors of parents’ satisfaction were included in the survey. This present study focused on measures of parental satisfaction include the aspects of (a) Environment of the Special Education Service, (b) Communication between Parents and Professionals, (c) and the Processes of the Special Education Service. For the purpose of this study, these three variables were studied and represented the dependent variables. The study
focused on those variables of parental satisfaction of special education service via 14 questions of the survey that evaluated the level of parent satisfaction which is explained in greater explanation in the next instrument part. Coding and descriptions of the independent variables and dependent variables are described below (See Table 3).

Table 3

*Independent Variables and Dependent Variables Coding*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>This referred to the school location with categories of rural, urban, small town/suburban settings (Ohio Department of Education, 2007).</td>
<td>Rural, Urban, Small, town/Suburban</td>
</tr>
<tr>
<td>Prerenal role</td>
<td>This referred to the role of parents or any term “parent,” as written in IDEA § 300.20, is defined as a parent, a caregiver or a person who acts in the behave of a parent such as a grandparent or stepparent as stated in (IDEA 1997).</td>
<td>A father, A mother, A caregiver household, Other</td>
</tr>
<tr>
<td>Parental education level</td>
<td>Referred to the level of education that parents and caregivers of children with disabilities have.</td>
<td>Some high school, high school, some college, Associate degree, Bachelor’s degree, some postgraduate, Master’s degree, Ph.D., law or medical degree Other advanced degree beyond a Master’s degree.</td>
</tr>
<tr>
<td>Number of children with disabilities</td>
<td>Referred to the number of children with disabilities that the parent and caregiver has under his/her care.</td>
<td>1, 2, 3, 4 or more</td>
</tr>
<tr>
<td>Distance from home to school</td>
<td>Referred to the approximate distance from their household to their child’s school program.</td>
<td>Less than 5 miles, 5 miles to 10 miles, 10 miles or more</td>
</tr>
</tbody>
</table>
### Dependent Variables

| Environment of special education services aspects | The Environment of the Special Education Service contained five elements related to (a) professionals being positive and welcoming, (b) understanding the child’s needs, (c) the special education services that the child receives, (d) the special education related service, and (e) the child’s progress. | (1 = Very Satisfied, 2 = Somewhat Satisfied, 3 = Somewhat Unsatisfied, and 4 = Very Unsatisfied). |
| Communication between parents and professionals | The Communication between Parents and Professionals measure included five elements; (a) teacher’s availability to discuss the child’s needs, (b) the level of communication of professionals with parents regarding the child progress and other important issues, (c) the level of communication with the child, (d) providing information on other organizations and agencies for parents, and(e) providing information to assist the child’s education. | (1 = Very Satisfied, 2 = Somewhat Satisfied, 3 = Somewhat Unsatisfied, and 4 = Very Unsatisfied). |
| Special education Process Aspects | The Processes of the special education service’s aspects included (a) the referral for special education service, (b) testing to determine eligibility, (c) degree of participation in decisions regarding the special education service and placement, and (d) the level of encouragement to be involved in the child’s education. | (1 = Very Satisfied, 2 = Somewhat Satisfied, 3 = Somewhat Unsatisfied, and 4 = Very Unsatisfied). |

### Instrumentation

The instrument that was used in this study is included in the appendix (see Appendix D) and is titled, *Survey of Parents of Students with Disabilities Receiving Special Education Services: Northwest Ohio Survey*. This instrument was based upon a survey developed and used
by Livingstone (2008). This survey was based upon the original version of a Statewide Survey. Livingstone (2008) adopted the original survey; which is called *Statewide Survey of Parents of Students Receiving Special Education Services*, and developed by the Texas Education Agency (TEA) Region IX Education Service Center. The Region IX survey was disseminated in 2004 to conduct a Statewide survey to understand parents’ levels of satisfaction, their understanding of the special education process, and their understanding of the legal components of the process. The design and the findings of this original survey have been used, and reported in literature (TEA, 2004; TEA, 2005; Livingstone, 2008; Lind et al, 2012).

The current instrument that was used in this study consisted of two parts. Part 1 included the survey’s questions on parental satisfaction of three measures as follows. First, the Environment of the Special Education Service measure contained five questions related to (a) professionals being positive and welcoming, (b) understanding the child’s needs, (c) the special education services that the child receives, (d) the special education related service, and (e) the child’s progress. Secondly, the Communication between Parents and Professionals measure included five questions; (a) teacher’s availability to discuss the child’s needs, (b) the level of communication of professionals with parents regarding the child progress and other important issues, (c) the level of communication with the child, (d) providing information on other organizations and agencies for parents, and (e) providing information to assist the child’s education. Finally, the Processes of the special education service’s aspects measure included (a) the referral for special education service, (b) testing to determine eligibility, (c) degree of participation in decisions regarding the special education service and placement, and (d) the level of encouragement to be involved in the child’s education. Each question was responded to using a 4-point reverse Likert-type scale (1 = *Very Satisfied*, 2 = *Somewhat Satisfied*, 3 = *Somewhat Satisfied*, 4 = *Somewhat Unsatisfied*).
Unsatisfied, and 4 = Very Unsatisfied). Lower scores suggested that parents were satisfied, and high scores suggested that parents were dissatisfied or have a lower level of satisfaction with the service or the educational experience.

Part 2 of the survey collected demographic information that included questions such as which district the family lives in; caregiver, education level of parent, number of children with disabilities, distance from home to school. The rest of the demographic information can be seen in Appendix D. (See part 2; in Appendix D).

Reliability and Validity

Psychometric properties of the original survey. Among the many types of reliability, and as a commonly used metric; Cronbach’s alpha was used to assess the internal consistency reliability of the survey (Livingstone, 2008). Nunnally (1978) established the widely cited minimum thresholds for internal consistency reliability for psychological and educational studies: .70 for acceptable, .80 for satisfactory, and .90 as adequate. In the study of Livingstone’s (2008), it shows that the internal consistency reliability coefficients of Parent Survey, Department of Special Education were from .79 to .91, predominantly in the satisfactory range as Nunnaly (1978) determined.

The reliability analysis of the Likert-scale items on the survey have been reported in previous studies (TEA, 2004; Livingstone; 2008). Although this survey was not systematically examined by content experts, its content validity appeared to be supported as it seemingly addressed various aspects of the content domain (Livingstone, 2008). Also, a panel of experts reviewed the questions of the original survey to determine the face validity of the survey instrument. The committee included a professor from the Special Education Department at Texas Woman’s University, the chair of the Early Childhood Department at the University of North
Texas, a special education director, an assistant director of special education, and a special education coordinator. They all concluded that the survey instrument did in fact appear to measure what it claimed to be measuring (Livingstone; 2008). Thus, the original survey seemed to have acceptable face validity. Factor analysis also was conducted and it was determined that the items loaded on satisfaction and all the items loaded have structure coefficients greater than 0.70.

In details, for the Satisfaction measure; Livingstone (2008) reported that the factors of special education programs, special education support services, regular classroom instruction received, and the degree of participation in decisions affecting services and placement have structure coefficients greater than 0.70, which is the minimum acceptable value to show reliability, implying that the loadings were generally solid to represent the satisfaction measure (Livingstone, 2008). Furthermore, the item-total correlations indicated that each of the items either moderately or highly correlated with the other items in the scale, implying that all the items deserved to be retained. Therefore, the Parent Survey, Department of Special Education demonstrated satisfactory reliability in previous studies.

Psychometric properties of the modified instrument. For this current study, a content validity study was conducted using experts review to ensure the face and content validity of the current instrument (i.e., Survey of Parents of Students with Disabilities Receiving Special Education Services: Northwest Ohio Survey). Also, reliability was examined by computing the Cronbach’s Alpha statistic to determine the internal consistency reliability of all factors of satisfaction in the survey instrument. Cronbach’s Alpha statistic was chosen for this analysis because it provided a measure of the internal consistency of scale, and it is generally used as a
measure of internal consistency or reliability of a psychometric instrument (Tavakol & Dennick, 2011).

In addition, and in order to provide evidence of construct validity, an exploratory factor analysis (EFA) was run using the 14 quantitative questions in the current study’s survey. Exploratory Factor Analysis tries to identify the latent construct (i.e., satisfaction) by analyzing the covariation among the observed items of the test instrument (e.g., a questionnaire). In this context, EFA was used to verify the number of underlying dimensions of the instrument (factors) and the pattern of item-factor relationships--factor loading (Brown, 2006). Extraction; principal axis factoring (PAF) with promax rotation was used--this oblique method was used since the three factors are likely correlated to provide more interpretable results. The number of factor was identified using eigenvalues greater than one (K1). Prior to running the EFA, data was checked for multivariate outliers, which can affect the results.

The psychometric properties of the study’ instrument procedures were run on an order as followed: first, a study of content validity of the survey, second, construct validity--exploratory factor analysis test (EFA) was run to evaluate the convergent and discriminant validity of the present instrument, and then, Cronbach’s alpha for assessing the internal consistency reliability of the survey was run for both the examinations of the internal consistency reliability at the factor and scale level. The processes are explained consecutively in this next section.

**Content validity study.** Systematic review by experts was used to ensure the face and content validity of the current instrument. Survey/Interview validation rubric for expert panel - VREP© (Simon & White, 2013) was electronically mailed to a panel of two experts in the field of early childhood special education and the research of special education service at the University of Toledo. The criteria for review includes clarity, wordiness, negative wording,
overlapping responses, balance use of jargon, appropriateness of response listed, use of technical language, application to praxis, relationship to problem, and measure of construct(s).

Cohen's Kappa statistical test was run to determine if the level of agreement between the experts/raters on whether the content of the 14 questions of the present survey measure parent satisfaction. For this, first, the assumptions of Cohen's kappa, Cohen (1960) were tested as follow: (a) the judgement by two raters is measured on a nominal scale (i.e., either an ordinal or nominal variable), (b) the units of analysis must be independent, (c) the two raters are independent, (d) and the same two raters are used to judge all observations. All assumptions were met prior to conducting the analysis.

Then, after the rating scores were collected, Cohen's Kappa statistical test was run to determine if the level of agreement between the experts/raters on whether the content of the 14 questions of the present survey measure parent satisfaction by rating the operationalization of the questions against the relevant content domain for three factors of the satisfaction; which are the environment, communication, and, processes factors. Cohen's kappa ($\kappa$) result was found to be .629. This suggests that there is a substantial agreement between raters on the validity of the content of the survey. This is a proportion of agreement over and above chance agreement. Cohen's kappa ($\kappa$) can range from -1 to +1. Based on the guidelines from Altman (1999), and adapted from Landis & Koch (1977), a kappa ($\kappa$) of .629 represents a substantial agreement of the reviews of reviewers in the content of the current survey. Furthermore, the $p = .02$, kappa ($\kappa$) coefficient is significantly different from zero (see Table 4).

Additionally, the experts provided feedback on the clarity, wordiness, negative wording, and made suggestions for improvements. After receiving critical feedback, the survey questionnaire was revised. The final survey instrument reflects the recommendations of the
experts’ review. The overall result for the content validity review of the current study’s survey suggests that the current survey measures what it is intended to measure; experts agreed that the survey has a good detailed description of the content domain showing a substantial agreement between the experts, $\kappa = .629$. of the test of Cohen’s Kappa as shown in Table (4).

Table 4

*Symmetric Measures of the level of agreement between reviewers (Cohen's Kappa)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>SE(^a)</th>
<th>$T^6$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa</td>
<td>0.629</td>
<td>0.33</td>
<td>2.44</td>
<td>0.02</td>
</tr>
</tbody>
</table>

\(N = 14\)

\(a\). Not assuming the null hypothesis.

\(b\). Using the asymptotic standard error assuming the null hypothesis.

**Construct validity.** In addition to the content and face validity procedures that had been done, and appeared to be supported as it seemingly addressed various aspects of the content domain, the entire sample was used as one group for the exploratory factor analysis (EFA) for the construct validity of the instrument of the present study. This included all incomplete responses that have completed answers of the 14 items and this used for purpose of exploratory analysis only. When the factor structure was equivalent and the internal consistency reliability was acceptable in this--equal or greater than .70, it could be concluded that the survey had demonstrated evidences of psychometric properties. Therefore, the following analyses by using the extraction of factors from the whole sample group was warranted.

Although multivariate normality assumption is not required in applying exploratory factor analysis, there are other underlying assumptions that need to be met. The underlying assumptions to conduct the exploratory factor analysis for this study were as follow: (a) no outliers should be present in the data, (b) the sample size should be adequate; (c) the variables must be greater than the factors, (d) there should not be perfect multicollinearity between the variables, (e) homoscedasticity is not required between the variables, (f) Linearity is considered
because factor analysis is based on linearity assumption. After examining those assumptions, seemingly, there were two assumptions were not met. First issue, five outliers were detected of the 125 responses. This was done by using the histograms technique--the descriptive statistic boxplots (Tabachnick & Fidell, 2007). Therefore, five outliers that were less than two percent of the data, were deleted separately. Any other values that are not extreme values from the mean were retained.

For the appropriateness of conducting the analysis, there was a concern appeared that is related to the adequateness of the sample size for this analysis. The sample size used for the EFA was 120 cases. However, the sample size is yet considered to be understood by different rules when running EFA. Research has demonstrated that the following the rule of the minimum sample size is not reliable when running factor analysis (MacCallum, Widaman, Zhang, & Hong, 1999; Preacher & MacCallum, 2002). This relies and depends on other important elements of design, such as: communality of the variables. MacCallum et al. (1999) illustrated that "when communalities are high (greater than .60) and each factor is defined by several items, sample sizes can actually be relatively small" (as reported in Henson & Roberts 2006). Also, this depends on the size of loading of items. MacCallum et al. (2001), supported that if three or four underlying items (comprising a factor) having loadings more than .7 or more, stable solutions can be reached with samples as low as 100, suggesting that weaker relationships need a larger sample size. This evidence stands against the small sample size concern of violating the assumption of the sample size. Thus, this led to running the EFA analysis to investigate the correlation of the survey instrument`s items.

For the EFA, the principal axis factor analysis extraction was used rather than using principal component technique as it is the more appropriate method for the exploratory factor
analysis. “Principal axes methods acknowledge measurement error by iteratively approximating the communality estimates on the diagonal of the correlation matrix” (Thompson, 2004, p. 56.).

In addition, the selection of using the rotation method has been much data-driven. An oblique method is more appropriate if factors correlate to each other. Specifically, Promax rotation of the oblique technique may be warranted as the items correlated. Otherwise, an orthogonal rotation method such as the popular varimax is appropriate as it is used to simplify the column of the factor matrix (Thompson, 2004). However, since the three factors are likely correlated, this study used the oblique method.

Hair, Black, Babib, Anderson & Tatham (2006) indicated that the practical significance of factor analysis can be strengthened by assessing the loadings as follows: (a) factor loadings in the range of ± .30 to ± .40 are considered to meet the minimal level for interpretation of structure, (b) loadings ± .50 or greater are considered practically significant, (b) loadings exceeding + .70 are “indicative of well-defined structure and are the goal of any factor analysis” (p. 128). Also, if there is a cross-loading of an item, then, deletion is recommended. Cross loading refers to an item that is significantly loads on more than one factor. Hair. at al., (2006) suggested using the deletion technique as the cross loading makes the interpretation difficult because of its indefinite associations with the factors. Therefore, these rules were followed in this EFA process for the present study to modify the simple structure of the survey. The decision of item deletion was primarily based on weak loading and cross-loading on an item. In EFA, it is often recommended to delete one item at one time (Hair et al., 2006; Thompson, 2004, Livingstone, 2008) as the deletion of an item may affect the relationships among the other remaining items.
Thompson, (2004) stated that there are several methods and rules in determining the number of factors to be retained; Barlett’s statistical significance tests, as well as the Kaiser’s eigenvalue-greater than-one rule. For this study, the Horn’s Parallel Analysis was used. Horn’s Parallel Analysis has the advantage over the most popular methods as it attempts to “create eigenvalues that take into account the sampling error that influences a given set of measured variables” (Thompson, 2004, p. 34). Also, the Parallel analysis considered to be the most accurate method to determine the number of factors retained in this study (Costello & Osborne, 2005; Gliem, 2012; Hayton, Allen, & Scarpello, 2004). Therefore, this process was guided by this method. (e.g. If the factor’s eigenvalue from the sample data was greater than the eigenvalue for the corresponding factor from the random numbers, the factor was retained).

Therefore, with using an oblique rotation with the promax method and the principal axis factoring--extraction method to examine whether or not the factors were highly correlated, results showed that KMO and Bartlett’s Test value is greater than the p value, .05 which suggested that there are no sample’s issues. In addition, The Test of Sphericity showed that it is significant at .05, this mean that there was at least one significant correlation between two of the survey’s items. Thus, that the 14 items loaded on three factors with the eigenvalues of 5.833, 2.135, and 1.281 respectively as expected.

Then, parallel analysis was run to compare values, and the number of variables in the dataset to be factor analyzed were entered as 14 items, the sample size, the type of the analysis was set as recommended for principal axis factoring. Also, number of random correlation matrices to generate, and other appropriate methods were used (Patil, Singh, Mishra, and Donovan 2007). Result showed that these three eigenvalues were also greater than those from the
parallel analysis based on the random numbers. Therefore, the three factors were retained and they accounted for 66.064% of the variance of correlations.

In addition, two items (5 and 7) had cross-loadings, which represent a challenge with values of small correlation of which loaded on the two factors at .371 and .346. This challenge presented discriminant issues between the items of the environment and communication factor regardless the significant result of the construct validity which was tested with the Kaiser–Meyer–Olkin Measure of Sampling (KMO) and Bartlett's test of sphericity.

Hence, the fix factor technique, one-factor structure was explored next as an exploratory analysis. Although most of the structure coefficients on the one-factor structure were acceptable, few structure coefficients of four items indicated weak correlations. However, the explained variance had remained the same; 66.064%, and this suggested further examination despite that it was above the recommended minimum threshold of 50% (Hair et al., 2006). Further examination on the items’ correlations revealed that, although most of coefficients among the 14 items were significant at the .05 level, these correlations were mostly weak to moderate (Cohen, 1988). Therefore, it seemed that the one-factor structure of one subscale was not the ideal structure when using a fix-number of one factor comparing to the eigenvalues greater than one (K1) method.

Consequently, an oblique rotation; with the promax method and the principal axes factoring extraction method was implemented again to examine whether the factors were highly correlated, implying a possible higher-order factor structure. The result indicated again that there were two item; Items (5, and 7) demonstrating cross-loadings. The item 5’s loadings were below .40 on both factors (i.e., .319 and .371). In addition, those two items had cross-loadings. Thus, the deletion technique was considered to end the cross loading of the two items. Therefore, item
5, was deleted. After eliminating this item, the explained variance value had increased slightly from 66.064% to 67.941, with item 7 loading as a new challenge on two factors, which also had structure coefficients of .310 which is less than .40. This represented a challenge again where one-time deletion did not solve the cross-loading issue. Regardless that the second run without item 5 again generated the three-factor structure with the eigenvalues of 5.433, 2.133, and 1.266 respectively, the cross-loading still appeared on Items 7, which loaded on the two factors at .621 and .310. Therefore, the deletion method was applied again and Item 7 was deleted.

Thus, the rest of items, without Item 7, slightly increased the explained variance to 68.283% by the three factors. As both of those items were excluded for the third run, without Item 5, and 7, the remaining 12 items again loaded on three factors with eigenvalues of 4.916, 2.017, and 1.261 and all of them are larger than the values from the Horn’s parallel analysis. The three factors explained 68.283% of the total variance, slightly higher than the 67.941% in the previous model. Also, there were no more cross-loadings and all the 12 structure coefficients were greater than .40, showing an evidence of convergent validity, as it showed that all loading values were above .40 and most of items loadings values were above .50. at the practical significant (See Table 5).

Table 5

*Total Variance explained and the number of factors to retain in Principal axis factoring; Exploratory Factor Analysis (EFA)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total</th>
<th>% of Variance</th>
<th>Cumulative %</th>
<th>Factor</th>
<th>Mean Eigenvalue</th>
<th>PercentileEigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.916</td>
<td>40.968</td>
<td>40.968</td>
<td>1</td>
<td>0.746926</td>
<td>0.906504</td>
</tr>
<tr>
<td>2</td>
<td>2.017</td>
<td>16.807</td>
<td>57.775</td>
<td>2</td>
<td>0.582146</td>
<td>0.705478</td>
</tr>
<tr>
<td>3</td>
<td>1.261</td>
<td>10.508</td>
<td>68.283</td>
<td>3</td>
<td>0.463654</td>
<td>0.554441</td>
</tr>
</tbody>
</table>

*Extraction Method: Principal Axis Factoring.*
This repetition of applying the oblique method apparently illustrated that the deletion of
the item in each step refined the structure of the survey in terms of the following: under the
initial eigenvalues structure, the explained variance was positively impacted when eliminating
items, the deletion was recommended because of the continual cross-loading of the items,
indicating that those items could be deleted (Livingstone, 2008). In addition, the three-factor
structure remained unchanged. The three-factor structure with 12 items was also eminent to the
other factor structures with 14 items. This was supported by the big margin of explained variance
with less items. Thus, the three-factor structure of the survey—Satisfaction toward Environment
of the Special Education Service, Satisfaction toward Communication between Parents and
Professionals, and Satisfaction toward the Processes of the Special Education Service Factor,
with 12 item was the final one in the EFA process. This process was done following the same
iteration order of the original survey’s study by Livingstone (2008).

Also, it can be seen in Table (6), (a) the structure coefficients on the three factors and the
(b) communality coefficients (h2) for each of the 12 items, (c) and the mean communality
coefficient across the 12 items. Items 1, 2, 3, and 4 loaded on satisfaction environment, Items 6,
8, 9, 10 loaded on satisfaction toward communication, and the 11, 12, 13, and 14 loaded on the
satisfaction toward the process factor as this structure was designed prior to this analysis. As
each 4 Items loaded on each factor, the three factors were undoubtedly characterized as
Environment/Service aspects, Communication aspects, and the Processes aspects factor,
respectively. All the 12 items had structure coefficients greater than .40, with 8 of them even had
larger than .50, and with three of them were greater than .60, implying that the loadings were
generally solid.
Additionally, Structure Coefficient and communality was investigated. Communality for an item refers to the amount of its variance accounted for by the three factors. A large value of communality coefficient for an item indicates that the variance of the item is adequately accounted for by the factor solution (Hair et al., 2006, Livingstone, 2008). The communality coefficients for the 12 items ranged from .41 to .83, with 6 of them greater than .60. The mean communality coefficient of the 10 items was .58 as shown in Table (6), indicating that the three factors could account for 58% of the variances on the items on average.

Table 6

Structure Coefficient and communality for the 12-Item Survey

<table>
<thead>
<tr>
<th>Survey’s Item</th>
<th>Factor</th>
<th>h2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. professionals being positive and welcoming</td>
<td>0.683</td>
<td>0.525</td>
</tr>
<tr>
<td>2. understanding the child’s needs</td>
<td>0.8</td>
<td>0.634</td>
</tr>
<tr>
<td>3. the special education services that the child receives</td>
<td>0.616</td>
<td>0.623</td>
</tr>
<tr>
<td>4. the special education related service</td>
<td>0.552</td>
<td>0.555</td>
</tr>
<tr>
<td>6. teachers’ availability to discuss the child’s needs</td>
<td>0.726</td>
<td>0.484</td>
</tr>
<tr>
<td>8. the communication with the child’s teachers</td>
<td>0.653</td>
<td>0.486</td>
</tr>
<tr>
<td>9. providing information related to the child’s needs</td>
<td>0.887</td>
<td>0.699</td>
</tr>
<tr>
<td>10. providing information to help assist in the child’s education</td>
<td>0.786</td>
<td>0.62</td>
</tr>
<tr>
<td>11. the referral process</td>
<td>0.711</td>
<td>0.465</td>
</tr>
<tr>
<td>12. the process of testing for eligibility of special education services</td>
<td>0.938</td>
<td>0.836</td>
</tr>
<tr>
<td>13. Participation in the decisions regarding services and placement</td>
<td>0.564</td>
<td>0.416</td>
</tr>
<tr>
<td>14. Professionals encouraging parents to be involved in their child’s education</td>
<td>0.797</td>
<td>0.664</td>
</tr>
<tr>
<td>Total % variance: 68.283%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean h2</td>
<td></td>
<td>0.58</td>
</tr>
</tbody>
</table>

Note: Factor = Satisfaction. N = 120. h2 = communality.

As shown in Table 6, the overall factor solution obviously explained 68.282% as that from the EFA process, above the 50% minimum threshold as recommended for EFA studies (Hair et al., 2006; Livingstone, 2008). Also, the existing correlation between the three factors was .57, which was significant at the .05 level--at the practical significance, is an evidence to
support the convergent validity. Also, the separate variance was slightly twice larger than the shared variance (i.e., 68.283% versus 37.607%). This suggests that environment, communication, and processes factors on the survey address various domains of the construct of the parental satisfaction of parents with children with disabilities age 3-5. Therefore, the discriminant validity was also supported in the sample. This process of finding showed that the factor analyses indicated that the three-factor solution of satisfaction construct on the 12-item survey was simple, suitable and acceptable (See Table 7).

Table 7

**Item Correlations for the Exploratory Factor Analysis of entire sample**

<table>
<thead>
<tr>
<th>Items</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q6</th>
<th>Q8</th>
<th>Q9</th>
<th>Q10</th>
<th>Q11</th>
<th>Q12</th>
<th>Q13</th>
<th>Q14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>.568</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>.439</td>
<td>.489</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>.330</td>
<td>.455</td>
<td>.761</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q6</td>
<td>.334</td>
<td>.343</td>
<td>.308</td>
<td>.247</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q8</td>
<td>.403</td>
<td>.395</td>
<td>.501</td>
<td>.460</td>
<td>.617</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q9</td>
<td>.328</td>
<td>.283</td>
<td>.636</td>
<td>.526</td>
<td>.534</td>
<td>.557</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q10</td>
<td>.345</td>
<td>.307</td>
<td>.594</td>
<td>.557</td>
<td>.524</td>
<td>.396</td>
<td>.696</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11</td>
<td>.100</td>
<td>.103</td>
<td>.118</td>
<td>.295</td>
<td>.046</td>
<td>.30</td>
<td>.092</td>
<td>.019</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q12</td>
<td>.204</td>
<td>.080</td>
<td>.275</td>
<td>.397</td>
<td>-.084</td>
<td>.179</td>
<td>.138</td>
<td>.289</td>
<td>.624</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13</td>
<td>.246</td>
<td>.244</td>
<td>.148</td>
<td>.236</td>
<td>.053</td>
<td>.143</td>
<td>.250</td>
<td>.225</td>
<td>.443</td>
<td>.557</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14</td>
<td>.578</td>
<td>.582</td>
<td>.466</td>
<td>.378</td>
<td>.086</td>
<td>.255</td>
<td>.335</td>
<td>.338</td>
<td>.207</td>
<td>.320</td>
<td>.440</td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p < .05, **p < .01, ***p < .001. The sample sizes n (120).
**Internal consistency reliability.** Cronbach’s alpha, as a commonly used metric test, was run, and as a rule of thumb to evaluate the internal consistency reliability of the instrument of this present study. The criteria were established by Nunnally (1978)--the widely cited minimum thresholds for internal consistency reliability for psychological and educational studies are: .70 for acceptable, .80 for satisfactory, and .90 as adequate. This was used to assess the Survey of Parents of Students with Disabilities Receiving Special Education Services: Northwest Ohio.

Table (8) shows the internal consistency reliability in Cronbach alphas on the three factors and the entire scale. First, each set and group of items was assessed and, then in the entire sample. As shown in Table (8), the internal consistency reliability coefficients for the three-set of groups ranged from .75 to .81, in the acceptable range (Nunnaly, 1978). Based on those values, the process subscale seemed to be less reliable than the environment and communication subscales. The communication was the most reliable subscale of .81 But, all the items were above the minimum threshold for satisfactory (Nunnaly, 1978). Over and above, the item-total correlations suggested that each of the items either moderately or highly correlated with the other items in the scale, implying that all the items deserved to be retained. As the internal consistency reliability in Cronbach alphas was also conducted on the entire sample on the three factors of the entire scale; satisfaction of 12 items, it showed a total reliability coefficients of .85 for the entire sample (n=120). Therefore, the *Survey of Parents of Students with Disabilities Receiving Special Education Services: Northwest Ohio Survey* demonstrated satisfactory reliability in the sample.

Table 8

*Internal Consistency Reliability Coefficients in Cronbach Alpha*

<table>
<thead>
<tr>
<th>Scales</th>
<th>Environment $n$</th>
<th>Communication $n$</th>
<th>Processes $n$</th>
<th>Total Scale-Satisfaction $n$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\alpha$</td>
<td>$\alpha$</td>
<td>$\alpha$</td>
<td>$\alpha$</td>
</tr>
</tbody>
</table>
In summary, the evaluation of the psychometric of the present study started with face and content validity, then, the exploratory factor analysis on the 14 items for the entire sample was conducted. Two items were deleted when searching to find the possible strong structure of the instrument. The issue was presented as a common issue of cross loadings.

The exploratory factor process was completed by the decision made on the design of three factors in the 12 items: satisfaction toward environment of special education service aspects, satisfaction with communication aspects, and satisfaction with the processes aspects factors, as conceptually designed for the satisfaction construct—the total scale. The loadings of the 12 items on their respective factors were generally solid, greater than .40. with most of them greater than .50. The structure coefficient between those three factors demonstrated both convergent and discriminant validity in the entire sample (n=120). The examination of the internal consistency reliability at the factor and scale level indicated that the survey was acceptably reliable. In conclusion, the Survey of Parents of Students with Disabilities Receiving Special Education Services Northwest Ohio Survey with the 12 items in three factors of satisfaction was psychometrically acceptable. Hence, the subsequent analyses were based on the three-factor structure of the survey for the entire sample.

Data Screening

Complete and incomplete responses were screened and resulted as follow: eight parents did not report the names of districts in which their children received special education services. Two of those eight parents reported that they do not have children with disabilities. In addition, for the type of the disability of the child variable, one parent reported that their children are
going to be tested soon to determine more possible disabilities beside autism. In addition, two parents did not report their education level in the survey. These 11 cases with the missing demographic data were excluded in the statistical analyses for all the research questions--the descriptive statistics, and the group differences on the relevant variables, and correlation analysis. but they were retained in the psychometric properties analyses as those all responses had the 14 questions completely answered. Listwise deletion, a method commonly utilized in educational research to address the problem of missing data (Peugh & Enders, 2004), was utilized. Listwise deletion, a method commonly utilized in educational research to address the problem of missing data (Peugh & Enders, 2004). Thus, packets containing missing data on any of the information of the demographic questions of the survey were excluded only from analyses of the research questions’ analyses and kept for the psychometric properties analysis of the factor analysis and the Cronbach’s alpha. Table (9) shows the final number used for the analyses for both psychometric properties analyses and research questions’ analyses after the exclusion, retention of responses, and the use for each analysis.

Table 9

*all responses completed the 14 questions regardless the missing demographic in the survey.*
Chapter Four

Data Analysis Results

The survey method was used as it is convenient among many and various possible techniques to study parental satisfaction toward their child education (Gall, Gall, & Borg, 2003). Also, previous studies have recommended using this tool when gathering data about parent’s attitude and experience toward the service that their child receive (Duhaney & Salend 2000; Livingstone, 2008). Therefore, the collected data on *Survey of Parents of Students with Disabilities Receiving Special Education Services: Northwest Ohio Survey* from the school districts was used to address the research questions in the present study. The following sections report the demographic information of the participants and the results of statistical analyses of the survey responses organized by research question. Each section includes the research question, a description of the analytic method used, and a summary of the statistical findings.

Data was analyzed using a comprehensive statistical software package, SPSS for Mac Release 21.0.0.0. Descriptive statistics was used to analyze the data gathered from survey. Descriptive statistics was used to summarize data across all respondents, and used to determine the demographic characteristics of participants in this study. Multivariate analyses of variance were utilized to determine which group differ from one another. Also, Spearman correlation coefficients were conducted to examine the relationships between the parental satisfaction and the factors under investigation.

Research question one (RQ1) was analyzed by using a descriptive analysis; descriptive statistics (e.g., frequencies, means, standard deviations, and percentages) including the indication of levels of parental satisfaction, and the percentages of all the parents’ satisfaction. For research question two (RQ2), Multivariate analyses of variance (MANOVA) was used for testing any
statistically significant differences in the satisfaction held by parents of children with disabilities between participants in rural, urban, and small town/suburban settings in the three-dependent variables of the parental satisfaction used for the study for research question two (RQ2). A MANOVA was conducted since there were more than one dependent variable in the study—dependent variables of satisfaction held by parents of children with disabilities as mentioned before were environment, communication, and processes variable. The independent variable of parents with children with disabilities; (location), had three groups; urban, small town/suburban, and rural setting and were categorically measured. MANOVA was used to compare differences in satisfaction held by parents of children with disabilities among rural parents, urban parents, and small town/suburban parents. Therefore, the MANOVA was used to address RQ2.

Additionally, for finding significant difference, Between-group tests of main effects of the independent variable was run using Post Hoc Tests, using Least Significant Difference (LSD) as pairwise comparisons test procedures. This was done to further investigate the significant effects that were found in the analysis and performed to determine which components are rated significantly higher than others. All tests used alpha = .05 for significance. Prior to interpretation of the results, data were checked for violations of MANOVA assumptions and non-parametric tests.

In addition, for RQ2, a supplemental analysis was carried out to investigate two-way MANOVA effect for another independent variable: “distance from home to school’s variable” with all three the dependent variables. Also, G*power analysis procedure was done for both results of the MANOVA’S statistical result and the Spearman rho’ results to support the p value’s result of the those tests.
For research question (RQ3, RQ4, and RQ5), the strength and direction of the relationship between satisfaction on environmental, communication, and process aspects and the family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) those were first assessed using Spearman’s rho correlation tests. This was conducted to examine the relationships between parental satisfaction of parents with children with disabilities in preschool toward aspects: the environmental, communication, and process aspects of special education service that their children receive and the family characteristics (parental role, parent education level, number of children with disabilities per family, and distance from home to school variable) which all presented the independent variables. The data analysis processes were done as followed: Tests of normality and outliers’ detection process, the assumptions and evaluation of the data of the variable as needed were also discussed before any interpretation of running the statistical tests. Then, all research questions, their analyses, and their findings are reported in greater explanations further in this chapter.

Tests of normality and outliers’ detection. Prior to implementations of descriptive statistics procedures, MANOVA, and Spearman rho correlation tests. preliminary analyses of data were submitted to screening and distribution testing procedures. This was conducted to facilitate interpretable results. For the purposes of analyzing, the categorical independent variables (location), data were coded as “1” for “rural parents”, “2” for “Small-town/Suburban, and “3” for “urban parents”. For the other demographic variables; the parental role’s data were coded as “1” for “mother”, “2” for “father”, “3” for “caregiver”, “4” for “other”, The distance from school data were coded as “1” for “less than five miles”, “2” for “5 miles to 10 miles”, and “3” for “more than 10 miles”.

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Data were examined for non-normality and outliers that might have distorted or misrepresented results. Histograms and distributions (i.e., location, parental role, number of children in a family, parental education level, and distance from school variable) were screened (Ware, 2008). In addition, Mahalanobis Distance (i.e., .05) was utilized to screen for univariate and multivariate outliers.

In details, the visual representation of the histograms was used first, for an accurate conclusion of understanding of the distribution of the data by group for each variable respectively. In addition, the skewness and kurtosis values were checked for the condition of the normality or non-normality of the data, with values greater than 1, indicating non-normality of the distribution of that group’s distribution as a rule of thumb. Also, as Tabachnick and Fidell (2011) reported, it is rather recommended to use the detection for each group and dependent variable separately (Tabachnick and Fidell, 2011).

After running the Explore test, with both, the statistics, and the plots, it was clear that the three dependent variables under study approximated a non-normal distribution. The confirmation came also from looking at the skewness and kurtosis values for each of the variables for each group separately. Suggesting the non-normality of distribution of the data. As a result, data were further examined and screened for the next step.

The test of normality was used as a second step to test the normality of the data. Further, Kolmogorov-Smirnov and the Shapiro-Wilk test values were considered to explained the result. For both tests the p-value was, p < 0.05, and this suggested that the data come from a non-normally-distributed population. The result of Shapiro-Wilk showed that all those values are significant at .05, implying that the data is non-normal distributed data.
For univariate outliers, eight outliers were identified from the whole sample; N=114. Those univariate outliers were found through the histograms of running the Explore procedure with using the Blots technique several times for each variable of the study. (i.e. dependent and independent variables). Only four outliers were deleted as follow: 39, 35, 14, and 22. However, and as it is more commonly, in this situation, the other four outliers were kept because all their values were close to the mean score. Although were higher than the mean, they were within the range of possible satisfaction’s scores.

Mahalanobis distance test was used as a third procedure to detect univariate and multivariate outliers. Mahalanobis distance is a useful technique for identifying both, multivariate outlier and single outliers as an exploratory analysis (Johnson & Wichern, 2007; Shekhar, Lu & Zhang, 2003). Therefore, 1 CDF.CHISQ(D2,DF)’s argument was used to compute values that were based on determining the Mahalanobis distance (D²) statistics in order to detect the outliers. This SPSS’ syntax--liner regression procedure was used as described by Hisham (as cited in Thomson, 2010), to compare the p value, that a value from the Chi-square distribution with df=3 with the Mahalanobis values. Then, the last argument used was Mahalanobis’s value < .05. Then, four Outliers were identified as cases with p< .05 for the Mahalanobis D² statistics following the method.

Further, Mahalanobis distance for the sample totaled 68.71, exceeded the 7.815 critical value of Chi-square for three dependent variables, indicating multivariate outliers. When outliers for the highest values were removed, the new calculated Mahalanobis distance of 34,18 still exceeds the critical value of 7.815, providing evidence that violations of normality in this sample are due to skewness rather than outliers. In short, those four outliers (21, 62, 89, and 90), were
kept prior to running the consecutive producers of the analyses for RQ1, RQ2, RQ3, RQ4, and RQ5. Thus, the analyses were proceeded next.

**Demographic of parents and frequencies statistics.** The sample consisted of 110 parents of preschool school’s students from school district’s special education programs of four counties of Region 1 of Northwest Ohio, six demographic variables were collected from the Parent Survey as follow: (a) which district the child receive the service –location (b) the parental role (c) number of children receiving special education services in the family, (d) education level of parent, (e) the child’s type of disability, and (f) distance from home to school variable. Table (10) shows the frequencies Statistics of parents with children with disabilities of preschool students age 3 through 5, indicating three groups of location variable in special education settings and the total of the sample.

The following sections report the demographic of parents and frequencies statistics of all sample and the results of statistical analyses of the survey responses organized by research question. To answer each question of the research questions, each section includes the research question, the method of the analysis used, and the interpretation of the result.

Table 10

*Frequencies Statistics of the Demographic Variable--Location*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural parents</td>
<td>34</td>
<td>30.9</td>
<td>30.9</td>
</tr>
<tr>
<td>Small Town/Suburban parents</td>
<td>48</td>
<td>43.6</td>
<td>74.5</td>
</tr>
<tr>
<td>Urban parents</td>
<td>28</td>
<td>25.5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table (10) shows the frequencies statistics of the independent variable (Location). This shows that parents with children with disabilities of preschool students age 3 through 5
represented the whole sample (n=110); making up the three groups of location variable in special education settings. Small-Town/Suburban parents represented the biggest proportion of the entire sample. Out of the whole sample, there were (48) participants from small-town/Suburban 43.6%. The second biggest group of (34) participants were from rural 30.9%, and there were (28) participants from the urban group 25.5%.

Table 11

*Frequencies Statistics of Distance from school to home variable*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance from school to home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5</td>
<td>69</td>
<td>62.7</td>
<td>62.7</td>
</tr>
<tr>
<td>5 miles to 10 miles</td>
<td>35</td>
<td>31.8</td>
<td>94.5</td>
</tr>
<tr>
<td>More than 10 miles</td>
<td>6</td>
<td>5.5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

In addition, out of the whole participants (N=110), there were 62.7% of participants, reported that they live less than 5 miles from where they children received the service (n=69) while (n=35) of participants reported living 5 miles to 10 miles from their children’s schools’ services 31.8%. This represents that the biggest proportion of the participants of this study live near the special education services’ locations. More than 94% of overall participants reported that they live less than 10 miles from their children’s schools, and only 5% of parents reported living farther (n=6) --either 10 miles or more away from the services’ location. Demographic data were collected and are shown in Tables (11).

Table 12

*Frequencies Statistics of the Parental Role Variable*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Role</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>8</td>
<td>7.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Mother</td>
<td>95</td>
<td>86.4</td>
<td>93.6</td>
</tr>
</tbody>
</table>
Caregiver | 3 | 2.7 | 96.4
Other     | 4 | 3.6 | 100.0
Total     | 110 | 100.0

Frequencies statistics of the demographic variable—the parental role variable, shows that 86.4% of participants were mothers (n=95) (See Table 12), while approximately 7.3% of participants were fathers (n=8). This represented that were no approximate cases of the parental role’s subgroups. Caregivers made up almost 3% of the whole participants as well as those who classified themselves as other. i.e. two grandmothers and two legal guardians), who made up 3.6% of the whole participants.

Table 13

Frequencies Statistics of the Number of children with Disabilities per family Variable.

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children with Disability in a family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One child</td>
<td>82</td>
<td>74.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Two children</td>
<td>23</td>
<td>20.9</td>
<td>95.5</td>
</tr>
<tr>
<td>More than two children</td>
<td>5</td>
<td>4.5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

For the variable of number of children with disabilities per a family, the frequencies statistics of this demographic variable in Table (13) shows that 74.5% of participants reported having one child with disability, and 20.9% of parents reported having two children with disabilities (n=23), while only five participants reported having more than two children with disabilities 4.5%. As indicated above, 95.5% of the whole sample reported having either one or two children with disabilities.
Table 14

*Frequencies Statistics of the Education Level of Parents*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school diploma level</td>
<td>45</td>
<td>40.9</td>
<td>40.9</td>
</tr>
<tr>
<td>Associate degree</td>
<td>19</td>
<td>17.3</td>
<td>58.2</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>24</td>
<td>21.8</td>
<td>80.0</td>
</tr>
<tr>
<td>Master's degree</td>
<td>16</td>
<td>14.5</td>
<td>94.5</td>
</tr>
<tr>
<td>Ph.D., law or medical degree</td>
<td>3</td>
<td>2.7</td>
<td>97.3</td>
</tr>
<tr>
<td>Other advanced degree beyond a Master's degree</td>
<td>3</td>
<td>2.7</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>110</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table (14) describes the education levels of parents with children with disabilities age 3-5, who completed the study’s survey. For this demographic variable; (45) of participants 40.9% reported graduating from high school, and 17.3% of participants reported that they gained associate degree while sixteen of participants 14.5% of parents gained a Master degree. Majority of participants of this study, had earned at least associate degree; representing more than 58% of the total responses (N=110), while a total of (n=22) of parents 20% reported earning graduate level degrees. i.e. (16) of Masters, three of Ph.D., law, or medical degree and three participants reported gaining other advanced degree beyond a Master's degree.

Table 15

*Frequencies Statistics of the Disability Type Variable*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>N</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child’ disability type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental delay</td>
<td>16</td>
<td>14.5</td>
<td>14.5</td>
</tr>
<tr>
<td>Emotional disturbance</td>
<td>1</td>
<td>.9</td>
<td>15.5</td>
</tr>
<tr>
<td>Multiple disabilities</td>
<td>38</td>
<td>34.5</td>
<td>50.0</td>
</tr>
<tr>
<td>Other health impairment</td>
<td>4</td>
<td>3.6</td>
<td>53.6</td>
</tr>
<tr>
<td>Specific learning disability</td>
<td>3</td>
<td>2.7</td>
<td>56.4</td>
</tr>
<tr>
<td>Speech or language impairment</td>
<td>44</td>
<td>40</td>
<td>96.4</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.6</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>110</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table (15), the statistics for the disability type variable shows that there were (16) of participants reported that they have children with Developmental Delay 14.5%, and approximately one percent of Emotional Disturbance. There were (38) parents of overall participants reported having children with Multiple Disabilities. The biggest proportion of respondents—of 40%, reported that their children disability’s type is classified as Speech or Language Impairment disability (n=44). Other Health Impairment made up more than 3% percent of the overall of those who responded to the survey. Other disability’s categories included 2.7% of responses who reported that their children have Specific Learning Disability of the overall participants (n=3). Less than 4% reported that their children have “other” disability as shown in Table (15).

**Descriptive Statistics**

The present survey used the reverse rating anchors for Items 1-12 in collecting the data i.e. a smaller value indicated more satisfaction and higher value indicated less satisfaction. Table (17) shows the means and standard deviations for the factor on the 12 items in the sample.

**Research question 1**

(RQ1): What is the level of satisfaction in parents of children ages 3 through 5 with disabilities in regard to their personal experiences with special education services?

**Analysis**

Descriptive statistics was used to analyze the data gathered from survey. Descriptive statistics was used to summarize data across all respondents, and used to determine the demographic characteristics of participants in this study. The overall, mean, Standard Deviations, and variance of the whole sample were reported.
Finding:

The output of the descriptive statistics shows that parents with children with disabilities age 3 to 5 were highly satisfied with the special education programs for their children as reflected in the mean close to the ceiling point. The whole entire sample’s mean was (M=1.2). This is very close to being “very satisfied” on the scale, of scoring 1, where being “very unsatisfied” on the scale is of scoring 4. This indicated that 91.8% of parents reported that they are satisfied toward the special education services. (see Table 16).

Table 16

**Descriptive Statistics of Overall Parental Satisfaction by the Entire Sample**

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>n</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>101</td>
<td>91.8</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>9</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Furthermore, more than 50% of those satisfied parents indicated that they are very satisfied with all the aspects of special education service. Only 8.2 % of overall parents were unsatisfied. Those parents varied between either reporting that they “somehow unsatisfied” or “very unsatisfied”. There were only 2.7% of participants indicated they are “very unsatisfied” toward the special education services their children receive.

Table (17) displays the means and standard deviations on satisfaction by the whole entire sample. The 110 parents had a mean score of (M=1.2) of satisfaction with a much smaller standard deviation of .299. As the guidelines suggested by Cohen (1988) stating that an effect size of 0.2 is a small effect, an effect size of 0.5 is a medium effect, and an effect size of 0.8 is a large effect have been widely adopted (Cohen, 1988), therefore, the value of .299 reflects a
slightly a medium effect size. The variance was computed and indicated a small variance; as the scores of the ratings of responses are not widely spread out from the mean, suggesting that the numerator decreased. Therefore, the small variance of .225 indicates that the scores are tightly packed around the mean as shown in Table (17). The standard deviation for the sample as shown in the same table is calculated. The larger the standard deviation, the larger the spread in the data, (SD = .299). This suggested that the standard deviation is small, and that means that there were high percentage of the data fall closely around the mean (1.2). There are approximately 91.8 % of the data falls within a range from 1 to 1.2.

Table 17

*Descriptive Statistics by the Entire Sample*

<table>
<thead>
<tr>
<th>Factor</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Z-Skewness</th>
<th>Z-Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>110</td>
<td>1.2</td>
<td>0.29</td>
<td>0.225</td>
<td>0.230</td>
<td>0.457</td>
<td>1.727</td>
<td>2.270</td>
</tr>
</tbody>
</table>

*Note: a. 1 = Very Satisfied, 2 = Somewhat Satisfied, 3 = Somewhat Unsatisfied, and 4 = Very Unsatisfied.*

The differences of the means between the three groups was also investigated. The descriptive of the groups’ means between parents with different geographical locations; Small-town/suburban, rural, urban parents of children with disabilities age 3-5, was investigated too. Results displays the means differences between the groups of the location variable on the satisfaction as one variable as well as the means and standard deviations on satisfaction by three groups of the independent variable under the study. As shown in Table (18), the 34 rural parents of children with disabilities age 3-5 had a mean score of (M=1.11), with a standard deviation of (SD= 193), whereas the 48 small-town/suburban parents of children with disabilities age 3-5 scored a mean of (M=1.25), with slightly bigger standard deviation of (SD= .338). The urban parents reported a score of (M=1.20), with standard deviation of (SD=0.320), whereas the overall
parents with children with disabilities age 3-5 of the whole sample had a mean value of
(M=1.20), and a standard deviation of (SD=0.299).

Table 18

Descriptive Statistics on Satisfaction by the Subgroups of the location

<table>
<thead>
<tr>
<th>Satisfaction Factor</th>
<th>Location</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Rural</td>
<td>34</td>
<td>1.076</td>
<td>.177</td>
</tr>
<tr>
<td></td>
<td>Small-town/suburban</td>
<td>48</td>
<td>1.233</td>
<td>.383</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>28</td>
<td>1.157</td>
<td>.279</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>34</td>
<td>1.100</td>
<td>.192</td>
</tr>
<tr>
<td>Communication</td>
<td>Small town/suburban</td>
<td>48</td>
<td>1.28</td>
<td>.486</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>28</td>
<td>1.178</td>
<td>.370</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>34</td>
<td>1.161</td>
<td>.330</td>
</tr>
<tr>
<td>Processes</td>
<td>Small-town/suburban</td>
<td>48</td>
<td>1.244</td>
<td>.366</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>28</td>
<td>1.258</td>
<td>.416</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>34</td>
<td>1.115</td>
<td>.193</td>
</tr>
<tr>
<td>All Factors</td>
<td>Small-town/suburban</td>
<td>48</td>
<td>1.256</td>
<td>.338</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>28</td>
<td>1.202</td>
<td>.320</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>110</td>
<td>1.200</td>
<td>.299</td>
</tr>
</tbody>
</table>

Multivariate analysis of variance (MANOVA). As the factor analysis, initially, was
conducted prior to all the data analysis, the factors were determined according to the related 12
questions. The factors remained named the same; Satisfaction with the special education’s
environment, Satisfaction with communication with professionals, and Satisfaction with the
services’ processes factor. These factors were retained as the dependent variables of satisfaction
investigated in this study for the Multivariate analysis variance (MANOVA) for (RQ2) as well as
for the Spearman Rho, for (RQ3, RQ4, and RQ5) alike.

Research question 2

To answer RQ2: What, if any, are the group differences between parents of children with
disabilities, age 3-5, who live in rural, small town/suburban, or urban areas on satisfaction of
the special education programs and services?
Analysis

A MANOVA was conducted with the independent variable location having three levels: (a) rural, (b) small-town/suburban, (c) urban. The dependent variables consisted of three scales measuring the following: (a) parental satisfaction toward special education environment, (b) parental satisfaction toward communication between parents and professional, and (c) parental satisfaction toward the processes of special education service. The MANOVA was selected for its ability to compare independent variable’s levels with dependent variables (Pallant, 2001).

The assumptions of (MANOVA). The assumptions for MANOVA (Stevens, 2002) were examined to determine if conditions had been met. The assumptions were as followed: (a) the observations are independent (b) the observations on the dependent variables follow a multivariate normal distribution with each group (c) the dependent variable should consist of two or more categorical, independent groups (d) the population covariance matrices for the dependent variables are equal (homogeneity of variance), and (e) there is no multicollinearity’s assumption.

Violations of MANOVA’s assumptions

Two violations of MANOVA’s assumptions were found: a violation of the assumption of normality were indicated upon examination of both univariate and multivariate normality as mentioned before. Multivariate normality requires that the sampling distribution of means for the various dependent variables in each cell and all linear combinations of them are normally distributed. This violation of the assumption of normality were found upon examination of both univariate and multivariate normality prior to this analysis. Univariate normality was tested by using the Explore technique of SPSS to calculate Kolmogorov-Smirnov. Kolmogorov-Smirnov
results were all significant as well as conducting Mahalanobis Distance test prior to running this analysis. This violation indicated a concern in term of running the MANOVA.

However, Tabachnick & Fidell (1996) reported that MANOVA is robust to modest violations of normality if the violation is created by skewness rather than outliers. Furthermore, to deal with the violation of normality, Tabachnick and Fidell (1996) recommend that “a sample size with at least twenty in each cell would ensure robustness” (Tabachnick & Fidell, 1996, p. 381). In the present study, the subgroups of the independent variable; the location; the cells had 34, 48, and 28 in all three categories of the location variable. The adequacy of the sample size of each cell to expect validity from MANOVA’s results followed the recommendation of (Tabachnik and Fidell, 1996), where a sample size of at least 20 measures in each cell should ensure ‘robustness’ in the results of a multivariate analysis (Jones, 2008). Therefore, for this present study, the subgroups of the independent variable, the cells had enough samples in all three categories of the location variable.

Also, another assumption was violated for the Box’s Test of Equality of Covariance Matrices (Box’s M) as showed that the sample sizes are unequal for the variables. The test was applied to check the assumption of homogeneity of the covariance matrices as (Stevens, 2002) recommended. The value of Box’s M test was significant at .05, suggesting that the assumption of homogeneity of covariance has been violated. Then, when this violation of the assumption was found, it was dealt with using Pillai’s Trace Test. As research suggests using this test when interrupting the MANOVA’s output, Tabachnick and Fidell (1996) recommend the use of Pillai’s Trace for small sample sizes and unequal N values. Pillai’s Trace is more robust to violations of assumptions involving small sample sizes and unequal N values (Tabachnick & Fidell, 1996; Finch, 2005). Further, “The multivariate normality implies that the sampling
distribution of the means of each dependent variable in each cell is normally distributed” (Mertler & Vannaatta, 2010, p. 122), and this is because of the possible violation of normality might be assessed by interpreting the results of Box’s test. Nonetheless, Mertler and Vannaatta (2010) explained that a violation of this assumption of homoscedasticity will not prove fatal to analysis; despite this, and for the sake of validity of interpreting the result, a more robust multivariate test statistics, Pillai’s Trace, was used to interpret the multivariate results. therefore, upon this justification, of using MANOVA and discussing those violations of MANOVA’s assumptions, the interpretation of the output was processed next.

As mentioned, the Box’s test was significant and the groups were unequal as shown in Table (19), [Box’s M = 122.215, F = 3.648, df1 = 30, df2 = 5723.684, p = .000]. Based on this result of the Box’s test of equality of variance, only the Pillai’s Trace was chosen to interpret the result.

Table 19

<table>
<thead>
<tr>
<th>Box's Test of Equality of Covariance Matrices of Multivariate Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box’s M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>df1</td>
</tr>
<tr>
<td>df2</td>
</tr>
<tr>
<td>Sig</td>
</tr>
</tbody>
</table>

**Finding**

Results reveal that the Pillai’s Trace significance value was .033 indicating that there are differences among location groups. This result indicated that the location [Pillai’s Trace=.131, F (6, 200) = 2.336, p = .033, partial $\eta^2 = .066.$] is significantly affecting the dependent variables of parental satisfaction, environment and communication. The multivariate Partial eta square
based on Pillai’s Trace was multivariate $\eta^2 = .066$. reflecting a medium effect size. Jones, (2008) reported that Green and Salkind (2005) suggested to use the univariate eta square with ranges in value from 0 to 1. when interpreting the multivariate partial eta square where zero value indicates no relationship between the independent variable and the total dependent variable score, while a value of one indicates the strongest possible relationship (see Table 20).

**Table 20**

*Summary of Multivariate Analysis of Variance (MANOVA) for Location’s Groups Variable*

<table>
<thead>
<tr>
<th>Effect or Variable</th>
<th>Value Pillai’s Trace</th>
<th>F</th>
<th>Hypo. df</th>
<th>Error df</th>
<th>Sig.</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>.131</td>
<td>2.336</td>
<td>6</td>
<td>200.000</td>
<td>.033</td>
<td>.066</td>
</tr>
</tbody>
</table>

Tests of between subject effects revealed significant differences among parents on their satisfaction toward the environment aspects variable ($p = .021$) and, significant differences on their satisfaction toward the communication variable ($p = .004$). The multivariate eta square was $\eta^2 = .074$. for environment, a medium effect size, and $\eta^2 = .10$. for communication, a medium effect size as well. Post Hoc Tests using Least Significant Difference (LSD) found mean differences for the parental satisfaction toward communication at the .05 alpha level between the Small-town/suburban parents and the urban and rural parents. Post Hoc Tests using LSD, also found mean differences for the parental satisfaction toward communication at the .05 alpha level between rural parents and Small-town/suburban and urban parents.
Table 21

Tests of Between-Subjects Effects of (MANOVA) for the independent variable and the dependent variables

<table>
<thead>
<tr>
<th>Source</th>
<th>DV</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Environment</td>
<td>1.294a</td>
<td>8</td>
<td>1.765</td>
<td>0.093</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>2.536b</td>
<td>8</td>
<td>2.258</td>
<td>0.029</td>
<td>0.152</td>
</tr>
<tr>
<td></td>
<td>Process</td>
<td>.677c</td>
<td>8</td>
<td>0.605</td>
<td>0.771</td>
<td>0.046</td>
</tr>
<tr>
<td>Location</td>
<td>Environment</td>
<td>0.736</td>
<td>2</td>
<td>4.015</td>
<td>0.021</td>
<td>0.074</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>1.664</td>
<td>2</td>
<td>5.923</td>
<td>0.004</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td>Process</td>
<td>0.025</td>
<td>2</td>
<td>0.09</td>
<td>0.914</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Profile Plots. Location variable significantly affects the parental satisfaction of environment and communication factors. Figure 1. and 2. show the differences on the location factor.

![Estimated Marginal Means of Environment](image)

Figure 1. Parental satisfaction differences toward environment among three location’s groups.

MANOVA Post Hoc Tests using LSD found mean differences for environment at
the .05 alpha level between Small-town/suburban parents and the other two groups; rural and urban groups. Rural mean group of (M=1.076, SD=.177), and Small-town/suburban group of (M=1.233, SD=.383) and urban group of (M=1.157, SD=.279) (see Figure 1). The higher average satisfaction score of Small-town/suburban group suggested lower levels of satisfaction than the levels of satisfaction of other two groups—the rural and urban groups.

An inspection of the mean scores indicated that urban group reported slightly higher scores for environment (M = 1.157) than rural (M = 1.076). Despite reaching statistical significance, the actual difference in mean scores between the rural and urban groups was quite small. The effect size, calculated using the partial eta squared, was .074, as a medium effect size (see Table 21).
MANOVA Post Hoc Tests, using LSD also found mean differences for parental satisfaction on the communication at the .05 alpha level between Small-town/suburban parents and the rural and urban groups. Rural mean group of (M=1.100, SD=.192) and Small-town/suburban group of 1.28 and urban group of 1.17. (see Figure 2). The higher average satisfaction score of Small-town/suburban group (M=1.28, SD=.486), suggested lower levels of satisfaction than the level of the satisfaction of rural and urban parents--groups toward the communication aspects of special education as shown in Figure (2).

An inspection of the mean scores indicated that urban group reported slightly the same scores for communication variable (M = 1.1) for rural and (M = 1.17) for the urban group. The effect size, calculated using partial eta squared, was .10--a medium effect size (see Table 21).
The LSD Test did not find any mean significant differences among parents on their satisfaction toward the processes aspects as follow: mean of rural group (M=1.16, SD=.330), small-town/suburban (M=1.24, SD=.366), and urban group (M=1.25, SD=.416) as shown in Figure (3).

Supplemental analysis was carried out to investigate two-way MANOVA effect for another independent variable: “distance from home to school’s variable” with all three the dependent variables. Results show that there were no differences between groups--[Pillai’s Trace=.048, F (6, 200) = 0.822, p = .554, partial \( \eta^2 = .024 \)] is indicating that were no differences among the satisfaction of participants —there were not significant difference among parents on their satisfaction toward special education service among the distances groups (\( p = .554 \)). As shown in Table (22), the multivariate Partial eta square based on Pillai’s Trace was \( \eta^2 = .024 \). The supplement analysis did not find any differences for the parental satisfaction toward the environment, communication, and the processes factor at the .05 alpha level among the Small-town/suburban parents, urban parents, and rural parents with the distance variable.

Table 22

<table>
<thead>
<tr>
<th>Effect or Variable</th>
<th>Pillai’s Trace</th>
<th>F</th>
<th>Hypo. df</th>
<th>Error df</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance</td>
<td>0.048</td>
<td>0.822</td>
<td>6</td>
<td>200</td>
<td>0.554</td>
<td>.024</td>
</tr>
</tbody>
</table>

Post Hoc’ power calculation was computed to support the valid statistical results of the \( p \) value of the results of MANOVA. This was done by using a power analysis through G*Power software, by using the study’s sample size, the level of significance (alpha level), and the size effect. As a rule of thumb, a power of a minimum of 0.80 is normally accepted in quantitative
researches to support the statistical results and a medium effect size that was used in order not to be lenient and strict at the same time (Faul, Erdfelder, Lang, & Buchner, 2009). Therefore, considering Post Hoc: Compute achieved power technique, sample size of 110, power analysis using an MANOVA analysis, a medium effect size of 0.25, a level of significance of 0.05, and with three groups since the independent variable has three categorical groups. The result of analysis output of the G*power analysis indicated a higher power of 1.00. This suggested an adequate sample size, and very high level of statistical power of result. (See Appendix A). This supported the validity of the statistical result of the multivariate analysis (MANOVA).

**Spearman’s Correlation Analysis**

As the preliminary analysis’ plan of testing assumptions for Pearson’s r were found not to be tenable, the Spearman’s rho, a nonparametric alternative, was chosen (Field, 2009). In light of the above, bivariate Spearman’s correlation test was conducted to ascertain the positive or negative relationship between the variables in (RQ3, RQ4, and RQ5). Spearman’s rho was used because of dealing with non-normal distribution data, low sample size, and, the skewness from normal found in the data (Leech & Onwuegbuzie, 2002; Erceg-Hurn & Mirosevich, 2008).

The results from the correlation coefficient demonstrated the degree and direction of the relationship between the variables (Gay, Mills, & Airasian, 2006).

**Spearman’s rho assumptions.** The Spearman’s rho assumptions were tested as followed: (a) the variables were at least ordinal and (b) the scores of one variable was related monotonically to the other variable (Cooper & Shindler, 2008). The Graphs -Legacy Dialogs--Matrix Scatter technique was used to confirm the assumption of a monotonic relationship. A monotonic relationship as explained by (Howell, 2008), is the one on the graph illustration’s Scatterplot, that is constantly going up or constantly falls. The line of the relationship does not
need to be straight; it does not constantly go in a reversal direction (Howell, 2008; Dale, Jr, 2012). In addition, the assumption addressing ordinal data was met through the type of data gathered from the satisfaction Likert-scale surveys (Tabachnick & Fidell, 2007).

**Evaluation for normality, nonparametric tests, and treatment of variables.** All variables were tested for normality using the Shapiro-Wilk statistic, to determine the distribution of the data. All variables examined, and all the subscales were found to be non-normal at $p .05$. Initial investigation of dependent variables for RQ3, RQ4, and RQ5, yielded concerns- first for low sample size and second for lack of normality. As a treatment, it should be noted that for all analyses; sample sizes and several cells were combined and integrated to fewer of cells of those variables--for the level of education factor, items combined to be five categories/cells instead of nine categories due to a low participant response rate received and high variability in response specificity. Also, this treatment was applied to “the distance from home to school variable--items integrated together to be three cells instead of four cells for the low participant responses received for this variable.

In addition, QQ plots were determined, and dependent variables were checked for normality, as suggested by Corder and Foreman (2014). Two-tail Spearman correlation was selected as the primary nonparametric technique for relating the independent variables to the three dependent variables of the parental satisfaction. The two-tail correlation was selected since this was the first time that this present study’s instrument was administered due to the exploratory nature of this study and as hypothesis is not used.

**Research question 3**

(RQ3): *Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities per family, distance from home to school*
variable), and Environment/Services factor of special education services that their children receive?

**Analysis**

The analysis examined relationships between family characteristics (parent education level, number of children with disabilities, distance from home to school, parental role variable) and the dependent variable; parental satisfaction toward environment aspects of special education services that their children receive by utilizing Spearman’s rho coefficients.

Correlation coefficients (rs) were also used to demonstrate the effect size or the strength of the relationships. The investigations of correlations include the study’s variables—family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) with each dependent variable; subscales of parental satisfaction toward aspects of special education services as follow: (a) satisfaction toward environment, (b) satisfaction toward communication, and (c) satisfaction toward processes.

It was expected that the environment items and the number of children with disabilities, and level of parental education would exhibit negative linear relationships. That is, if the number of children with disabilities increase per family, the parental satisfaction toward a specified factor decreases.

**Finding**

For RQ3, results indicated that the parental satisfaction toward the environment factor exhibited a significant negative relationship--correlation with “the number of children with disabilities per family factor”—a family characteristic (i.e. parents who have more than one child, see Table 23). Participants reporting lower levels of satisfaction toward environment of
special education were more likely to have more than one child with disabilities per family than those who have higher level of satisfaction toward environment.

This correlation is a small negative correlation with the number of children factor (rs = -.200, n = 110, p = .050). For the other family characteristics, the level of education of parents, distance from home to school, and prenatal role factor, there were no any relationship or correlation found, indicating no associations or influence of those demographic variables on the parental satisfaction toward the environment of special education service. This indication of the non-significant of the three variables as follow: the parent education level factor (rs= .061, n=110, p=.524), the distance from home to school factor (rs = .165, n = 110, p = .085), and then, the parental role factor (rs = -.101, n = 110, p = .294). Table (23) shows the result of the Correlation and the significant at the 0.05 level (2-tailed), indicating no associations or influence of those three demographic variables on the parental satisfaction toward the environment of special education service.

Table 23

Spearman’s Correlation Between the Environment variable and family characteristics

<table>
<thead>
<tr>
<th>Variables-- family characteristics</th>
<th>n</th>
<th>Correlation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children with disabilities per family</td>
<td>110</td>
<td>-.200*</td>
<td>.05</td>
</tr>
<tr>
<td>Parent education level</td>
<td>110</td>
<td>.061</td>
<td>.524</td>
</tr>
<tr>
<td>Distance from home to school</td>
<td>110</td>
<td>.165</td>
<td>.085</td>
</tr>
<tr>
<td>Parental Role</td>
<td>110</td>
<td>-.101</td>
<td>.294</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

Research question 4

(RQ4): Is there a relationship between family characteristics ((parental role, parent education level, number of children with disabilities per family, distance from home to school variable), and Communication factor of special education services that their children receive?
Analysis

The analysis examined relationships between items of the parental satisfaction toward the communication in special education service between family characteristics (parent education level, number of children with disabilities, distance from home to school, prenatal role variable) and the parental satisfaction toward their communication with professionals utilizing Spearman’s rho coefficients. It was expected that the communication items and the number of children with disabilities per family, and level of parental education would exhibit negative linear relationships with one or more of satisfaction’s dependent variables. e.g. if parents have higher level of education, their satisfaction lower toward the communication aspect with schools’ professionals. Also, as the number of children with disabilities per family increases, their satisfaction toward a specified area (e.g. environment of special education) decreases.

Finding

Spearman correlation test showed that the there was no relationship between parental satisfaction toward the communication factor of special education with parent education level, number of children with disabilities, distance from home to school, and prenatal role factor). This as shown in Table (24), as follow: the number of children factor (rs = .047, n = 110, p = .444), the parent education level factor (rs= .106, n=110, p=.269), and the distance from home to school factor (rs = .092, n = 110, p = .341), and then, the parental role factor (rs = .063, n = 110, p = .516). This means that those various family characteristics did not associate with the parental satisfaction toward the communication aspects of special education service. Table (24) shows data used in computation of Spearman correlation coefficient results of statistical computations.
Table 24

*Spearman’s Correlation Between the communication variable and family characteristics*

<table>
<thead>
<tr>
<th>Variables-- family characteristics</th>
<th>n</th>
<th>Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children with disabilities per family</td>
<td>110</td>
<td>0.074</td>
<td>0.444</td>
</tr>
<tr>
<td>Parent education level</td>
<td>110</td>
<td>0.106</td>
<td>0.269</td>
</tr>
<tr>
<td>Distance from home to school</td>
<td>110</td>
<td>0.092</td>
<td>0.341</td>
</tr>
<tr>
<td>Parental Role</td>
<td>110</td>
<td>-0.063</td>
<td>0.516</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

**Research question 5**

*RQ 5. Is there a relationship between family characteristics ((parental role, parent education level, number of children with disabilities per family, distance from home to school variable) and Processes factor of special education that their children encountered?*

**Analysis**

The analysis for RQ5 examined relationships between items of the parental satisfaction toward the process of delivering special education service and family characteristics (parent education level, number of children with disabilities, distance from home to school, prenatal role) and the parental satisfaction toward their processes of delivering special education service utilizing Spearman’s rho coefficients. It was expected that the processes items and the number of children with disabilities, and level of parental education with would exhibit negative linear relationships with one or more of satisfaction’s dependent variables. That is, the higher the level of education of parents, the lower their satisfaction their satisfaction toward a specified area (e.g. processes of delivering special education).

**Finding**

For RQ5, Spearman correlation test showed that the there was no relationship between parental satisfaction toward the process of delivering special education factor with (parent
education level, number of children with disabilities, distance from home to school, and the parental role factor). This as shown in Table (25), as follow: the number of children factor (rs = -.010, n = 110, p = .917); the parent education level factor (rs = .100, n=110, p=.299), the distance from home to school factor (rs = .050, n = 110, p = .606), and then, the parental role factor (rs = -.169, n = 110, p = .077). This means that those various family characteristics also, did not associate also with the parental satisfaction toward with process of delivering the special education service. Table (25) shows data used in computation of Spearman correlation coefficient results of statistical computations for RQ5.

Table 25

**Spearman’s Correlation Between the processes variable and family characteristics**

<table>
<thead>
<tr>
<th>Variables-- family characteristics</th>
<th>n</th>
<th>Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children with disabilities per family</td>
<td>110</td>
<td>-.010</td>
<td>.917</td>
</tr>
<tr>
<td>Parent education level</td>
<td>110</td>
<td>.100</td>
<td>.299</td>
</tr>
<tr>
<td>Distance from home to school</td>
<td>110</td>
<td>.050</td>
<td>.606</td>
</tr>
<tr>
<td>Parental Role</td>
<td>110</td>
<td>-.169</td>
<td>.077</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

**Summary.** Spearman correlation test showed that the parental satisfaction toward the environment of special education is correlated with number of children with disabilities per family factor with a correlation coefficient of -.200 and (p-value= .050). This means that parents with more than one child with disability have lower levels of satisfaction toward the environment of special education comparing to those who have one child with disabilities per family. Table (23) shows data used in computation of Spearman correlation and coefficient results of significant statistical computations for RQ3.

Spearman correlation did not find any other significant statistical results for RQ4, and RQ5. Suggesting that there were no any significant statistical relationships between any of the
family characteristics and the parental satisfaction toward the communication and processes factors—two of the dependent variables. Further, to support the statistical significant result, power analysis was conducted.

With two-tailed significance test, G* Power analysis was conducted to support the valid statistical results of the p value of this analysis. This was done by using the Bivariate correlation test to compute achieved power – given a sample size of 110, and a medium effect size, \( \rho = 0.5 \), the result indicated a higher level of statistical power of 0.95. This suggested also beside an adequate sample size, a higher level of statistical power. In other word, considering that Bivariate Correlation Test to compute achieved power, for this present study, sample size of 110 of participants provided large sample to sustain significant statistical power (Ary et al., 2006; Cohen, 1988; Gall, Gall & Borg, 2010). The level of the significance of the associations was tested at a threshold value (alpha) of \( p < .05 \) (See Appendix B).
Chapter Five

Finding, Discussion, and Conclusions

Purpose of the Study

The purpose of this study is to understand the parental satisfaction toward special education services by identifying differences in parental satisfaction across rural, urban, and small town/suburban settings in Northwest Ohio. This study aims to describe the differences of parents’ satisfaction toward the special education services their children receive. Parents of young children with disabilities (ages 3 to 5) living in rural, urban, and small town/suburban settings were surveyed, and the results between these groups were compared to understand community setting as one factor influencing parental satisfaction. Additionally, this study attempted to find relationships between parental satisfaction with the following specific factors: environment, communication between parents and special education professionals, and aspects of special education service processes with family characteristics.

This study examined the satisfaction of parents of preschool children with disabilities who were enrolled under IDEA in public school’s system. While some studies have been conducted regarding the satisfaction of parents of children in elementary schools and up, this study specifically surveyed parents with children with disabilities age 3-5, from different geographical locations, within 18 schools’ districts of four counties of Northwest Ohio.

The study evaluated the data by looking at five independent variables – location, parental role, parent education level, number of children with disabilities per family, and distance from home to school. A nonexperimental research design, utilizing the survey method, was used to obtain the data collected from a sample of 110 survey respondents. The study attempted to investigate these issues through a set of research questions and the results were presented in the
previous chapter. Implication for practice and recommendations for future research are discussed further. Areas of discussion include the research questions and findings from the survey responses.

**Findings and Discussion**

*Research Question 1 (RQ1). What is the level of satisfaction in parents of children ages 3 through 5 with disabilities in regard to their personal experiences with special education services?*

The study revealed that parents of children with disabilities age 3-5, attending preschool school programs have a high level of satisfaction toward the services, which is consistent to the findings of previous researchers (Cho & Gannotti, 2005; Park & Turnbull, 2001; and Rafferty & Griffin, 2005), where parents of preschoolers with disabilities, who participated in those studies, showed a high level of satisfaction toward special education service. Specifically, the current study found that 91.8% of parents of children with disabilities, age 3 to 5, as being satisfied with the special education programs for their children; indicating that the large majority of the participants were satisfied. This is also consistent with what Rafferty and Griffin (2005) found when surveying 161 parents of children with disabilities and studying the parental satisfaction of parents who have children in preschool.

Also, the current study showed that the large majority of the target parents showed an overall satisfaction with the various aspects of the special education service, including communication between parents and professionals, the environment of the special education service, and the processes of delivering the special education service. This is similar to the research findings from the survey conducted in Texas to understand parents’ levels of satisfaction (TEA, 2004; TEA, 2005; Livingstone, 2008). Further, in the present study, more
than half of those who were satisfied parents indicated that they are “very satisfied” with all the aspects of special education service. Only 8.2% of overall parents were unsatisfied. This suggests that parents still report overall satisfaction with special education services, and parents are still particularly satisfied with the knowledge and the professionalism of the providers and teachers despite the barriers reported in previous studies (Cho & Gannotti, 2005; Park & Turnbull, 2001).

This result of this study of areas of satisfaction is in contrast with previous findings of research regarding the specific areas of parental satisfaction. The areas surveyed in this study included the environment of special education, communication area, and the area of the processes of special education. In details, participants reported that they are satisfied with the service and placements of their children’s special education service in general. Parents, basically, reported being satisfied regarding all the elements of the special education service; including eligibility, testing, and being satisfied regarding accessing special education and other related services. This contrasts with Applequist (2009) who reported that parents experience barriers to accessing special education and related services. In general, parents reported very positive experiences with participating in making decisions regarding their children’s service and, regarding the environment, communication with professionals, and the processes when delivering the service to their children. In addition, this result is in contrast with other studies that have shown considerable proportions of polled parents who have reported dissatisfaction (Starr et al., 2006; Whitaker, 2007).

In addition, focused on understanding the parental satisfaction of children with disabilities, age 3-5, in preschool, the participants were more likely to be satisfied regarding the special education in preschool. This result contrasts with other studies’ results that concentrated
on older age ranges, e.g. 6-13, and 13-17 years old (Blackorby et al., 2004; Newman et al., 2011). This may be due to the greater focus on parental satisfaction toward the services for children with disabilities ages 6 through 17 more often than the focus on the satisfaction of parents of younger children ages 3 through 5. Findings by Spann et al., (2003) indicated that the parents of older children with disabilities felt that schools were not doing all they could to meet their children’s needs. However, this current study, in general, reported a high level of parental satisfaction of younger children with disabilities and this supports what Fantuzzo, Perry and Childs (2006) found of high levels of satisfaction of parents of younger students, who were more satisfied than parents of older students.

Research Question 2 (RSQ2). What, if any, are the group differences between parents of children with disabilities, age 3-5, who live in rural, small town/suburban, or urban areas on satisfaction of the special education programs and services?

After conducting the MANOVA’S tests, parents of children with disabilities age 3-5 who live in different locations have significant differences regarding their satisfaction toward the elements studied. When looking at the differences between the three groups (i.e., rural, urban, and small-town/suburban), there were significant differences among parents on their satisfaction toward the environment aspects, along with significant differences on parental satisfaction toward the communication aspects. However, no differences were found regarding the parental satisfaction toward the special education’s processes variable.

As the findings of this study indicate for the location groups, and as this study used a 4-point reverse Likert-type scale, the higher average mean of satisfaction from Small-town/suburban parents suggested lower levels of satisfaction than the levels of satisfaction of other parents from rural and urban groups. Despite that this study and a study by Honrby (2000)
had different results in term of reporting parental positive or negative experience toward the service, both studies attributed those differences and related them specifically to the same factors—the environment of special education. Those findings were related to questions in the surveys that include teachers understanding the child’s need. This study found what is in alignment with what parents have reported of having concerns when to comes to dealing with teachers and understanding the child’s needs (Hornby, 2000).

In addition, for the results of RQ2, those significant differences are also related specifically to another dependent variable; the communication variable. Significant differences were found among parents’ satisfactions toward the communication tool with the child’s teacher(s) regarding progress, and other issues related to special education professionals providing information on organizations, community agencies, or trainings related to the needs of your child. The significant differences were related to questions in the surveys that include asking parents about the communication with child’s teacher(s) regarding progress and other important issues as well as about special education professionals providing information on organizations, community agencies, or trainings related to the needs of the child. This suggested what research reported about parents’ struggles with the schools to obtain information on special education services (Gordon & Miller, 2003). Even though parents are generally satisfied, the significant differences might mean variability and different expectations of parents toward receiving and obtaining information on special education services delivered by professionals. The communication as a factor—as a difference has been reported in previous studies where parents also had concerns regarding the information they received from professionals and their understanding of such information. This is consistent with previous studies throughout the literature regarding parent concerns to receive information of special education professionals.
providing information on organizations, community agencies, or trainings related (Hurtubise & Carpenter, 2011; Jackel et al., 2010; Lovett & Haring, 2003; Shannon, 2004; Wilcox et al., 2006).

Looking back at the previous studies that concentrated on parents in different settings (e.g. rural parents), this study’s finding is in contrast with previous studies as its result shows that rural parents were very satisfied and showed no significant result of dissatisfaction toward the services. Applequist (2009) found that rural families were most likely to experience barriers to accessing special education and related services. This present study’s finding might be due to other unknown variables or other certain characteristics of rural parents that made them very satisfied comparing to those rural parents that Applequist studied.

The statistically significant differences in satisfaction levels among parents from different locations might be due to the expectations of parents of children with disabilities in different settings. For instance, coming from a geographical location might raises a high awareness or might bring some sort of familiarity with procedures and raise expectations for parents of those who have children with disabilities, and who live in a specific feature of setting or in various status of households.

Research Question 3 (RQ3). Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable), and Environment/Services factor of special education services that their children receive?

Here, the analyses attempted to find relationships between family characteristics (parent education level, number of children with disabilities, distance from home to school, and prenatal role variable) and the dependent variable; parental satisfaction toward environment aspects of
special education services that their children receive by utilizing Spearman’s rho coefficients. The analysis of this question, showed that there was a weak negative relationship found between the number of children with disability per family variable and the satisfaction of parents toward the environment of the special education services. Results showed that if parents have two children or more with disabilities per family, then, they most likely have lower levels of satisfaction toward the environment of special education compared to parents with one child with disability. In other words, as the number of children with disabilities per family increased, the parental satisfaction toward a specified area (e.g. environment of special education) decreased. This present study found this negative relationship between those variables in contrast to what Livingstone (2008) studied, who did not find significant result when studying the satisfaction of parents who either had one, two, or three children with disabilities in a family.

Additionally, there was no relationship found between parental role, distance from home to school, and the education level of parent variables with the parental satisfaction toward the special education service’s environment. In regard to the level of education of the parents, this is in contrast to the finding from the statewide survey by the Region IX Service Center of the Texas Education Agency (TEA, 2004; Livingstone, 2008). Here, a survey showed a relationship between the parents’ level of education and the level of parental satisfaction. While the current results did not find any relationship between parental satisfaction and the level of education of parents, this may be due to the sample size which does not provide the same significant result as those previous studies with larger sample size reported.

Although this study included large numbers of educated parents of at least 58% earning at least an associate degree, and a total of (22) parents, 20%, who reported earning graduate level degrees (i.e. Masters, Ph.D., law, medical degree and other advanced degrees), this result did not
find any significant result regarding this factor. This does not align with the result that Freeman et al., (1999) reported, which found a significant association between the higher education level of educated parents of children with disabilities (beyond the bachelor's degree) and a higher level of satisfaction with special educational service (as cited in Livingstone, 2008). In addition, the lack of significance of result of “the parental role” and “the distance from school to home variable”, maybe due to the small cells of sample sizes received of those independent variables.

**Research Question 4 (RQ4). Is there a relationship between family characteristics**

(*parental role, parent education level, number of children with disabilities, distance from home to school variable), and **Communication factor of special education services that their children receive?***

No relationship was found between family characteristics (i.e., parental role, distance from home to school, and the education level of parent variable) and the parental satisfaction toward the communication between professionals and parents. Those family characteristics and the parental satisfaction toward the communication factor were investigated by running Spearman’s rho coefficients. The result showed no significant difference for all independent variables.

Regardless of the lack of significance of results for those variables, this study followed the approach of research by focusing on more developing variables such the role of parent, and the distance variable, beside what the previous studies found of relationships between the communication and the family features and characteristics. For instance, Bailey et al. (2004) found that there were relationships between family characteristics and the experience of parents with the special education service. But regardless all of that, this lack of significance of results
may be due to the small cells of sample sizes received, which may have affected the result of this analysis.

*Research Question 5 (RQ5). Is there a relationship between family characteristics (parental role, parent education level, number of children with disabilities, distance from home to school variable) and Processes factor of special education that their children encountered?*

Utilizing Spearman’s rho coefficients, RQ5’s analyses examined relationships between items of the parental satisfaction toward the processes of delivering special education service and family characteristics (parent education level, number of children with disabilities, distance from home to school, prenatal role). There was no relationship found between these variables.

This result is in alignment with what few studies found regarding the positive satisfaction toward the processes as reported in previous studies (TEA, 2004; TEA, 2005; Livingstone, 2008); Region IX Education Service Center found that parents were surveyed about decision-making process behind student placements. This study showed that 61% of parents reported being very satisfied with participation, but almost 29% of parents reported being only somewhat satisfied. However, as this current study did not find a relationship between the processes factor and the family characteristics, this is in contrast with what other studies reported. For instance, rural parents have reported negative experience regarding the decision making, and choices they made in their children’s educational planning (Applequist, 2009).

In addition, the small cells of sample sizes received might led to a lack of significance of results of those family demographic—variables toward the satisfaction of the processes of the special education service., which may have affected the result of this analysis and showed no relationship.
It is worth to mention that RQ3, RQ4, and RQ5 included four independent variables, and three dependent variables (i.e. each intended to study and find an association between one dependent variable and four independent variables). Thus, receiving small number of cell of the sample sizes of those variables may attributed to the lack of significance for those last two research questions. This is also explained further in the limitations.

In summary, the study found that 91.8% of parents with children with disabilities reported being satisfied with the special education programs for their children; indicating that the large majority of the participants were satisfied. In addition, there were 8% of the parents from this survey requested, who were unsatisfied. For overall result, this study did not find the trend toward less satisfaction for parents with children with age 3-5 in preschool as they reported a very high level of satisfaction (Montes et al., 2009; Starr et al, 2006; Whitaker, 2007). This may mean that parents of preschoolers with disabilities have high satisfaction because of the relatively short time in which their children spent in special education services prior to this study. Simply there might be insufficient time to build experience to judge the service. In other words, the newness of preschool phase might not bring crucial parental judgment of the special education service.

The statistically significant results were found of RQ2, and RQ3. For the MANOVA, differences in satisfaction levels among parents from different locations were found. Also, for relationships between study’s variables, results indicated that the parental satisfaction toward the environment’s items exhibited a significant negative correlation with “the number of children with disabilities per family factor”—a family characteristic (i.e. parents with more than one child with disability per family; see Table 1.22). Participants reporting lower levels of satisfaction regarding the environment were most likely to have more than one child with disabilities than
those who have higher levels of satisfaction. This result shows a new variable to be associated with the satisfaction of parents of children with disabilities toward the environment of the special education service.

As parent training and communication were the most popular strategies to be used with parents mentioned by research, research yet has shown a strong connection between communication and satisfaction level of parents of children with disabilities (Dabkowski, 2004; Miles-Bonart, 2002). This relate to what this present study found of differences in satisfaction levels between parents from different locations toward the parental satisfaction toward the communication factor. Further, the results of this study support what research has focused on before as communication between parents and professional is an important factor to be studied (Mackintosh et al., 2012); and as effective tools to build a solid foundation of trust between parents and professionals (Livingstone, 2008; Seligman & Darling, 2007).

**Recommendations**

Understanding their satisfaction of parents with children with various disabilities toward special education services is very important. For instance, concerning children with disabilities such as language impairment especially is important as many participants of this study reported having larger numbers of those children. Also, in terms of special education service improvement, professionals should be knowledgeable of the experience and the satisfaction level of parents. Special education programs should work together with families of children with disabilities to develop effective strategies to address any concerns that parents have. In addition, special education programs and schools should consider the characteristics of their programs, including the method of communicating with children’s parents and caregivers. This might compromise the dissatisfaction of those parents and help them to reduce their stress. Reducing
the stress and enhancing the communication tools is very critical for impacting the experience of parents with children with disabilities. This has been the main concern of research of parents’ level of satisfaction toward the service their children receive and was found be associated with the parents’ satisfaction toward their children's needs. Stressors in the parents’ lives should be studied as they can affect the satisfaction of parents toward the service that their children receive (Lessenberry & Rehfeldt, 2004) and parents’ feelings often produce stress, which caused more struggles. Special education professionals should consider reducing parental stress and promoting the benefits of parent collaboration as part of their jobs (Wang et al., 2004).

In general, special education teacher preparation programs should incorporate positive professional philosophies regarding communication with parents. Professionals need to not only be familiar with special education law and special education service to provide legally and academically mandated opportunities for their students, but they need to fully understand the positive impact that parental experience has on the social climate of a school and academic benefits for all students.

**Recommendations for further research**

Recommendations for the further research include conducting a larger sample’s study. This study was conducted in four counties of the Northwest of Ohio. Since there were such a small number of surveys returned in this study, it seems worthwhile for researchers to conduct a follow-up survey to obtain more information from a greater number of their students’ parents. For instance, this study should be replicated on statewide samples to achieve a greater representative sample of all aspects of special education service and the satisfaction of the parents whose children disabilities attend public-school system programs as well as other schools’ systems such as private and community’s schools.
Some recommendations to increase the response rate might include considering communicating directly with the participants without a mediator or another party. Members of the educational field such as district administrators might consider communicating directly with parents when sending surveys to increase the response rate. If respondents feel the questionnaire is directed specifically to them, they will be more likely to respond. Another strategy to be used might also include using incentives to increase the response rate as this method used quite often in survey research and well established in literature.

Also, a research study with a large sample size would allow for more statistical analysis. For instance, to use the Multivariate Analysis tests (MANOVAs) could be performed to determine if there are statistically significant differences between parents’ satisfaction regarding special education service and other variables such as the type of disability or the severity level of a disability of the child. This might provide more understanding of this topic. Also, seeking relationships between dependent and independent variables with larger sample size can provide interesting results of associations and correlations between the variables.

More demographic information would also allow for greater comparisons to be evaluated among the sample, as well as, within the population itself. While the lack of demographics might provide more confidentiality to be maintained, this limits the ability of reaching to an extensive result. For example, variables such as the level of income of parents and the racial and ethnic background of the parents of children with disabilities should be considered when studying parental satisfaction. Research, in addition, could explore possible factors associated with differences between majority families and minority families concerning parent satisfaction toward special education service and the impact of communication tools between parents and professionals on the academic aspect for children with disabilities.
Also, as were there many parents reporting the disability’ type of their children as language impairment disability when filling out surveys, this might suggest and indicate a need of specifically studying and investigating the parental satisfaction toward more details of other aspects of related services such speech-language therapy aspects which this study did not focus on. Those studies in future research might bring another perspective and interesting findings.

Also, because of the lack of great significance in the findings of the data analysis, another survey with the open-ended questions--mix design study, would help to further clarify the scope of parent satisfaction while additionally identifying any new parent concerns regarding the special education service. The mixed designed and qualitative research can add depth to the line of research by hearing closely the parental voices. For instance, using open questions or considering using a semi-structured interview beside the quantitative survey method — triangulations might also allow informants the freedom to express parents’ views in their own terms. Further research through the mixed design method might be conducted to look at different queries such (a) how parents build their satisfaction and based on what, (a) what is relationship between the parental satisfaction over time in and the ages of their children? How do parents’ belief, and values could affect their satisfaction?

At last, the demonstration of psychometric properties’ assessment of the survey used in the present study has also led to fewer numbers of items. Certain strategies and changes for follow up studies should be considered as follow: first, the survey items might need to be expanded to prepare for the item deletion because of the weak psychometric properties as (Livingstone, 2008) suggested too. When modifying the survey, more questions of the factors can help shape the structure of the instrument to possibly reach the ideal domains of the construct. In addition, several factors of the satisfaction construct of this survey might require
more items to start with prior to running the psychometric properties analyses. Second, this survey had four-rating points on satisfaction and it might be more appropriate to consider five-rating points scale to make the descriptive statistics more comparable. Third and more importantly, the five-rating point scale design might help to avoid dealing with a big number of outliers and non-normal distribution of the data as noticed in the analysis of this study.

**Delimitations and Limitations**

This study tended to study the satisfaction of parents and caregiver who their children enrolled in public school system and classroom and that did not include those parents whom their children receive the special education service in other school’s systems such private and community schools. The scope delimitations of this study also included recruiting only parents and caregivers of children with disabilities in preschool. This study focused on the parental satisfaction of those younger preschoolers because this gap was found and as the literature concentrated more on studying the parental satisfaction of older children with disabilities. In addition, delimitations included recruiting the intended numbers of parents from rural, urban, and small town/suburban settings.

However, a limitation of this study was to reach the recruitments percentage intended of the three groups. For instance, the percentage of each group of parents and caregivers with young children with disabilities were intended to be recruited in the sample of this study as follow: 17% from rural areas, 57% from small town/suburban setting, and 26% from urban setting. But, the received responses were different from the percentage intended of participants where urban parents’ responses were received in smaller number than the received responses from rural parents (See table 10).
Other limitations of this study related to different issues and that included surveys’ issues and strategies. Survey research traditionally has a low response rate of return, as this study faced, and that might affected the sample integrity of the target populations. A low response rate might affect internal and external validity (Gall, Gall, & Borg, 2003). Also, other limitations related to problems and issues potentially inherent in survey research. Whether the parents received the surveys could have been affected by the lack of communicating with the participants directly might affect the response rate of the survey sent to parents. The communication tool and the surveys’ distribution strategy set were not effective enough. The researcher had to deal with communicating with more multiple school districts in order to deliver the surveys and to send the reminders to participants. In some cases, researcher had to go through three to four parties in order to send the surveys or to send reminders to participants. For example, surveys were sent to special education directors, superintendents, and principles who delivered surveys to teachers, then, subsequently, teachers delivered surveys to parents using their students’ folders. All that long loop might have affected the response rate and negatively reduced the effectiveness of sending reminders and the strategies used to increase responses from participants. Also, prepaid envelope method was used and that was very expensive method. Sending surveys to more than four hundred parents using this traditional way of delivery was high priced, especially if the survey was not returned. It was not possible for the researcher to use multiple distributions method to survey the participants. Surveys was delivered once, and that might have affected the response rate of the survey.

In addition, the surveys were sent during a busy time of the year. Thus, the response rate might have been affected because of holidays’ season. The delivery’s process of surveys took a place between the beginning of November of 2016 to the end of January, 2017. participants
received the surveys through the session of the three holidays and that might negatively have 
affected the response rate.

In addition, the surveys might have been affected by related factors such as the schools 
 failing to distribute all the surveys sent to them, and students not taking home the survey given to 
 them. Other factors affecting the return rate may also have included the parents being afraid of 
 losing some sort of privilege or having some sort of suspicion about the study’s purpose. For 
 instance, majority of the incomplete responses by participants did not complete specifically the 
 information needed and requested by researcher for the area’s zip code and the districts names. 
 For the future research, it might be effective to use code system, identification strategies and 
 other methods might help to identify missing information.

 Other limitations regarding the sample sizes include that the sample sizes within 
 particular variables, cells, and categories were too small to analyze independently. For example, 
 the type of disability variable was too small to conduct the data analysis that was originally 
 planned for this study. There was only one response received of Emotional disturbance cell, and 
 three responses of Specific learning disability cell. Therefore, the responses of this variable did 
 not align and some data analysis was unable to be completed. Likewise, participants for this 
 study were overwhelming mothers. Descriptive statistics revealed that mothers represented more 
 than 86 percent, (see table 1.11), this might have affected the result of this study of the prenatal 
 role variable. Although no focused effort was made to recruit more mothers of parent, it is 
 possible that findings could be affected if more caregiver, fathers or other parent roles were 
 represented. Finally, because of those delimitations and limitations, the results of this study 
 might not be generalized to a to larger populations.
References


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[Computer software].


Parsons, S., Lewis, A., & Ellins, J. (2009). The views and experiences of parents of children with autistic spectrum disorder about educational provision: Comparisons with parents of


U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs [OSEP] (2014). *36th Annual Report to Congress on the*


Appendix A

Results of G*Power Computation Of MANOVA

Input parameters

<table>
<thead>
<tr>
<th>Determine</th>
<th>Effect size $f^2(V)$</th>
<th>0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\alpha$ err prob</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Total sample size</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Number of groups</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Number of predictors</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Response variables</td>
<td>3</td>
</tr>
</tbody>
</table>

Output parameters

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Noncentrality parameter $\lambda$</td>
<td>82.5000000</td>
</tr>
<tr>
<td>Critical $F$</td>
<td>1.9090942</td>
</tr>
<tr>
<td>Numerator df</td>
<td>9.0000000</td>
</tr>
<tr>
<td>Denominator df</td>
<td>321</td>
</tr>
<tr>
<td>Power $(1-\beta$ err prob)</td>
<td>1.0000000</td>
</tr>
<tr>
<td>Pillai $V$</td>
<td>0.6000000</td>
</tr>
</tbody>
</table>
Appendix B

Results of G*Power Computation of equivalent of Spearman Rho Correlation

![Diagram of G*Power](image)
Appendix C

Survey Cover Letter

ADULT RESEARCH SUBJECT - INFORMED CONSENT FORM

Research Survey: Parents’ Satisfaction with Special Education Services for Young Children with Disabilities in Northwest Ohio

**Researcher/Investigator:**
Bander Alotaibi, Doctoral Candidate
Department of Early Childhood and Special Education at the University of Toledo
Email: Bander.Alotaibi@rockets.utoledo.edu

**Purpose:** You are invited to participate in a research project measuring the satisfaction of rural, urban, and small town/suburban toward special education services in Northwestern Ohio. The project will be conducted at the University of Toledo under the direction of Dr. Richard Welsch. We will be studying parental satisfaction with the special education services provided to their young, preschool-aged children.

**Procedures:** There are two ways to complete the survey.

Option 1: Enclose the survey in the postage-paid envelope and mail it to:
Bander Alotaibi
3620 Woodley Rd
Toledo, Ohio, 43606

Option 2: Complete the survey online at www.surveys.banderalotaibi

Please complete the survey before **November 25, 2016** and send it to us, either by mail or online. Your participation in this study should take no more than 5 minutes of your time. Thank you for providing us with your valuable input, which we will use in research to improve service quality.

**Potential Risks/Confidentiality:** All personal information and survey responses will be kept anonymous and destroyed once data analysis is complete. All responses will be kept anonymous and any personal information will remain strictly confidential. Individual respondents will not be identified in the report of this study and any information that could be used to identify you or connect you. The results will not be shared with any person or school district. Your participation in the study will end by completing the survey and returning it to us.
There will be no information included that will make it possible to identify you as a research participant. Research records will be stored securely. Survey will be stored in a locked cabinet and then, they will be destroyed upon completion of all data analysis. All paper records will be shredded.

**Voluntary Participation:** Your refusal to participate in this study will not result in penalties of any kind. Completion of the survey indicates your willingness to participate in this project.

**Information Requests:** If you would like to request additional information regarding this research, please call (574) 387-8622. If you have any questions about your rights as a research participant, you may contact the Department for Human Research Protections at The University of Toledo at (419) 530-2416 or The Office of Research and Sponsored Programs at (419) 530-2844.

This Adult Research Informed Consent document has been reviewed and approved by the University of Toledo Social, Behavioral and Educational IRB for the period of time specified in the box below.

Approved Number of Subjects: __________________
Appendix D

Survey Instrument

Survey of Parents of Students with Disabilities Receiving Special Education Services:

Northwest Ohio Survey

Part 1

On a scale of: 1 (Very Satisfied), 2 (Somewhat Satisfied), 3 (Somewhat Unsatisfied), and 4 (Very Unsatisfied), please indicate how satisfied you are regarding the special education service that your child receives.

Note: Please indicate your level of satisfaction with the following questions by circling the best answer.

Environment/Services Aspects
Please indicate your satisfaction with the following statements. Circle the best response

<table>
<thead>
<tr>
<th>1. How satisfied are you with:</th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Somewhat Unsatisfied</th>
<th>Very Unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. your child’s special education services professionals being positive and welcoming.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. your child’s teacher(s) understanding your child’s needs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c. the special education services your child receives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d. the special education related services (transportation, speech, physical therapy, etc.) your child receives, as appropriate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>e. the progress your child is making because of the services he/she is receiving.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Communication Aspects

Please indicate your satisfaction with the following statements. Circle the best response.

<table>
<thead>
<tr>
<th>2. How satisfied are you with:</th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Somewhat Unsatisfied</th>
<th>Very Unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. teachers’ availability to discuss your child’s needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. professionals’ communication with you regarding your child’s progress and other important issues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c. your communication with your child’s teacher(s) regarding progress and other important issues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d. special education professionals providing information on organizations, community agencies, or trainings related to the needs of your child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>e. school personnel providing you with information to help you assist in your child’s education.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Processes Aspects

Please indicate your satisfaction with the following statements.

<table>
<thead>
<tr>
<th>3. How satisfied are you with:</th>
<th>Very Satisfied</th>
<th>Somewhat Satisfied</th>
<th>Somewhat Unsatisfied</th>
<th>Very Unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. the referral process that you went through to secure special education services for your child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. the process of testing to determine eligibility for special education services.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>c. the degree of your participation in the decisions regarding your child’s special education services and placement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>d. the level in which special education professionals have encouraged you to be involved in your child’s education.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Part 2

Please respond to each question as completely as possible.
1. In which district does your child receive special education service? _________________
   If you are not sure, then, what is the name of school? _________________

2. You are:
   ☐ A father
   ☐ A mother
   ☐ A caregiver household
   ☐ Other, if so, please specify_____________

3. What is your education level?
   ☐ Completed some high school
   ☐ High school graduate
   ☐ Completed some college
   ☐ Associate degree
   ☐ Bachelor's degree
   ☐ Completed some postgraduate
   ☐ Master's degree
   ☐ Ph.D., law or medical degree
   ☐ Other advanced degree beyond a Master's degree

4. How many children with disabilities are under your care?
   ☐ 1
   ☐ 2
   ☐ 3
   ☐ 4
   ☐ More than 4
5. What is your child’s disability type?

☐ Autism
☐ Deaf-blindness
☐ Deafness
☐ Developmental delay
☐ Emotional disturbance
☐ Hearing impairment
☐ Intellectual disability
☐ Multiple disabilities
☐ Orthopedic impairment
☐ Other health impairment
☐ Specific learning disability
☐ Speech or language impairment
☐ Traumatic brain injury
☐ Visual impairment, including blindness
☐ Other; please specify ____________

6. What is the approximate distance from your household to your child’s school program?

☐ Less than 5 miles
☐ 5 miles to 10 miles
☐ 10 miles or more

Thank you very much for completing this survey!