

REPRESENTATION OF HISPANIC STUDENTS
IN HIGH INCIDENCE CATEGORIES IN EXCEPTIONAL STUDENT EDUCATION
PROGRAMS AND EDUCATIONAL ENVIRONMENTS
IN K-12 SCHOOLS ACROSS THE
STATE OF FLORIDA

by

DOUGLAS A. MILLER
B.S. Palm Beach Atlantic University, 2002
M.A. University of Central Florida, 2004

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Major Professor: Kenneth Murray

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ABSTRACT

The Individuals with Disabilities Education Act (IDEA) was first passed in 1975 and requires states to have policies in place to prevent misidentification and overrepresentation, and to monitor disproportionate representation by race/ethnicity and disability category. The fundamental premise of this legislation is to ensure that students with disabilities are afforded a free and appropriate education (FAPE) in the least restrictive environment (LRE). Even with the passage of IDEA, the disproportionate representation of minority students continues to be a national issue.

The disproportionate placement of minority students in Exceptional Student Education (ESE) began to receive attention prior to IDEA and has been well documented by researchers ever since. Hispanic disproportionality has received less attention in professional literature and has shown to vary depending upon the level of data being analyzed. Early studies analyzing national level data indicate that Hispanic students tend to be underrepresented in many ESE categories, while studies disaggregating state and district level data found that Hispanic students are overrepresented in the high incidence categories.

The goals of this study were to determine (a) if a disproportionate representation of Hispanic students existed in the three high incidence categories of Emotional/Behavioral Disabilities (EBD), Specific Learning Disabled (SLD), and Intellectual Disabilities (ID) and (b) if Hispanic students already identified for Exceptional Student Education services were disproportionately represented, compared to all other students, in more restrictive educational placements in each of the 67 counties in the state of Florida. Three separate measures were

employed to make this determination: the composition index (CI), the risk index (RI), and the risk ratio (RR).

An analysis of the data revealed that in several of the school districts Hispanic students were both overrepresented and underrepresented across all high incidence categories. The data also indicated that Hispanic students already identified for ESE services were both overrepresented and underrepresented in several school districts across all educational environments. Also, differences in disproportionality were noted depending upon the measure being utilized for both research questions. Implications for practice and recommendations for further research are presented.

To my wife, Sarah;
my three daughters, Aubrey, Brinley Kate and Cheyanne;
my parents, Steven and Debra Miller; and my late Grandma Jackson.

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CHAPTER ONE: INTRODUCTION

Background of the Study

The disproportionate representation of minority students in Exceptional Student Education (ESE) programs was first brought to light by Lloyd Dunn (1968). Dunn (1968) postulated with his “best judgment” that 60-80% of ESE students was comprised of “low status backgrounds” (e.g., African Americans, American Indians, Mexicans, and Puerto Rican Americans; those from nonstandard English speaking, broken, disorganized, and inadequate homes; and children from other non-middle class environment; p.6). Since Dunn’s seminal research, educational researchers have continued to firmly establish the overrepresentation of minority students in ESE programs.

Although estimates of disproportionality vary, primarily due to the differences in definitions and methodology, minority overrepresentation is no longer debated (Coutinho & Oswald, 2000). The literature has also consistently demonstrated that African-American students are the highest risk population for overrepresentation in multiple ESE categories (Chinn & Hughes, 1987; Donovan and Cross, 2002; Finn, 1982; Parish, 2002; Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006). For example, African-American students are found to be overrepresented in the high incidence categories of Emotional/Behavioral Disabilities (EBD), Intellectual Disabilities (ID) and Specific Learning Disabilities (SLD; Chinn & Hughes, 1987; Eitle, 2002).

Unlike the relative stability of African-American overrepresentation that has remained consistent over the past 40 years, the degree and direction of Hispanic disproportionality has

proven to be inconsistent (Skiba et al., 2008). Data at the state and district level, particularly in California, Texas and New York, has shown overrepresentation in ESE programs (Artiles, Rueda, Salazar & Higareda, 2002; Ortiz & Yates, 1983; Wright & Cruz, 1983). However, analysis of national level data commonly shows Hispanic students as underrepresented in most ESE categories (Donovan & Cross, 2002; Chinn & Hughes, 1987; Finn, 1982). These inconsistent findings may be in part due to the difficulty in distinguishing between English Language Learners (ELL) and speech and language disabilities, and in areas where overrepresentation occurs, Hispanic students tend to represent a higher proportion of enrollment (Barrera, 2006; Finn, 1982; Ortiz, 1997; Skiba et al., 2008).

Some contend that the overrepresentation issue is not a problem given the additional services and accommodations that ESE students receive via their Individual Education Plans (IEP; Kingler, Artiles, & Kozleski, 2005). However, Hosp and Reschly (2003) cite that the negative labels that are inherent with ESE identification, inappropriate placement, and the “presumed ineffectiveness of special education” (p. 68) make minority overrepresentation problematic.

The data indicates that the issue of identifying and placing ESE students is going to grow increasingly important as this population of students grows. According to the 28th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (2006) the number of students receiving special education and related services between 1995 and 2004 increased from 5, 078, 841 to 6, 118, 437. This increase represents a 20.4% rise in students receiving special education services.

The Individuals with Disabilities Education Act (IDEA), which was originally passed in 1975 as the Education of All Handicapped Children's Act (EHA) (PL 94-142), was revised and renamed IDEA in 1990. It was amended in 1994 and then again 2004, and has given the courts and educators guidelines with regards to the identification and placement of ESE students. Although this is our most contemporary legislation that specifically addresses the removal of students from the regular educational environment and the placement of students in separate educational programs, it is preceded by a number of pieces of legislation and court cases that began the process of addressing the specific rights of individuals with disabilities.

Title VII of the Civil Rights Act of 1964 was the first legislative act that specifically addressed protecting the rights of all minority groups. Shortly thereafter, the Rehabilitation Act of 1973 was passed. Section 504 of the Rehabilitation Act states that no individual with a qualified disability could be discriminated against, or be denied benefits of any program that is receiving federal financial assistance. It goes on to define a person with a disability as, "persons with a physical or mental impairment which substantially limits one or more major life activities" (Rehabilitation Act, Section 504, 29 U.S.C. 794). Finally, Title II of the Americans with Disabilities Act (ADA), passed in 1990, requires that State and local governments permit individuals with disabilities to have the opportunity to benefit from programs and services that are offered (e.g. public education, health care, courts and voting) (U.S. Department of Justice, 2005).

However, prior to any legislative action, the education of children using separate educational facilities was first addressed in *Brown v. Board of Education* (1954). This landmark

decision was the first to overturn the “separate but equal” precedent set by the U.S. Supreme Court in *Plessy v. Ferguson* (1896). In his ruling, Justice Warren stated, “We conclude that, in the field of public education, the doctrine of ‘separate but equal’ has no place. Separate educational facilities are inherently unequal” (National Center for Public Policy, Retrieved 2/3/10).

Statement of the Problem

The incorrect placement of minority students can take the form of overrepresentation, underrepresentation and misidentification. Overrepresentation occurs when the percentage of minority students in ESE programs is greater than the percentage of minority students in the student population as a whole. Conversely, underrepresentation occurs when students with disabilities are not identified and therefore do not receive subsequent services. Finally, misidentification occurs when students with a disability are identified as having a disability they do not have and subsequently placed in an inappropriate ESE program (Guiberson, 2009; Meyer & Patton, 2001). Since Dunn (1968) to present, research into minority, and particularly African-American male overrepresentation, in ESE has been well established at the state and national levels (Allen, 2010; Artiles & Trent, 1994; Chinn & Hughes, 1987; Coutinho & Oswald, 2000; Dunn, 1968; Gentry, 2009; Ortiz & Yates 1983, Rotsenberg, 2010).

To date, little research has focused on Hispanic students’ representation in ESE programs. Some researchers have concluded that although an analysis of national data indicates that Hispanic students are not overrepresented in ESE (Finn, 1982), overrepresentation varies from the state to the district levels and between and within states (Artiles, Rueda, Salazar, &

Higareda, 2005; Meyer and Patton, 2001; Waitoller, Artiles, & Cheney, 2010). For example, Wright and Cruz (1983) found that in the state of California, Hispanic students were overrepresented in one fourth of the 96 Special Education Local Planning Areas in the ESE categories of Intellectual Impairment (then referred to as mental retardation or MR), Speech and Language programs and Specific Learning Disability. With that, more scrutiny of data at the state and district level is needed.

Purpose of the Study

The purpose of this study is three-fold. First, this study will investigate the relevant data to determine the representation patterns of Hispanic students, as compared to students of other ethnicities, in Exceptional Student Education in the 67 counties in the state of Florida for the 2010-2011 school year. Second, this study will attempt to determine the representation of Hispanic students in segregated settings. Finally, given the limited research regarding Hispanic representation in ESE within the state of Florida one of the desired outcomes is that this study would act as a catalyst for further research in this area.

Significance of the Study

This research will add to a limited body of knowledge that currently exists on Hispanic representation in exceptional student education, and act as a catalyst for further research in this area. Over 40 years of research has established that minority students, particularly African American males, are disproportionately represented in many ESE categories (Chinn & Hughes, 1987; Donovan and Cross, 2002; Eitle, 2002; Parish, 2002; Skiba et al., 2006). However, the literature regarding the Hispanic population is limited, inconsistent, and is dependent upon

whether the unit of analysis was based upon national, state or district level data (Chinn & Hughes, 1987).

According to the 2010 U.S. Census Bureau, those of Hispanic or Latino origin made up 50.5 million (or 16%) of the 308.7 million people residing in the United States. The Hispanic or Latino population increased by 3% since the 2000 census and represented the majority of the growth of the total U.S. population. The state of Florida has the sixth largest Hispanic or Latino population representing 22.5% of the total State population. Since the 2000 census, the Hispanic or Latino population has increased by 57.4% in the state of Florida (U.S. Census Bureau, 2010).

Research has been conducted on only a small number of states (Artiles et al., 2002; Ortiz & Yates, 1983; Wright & Cruz, 1983) and to date, this researcher has been unable to locate any research that has independently analyzed Hispanic ESE representation in the state of Florida. Given the significant increase in students being placed in ESE programs (U.S. Department of Education, 2012), and the continued growth of the Hispanic population in the state, it is paramount that research begins to focus on this population in the state of Florida in order to establish a more consistent analysis of the disproportionality trends at the state and district levels.

Definition of Terms

The following definitions are provided to clarify terms and concepts that are used throughout this study:

Autism Spectrum Disorder (ASD). A range of developmental disorders affecting social interaction and communication (FLDOE, 2012).

Black or African American. A person having origins in any of the black racial groups in Africa (FLDOE, 2009).

Disproportionate Representation. When a percentage of a group in an ESE program or setting differs significantly from their percentage in the general school population (Gentry, 2009).

Emotional/Behavioral Disabilities (EBD). Persistent and consistent emotional and/or behavioral issues that cannot be accounted for by age, race, gender or ethnicity (FLDOE, 2012).

Exceptional Student Education (ESE). Program designed to assist students with special learning needs through specialized instruction (FLDOE, 2011).

Gifted. Children who have superior intellectual development (FLDOE, 2011).

Hispanic. A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race (U.S. Census Bureau, 2010). “Hispanic or Latino” or “Hispanic” may be used interchangeably in this study.

Individual Education Plan (IEP). A documented required by the IDEA that identifies academic and behavioral goals and benchmarks, supplemental aids and services, and accommodations for an ESE student.

Intellectual Disabilities (ID). Significantly below average intelligence and adaptive functioning (FLDOE, 2012).

Language Impaired (LI). A disorder in one or more of the basic learning process that interfere with communication (FLDOE, 2012).

Least Restrictive Environment (LRE). IDEA mandate that schools place ESE students with non-disabled peers to the greatest extent possible.

Overrepresentation. When the percentage of a group in an ESE program or educational placement is significantly greater than that group's percentage in the general student body. This term will be defined in greater detail in the methodologies chapter of this study.

Significant Disproportionality. Is determined by utilizing a numerical value when calculating disproportionality (Albrecht et al., 2012).

Specific Learning Disabled (SLD). A disorder in understanding or using language, written or spoken, and adversely impacts a student's ability to listen, speak, read, write, spell, or do mathematics (FLDOE, 2012).

Speech Impaired (SI). A disorder that interferes with sound, fluency or voice (FLDOE, 2012).

Underrepresentation. When the percentage of a group in an ESE program or educational placement is significantly less than that groups percentage in the general student body. This term will be defined in greater detail in the methodologies chapter of this study.

White: A person having an origin in Europe, North Africa or the Middle East (FLDOE, 2009).

Conceptual Framework

The literature has attempted to frame the disproportionate placement of minority students in ESE programs through three primary contexts: sociodemographic, sociohistorical, and

through the study of professional practices (Waitoller et al., 2010). Historically, minorities have been perceived as “different” (p. 33) and the source of the difference is within the individual (Artiles, 1998). The sociodemographic model focuses on factors including family characteristics, economics, health, the environment and academic variables that may be a source of difference (Artiles, 1998; Hosp & Reschly, 2004). Some literature has referred to the sociodemographic model as the deficiency model. The premise of the sociodemographic or deficiency model is on what minority students are not, or what they do not have (Artiles, 1998).

The sociohistorical perspective postulates that race relations, power and politics lies at the nexus of education policy, and therefore, by default, minority disproportionate representation (Artiles et al., 2010; Eitle, 2002; Patton, 1998; Waitoller et al., 2010). Also known as the systemic perspective, this conception holds that, in particular, Culturally and Linguistically Diverse (CLD) students are socially and academically deviant, resulting in overrepresentation (Artiles, 1998; Artiles et al. 2010; Rostenberg, 2010).

The final frame that the literature most commonly uses in an effort to conceptualize disproportionality is concerned with the practices used to determine a student’s ESE program, also known as the bias model. This model addresses the potential latent biases in referrals, assessment, and the decision making processes of IEP teams (Waitoller et al., 2010).

As previously mentioned, the literature on disproportionality offers a plethora of possible explanations, yet has failed to establish a comprehensive theoretical framework by which to analyze the data. Eitle (2002) notes a lack of empirical or theoretical analysis on “variations in representation” (p. 576), and proposes utilizing structural theories of race relations and theories

on educational change as a possible framework for analysis. This study will analyze the data from an educational stratification theoretical perspective (Eitle, 2002; Rostenburg, 2010). This perspective holds that local racial and political-economic structures, as well as school district structures and desegregation policies interact and have an effect on disproportionality issues in ESE (Eitle, 2002). These sociohistorical (Artiles et al., 2010; Eitle, 2002; Patton, 1998; Waitoller et al., 2010) and sociodemographic (Artiles, 1998; Hosp & Reschly, 2004) variables have shown to influence disproportionality. Therefore, this study conceptualized the overrepresentation of Hispanic students in ESE programs as being associated with local racial and political-economic structures, as well as school district structures.

Research Questions

1. How does the representation of Hispanic students compare to all other race/ethnicities in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?
2. How does the representation of Hispanic students, already identified for ESE services, compare to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers \geq 80% of the week, 40-80% of the week, $<$ 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Hypothesis

Hypothesis 1: There is no statistically significant disproportionality of Hispanic students in the ESE categories of Intellectual Disabilities, Emotional/Behavioral Disabilities, and the Specific Learning Disabled in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Hypothesis 2: There is no statistically significant disproportionality of Hispanic students, already identified for ESE services, compared to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers \geq 80% of the week, 40-80% of the week, $<$ 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Limitations

Lunenburg and Irby (2008) define limitations as "...factors that may have an effect on the interpretation of the findings or on the generalizability of the results" (p. 133). This study has the following limitations:

1. There is the lack of consensus regarding the definition of disproportionality. IDEA does not explicitly define the term and has left it up to the states to determine. With that, the definition of disproportionality varies from state to state (Oswald et al., 1999).
2. There is a plethora of calculation methods that have been used in the literature and by states for IDEA reporting purposes, yet researches have yet to agree upon one method in calculating disproportionality (Kingler et al., 2005). For the purposes of this study, the

three measures that are most widely used for calculating disproportionality in the literature will be utilized.

3. The Florida Department of Education does not differentiate between the variety ethnicities/cultures (e.g., Mexican, Puerto Rican, Cuban, South and Central American) that fall within the Hispanic/Latino demographic. Therefore, the terms Hispanic and/or Latino will be used throughout this study to refer to Mexican, Puerto Rican, Cuban, individuals from South and Central America, and any other Spanish culture or origin.
4. The data used in this study was drawn from the school districts within the state of Florida; therefore, results will not be generalizable to all states.

Delimitations

Delimitations are researcher imposed boundaries on the scope and purpose of the study (Lunenburg & Irby, 2008). The delimitations that were set by this researcher were done so in an effort to gain a better understanding of the representation patterns of Hispanic students in ESE programs and educational placements in the state of Florida. With that, one way in which this research study was delimited was by disaggregating the data for only the 67 districts in the state of Florida. The literature regarding disproportionality has established that overrepresentation varies from the state to the district levels and between and within states (Artiles, 2005; Meyer & Patton, 2001; Waitoller et al., 2010). Therefore, it is critical that data be disaggregated at the individual district level to gain a better understanding of representation patterns.

A second delimitation that was imposed by this researcher was to study only the Hispanic student population. Since Dunn (1968), research has firmly established minority

overrepresentation in ESE programs; however, Hispanic overrepresentation patterns have been inconsistent and varied at the national, state and district levels (Artiles, 2005; Donovan & Cross, 2002; Parish, 2002; Skiba et al., 2006; Skiba et al., 2008).

This research was also delimited by the ESE categories that were studied. For purposes of this research, only the high incidence categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD) and Specific Learning Disabled (SLD) were considered. Research has also established these categories as containing the greatest rates of disproportionality (Wright and Cruz, 1983).

Finally, although there are a number of contributing factors to disproportionality, an analysis of these would go beyond the scope and purpose of this study. As previously mentioned the research regarding Hispanic overrepresentation is limited, particularly in the state of Florida, and although IDEA requires states to monitor disproportionality, the law is inherently ambiguous and leaves much interpretation open to the states. This coupled with the states vested interest in not finding disproportionality as a result of inappropriate identification, illustrates the need for independent research on disproportionality.

Organization of the Study

This research study is presented in five chapters. Chapter I contains an introduction to the research topic, the statement of the problem, purpose of the study, significance of the study, definition of terms, the conceptual framework, research questions, limitations, delimitations, and assumptions of the study.

Chapter II is a review of the literature, which includes a history of disproportionality, federal legislation, federal and state monitoring of disproportionality, court cases regarding disproportionality and educational placement, and educational placement recommendations. Chapter III discusses the methodology used for this study, and includes a review of the research questions, collection of the data, and measurements used.

Chapter IV provides descriptive statistics and the findings for each research question. Finally, Chapter V begins with a brief summary of the study, discusses the findings for each high incidence category for each research question, and concludes with implications for practice and recommendations for further research.

CHAPTER TWO: REVIEW OF LITERATURE

Introduction

This review of literature provides the rationale for investigating Hispanic representation in ESE programs and educational settings. Educational researchers have studied minority overrepresentation in ESE programs, particularly in the high incidence categories, over the past 40 years (Chinn & Hughes, 1987; Donovan & Cross, 2002; Dunn, 1968; Eitle, 2002; Finn, 1983; Horner et al., 1987; Parish, 2002; Skiba et al., 2006). This issue was first noted by Dunn (1968) who contended that, "...[special education teachers] are asked to take students that others cannot teach, and a large percentage of these are from ethnically and/or economically disadvantaged backgrounds" (p. 20).

Studies have shown that Hispanic disproportionality varies depending upon the level of data being disaggregated. Data at the state and district levels has shown overrepresentation (Artiles, Rueda, Salazar & Higareda, 2002; Ortiz & Yates, 1983; Wright & Cruz, 1983) whereas, analysis of national level data commonly shows Hispanic students as underrepresented in most ESE categories (Chinn & Hughes, 1987; Finn, 1982). This study sought to build upon the current body of literature by examining Hispanic representation in the high incidence categories and educational environments at the district level.

The following review of the literature establishes a foundation for studying the representation of Hispanic students in the high incidence categories. More specifically, Chapter II is organized into 11 sections: overview of Hispanic disproportionate representation, litigation and disproportionality, federal regulations, federal monitoring, state monitoring, methods for

calculating disproportionality, contributing factors, history of separate facilities, litigation and LRE, IDEA and LRE, and educational placement recommendations.

Overview of Hispanic Disproportionate Representation

According to the most recent U.S. Census (2010), the Hispanic population is the fastest growing minority group in the United States. Between 2000 and 2010, the Hispanic population grew by 43%, which is four times that of the total population which grew by 10%, making up 50.5 million or 16% of the total U.S. population. The state of Florida has also experienced a significant increase in the Hispanic community over the past 10 years. Between 2000 and 2010, the Hispanic population increased by 5.7%, to make up 22.5% of the total Florida population. Currently, the state of Florida has the 6th largest Hispanic population in the U.S., only behind New Mexico, California, Texas, Arizona, and Nevada (U.S. Census Bureau, 2010).

Schools are also seeing significant enrollment increases in the Hispanic student population, and are being challenged with finding ways of meeting their needs in an effort to provide an appropriate education (Vasquez III, 2011). During this same period, from 2000 to 2010, the percentage of Hispanic students increased from 17% to 23% in the United States, and currently makes up a total of 12.1 million students (NCES, 2012). In the state of Florida, Hispanic students represent the largest minority group at 28.62%, or 760,773, of Florida's 2.6 million public school students (FLDOE, 2012).

Not all states have experienced such dramatic increases in this population. For example, according to the U.S. Census Bureau (2010), in Midwest states, Hispanics represent only 7% of the total Midwest population, whereas in the West they represent 28.6%. Another example of

the stark variation that exists even within the same region is that of Maine and New York. Hispanics represent approximately 1.3% of the population in Maine and 17.6% in New York (U.S. Census Bureau, 2010). With such significant variations in the Hispanic population depending upon the region and/or state, early research on disproportionality at the national level gave a very different picture than did research that disaggregated data at the state and district level (Artiles et al., 2005). For example, Chinn and Hughes (1987) found that Hispanic representation was disproportionately low in almost all categories when looking at national data. However, Finn (1982) was one of the first researchers to observe this discrepancy. While analyzing data received by the Office of Civil Rights (OCR), he noted that on a nationwide basis the proportion of Hispanic students in EMR classes is below that of white students and significantly below that of black students. However, he then went on to state that in 26 out of 31 individual states the percentage of Hispanic students exceeded that of white students. This data also confirmed the trend first pointed out by Dunn (1968) that minority students were being placed in Mild Mental Retardation programs at a higher rate than white students. The OCR data also confirmed claims that minority overrepresentation had extended into the subjective or high incidence categories of SLD and serious emotional disturbances (SED; now known as EBD) categories as well (Artiles & Trent, 1994).

Wright and Santa Cruz (1981) analyzed data for each of the 96 Special Education Local Planning Areas (SELPA) in California. They found that Hispanic students were overrepresented in approximately one-third of SELPAs in speech and SLD programs. More specifically, Hispanics were overrepresented in speech programs in 26 SELPAs and, overrepresented in 33

SELPA for SLD. In another study, Ortiz and Yates (1983) showed that in the state of Texas, Hispanic students were overrepresented by more than 300% in SLD programs and underrepresented in all other disability programs. More recently, a dissertation study conducted by Valdez (2003) analyzed data over a 10 year period in New Mexico. Valdez (2003) found that Hispanic students were overrepresented in both speech/language impairments and SLD and underrepresented in EMR programs. Table 1 summarizes and illustrates the discrepancies in the level of data being disaggregated and the findings of over/underrepresentation.

Table 1.

Summary of Disproportionate Representation Research

Researcher(s)	Level of Data Examined	Findings
Artiles et al., (2002)	District	Hispanic overrepresentation in most ESE categories.
Artiles et al., (2005)	District	ELL (over 90% Hispanic) students were overrepresented in ESE placement.
Chinn & Hughes (1987)	National	Hispanic underrepresentation in most ESE categories.
Finn (1982)	National/State	National data indicated Hispanic underrepresentation in EMR. State level data showed overrepresentation when compared to White students in EMR in 26 of 33 states examined.

Researcher(s)	Level of Data Examined	Findings
Hosp & Reschly (2003)	Meta-Analysis	For every 100 White students that were referred for assessment, 106 Hispanic students were referred.
Ortiz & Yates (1983)	State	Hispanic overrepresentation in SLD.
Sullivan (2011)	State	ELL (91% Hispanic) students were overrepresented in all high incidence categories.
Valdez (2003)	State	Hispanic overrepresentation in Speech and SLD programs.
Valenzuela et al., (2006)	District	Hispanic students were more likely to be identified with a stigmatizing disability and more likely to be placed in a more restrictive educational environment.
Wright & Santa Cruz (1981)	District	Hispanic overrepresentation in Speech and SLD programs.
Zhang & Katsiyannis (2002)	National	Found significant regional variations in the identification of Hispanic students for all disability categories.

A deficit in the current literature regarding minority overrepresentation is the tendency to not take into account variables such as language proficiency (Artiles et al., 2005). Students that speak another language other than English as their primary language are identified as English Language Learners (ELL) and present a confounding factor in the identification and placement of Hispanic students in ESE programs. Currently, ELL students make up 10% (4.7 million) of

all public school students at the national level (USDOE, 2012), and 9.2% (244,272 students) of all students in the state of Florida (FLDOE, 2012). Among the racial/ethnic groups in the state of Florida, the Hispanic population represents the largest percentage of ELL students at 24.43% and, of ELL students, they represent 76.2% (FLDOE, 2012). When examining special education referral rates, Hosp and Reschly (2003) found that for every 100 white students referred for ESE services 106 Hispanic students were referred. In contrast, for every 100 white students that were found eligible for ESE services only 89 Hispanic students were eligible. They account for this discrepancy by noting that Hispanic students who were referred but not found eligible for ESE services may have received bilingual or ELL services. This study highlights that fact that teachers are referring students whose primary language is other than English for special education services rather than the appropriate ELL intervention. Finn (1982) noted in his analysis that districts that have the highest disproportion levels of Hispanic students have the smallest proportion of students in bilingual programs. To this he stated, “It is possible that Hispanic students with poor English proficiency are misclassified as EMR when bilingual programs are not available” (Finn, 1982, p. 372).

Artiles et al., (2005) sought to address this weakness in the literature and conducted a study in which he analyzed the disproportionate placement of ELL students in 11 urban districts in California. In his study over 90% of the ELL students were Hispanic. ELL students were placed into one of two categories: English proficient (able to function in classrooms with native-English speakers), and those that were still acquiring English, or ELL. This research revealed that both categories were underrepresented at the elementary level and English proficient

students were underrepresented at the secondary level. However, ELLs showed “considerable” overrepresentation in ESE placement at the secondary level. The researchers also found a subgroup of students who were limited in English and native language skills. The data showed that this subgroup was overrepresented in mental retardation, language and speech, and learning disabled programs. In a similar study of a southwestern state, Sullivan (2011) found that at the state level ELL students were overrepresented in all high incidence categories (specific learning disabilities, speech/language impairments, and mild mental retardation). This study also revealed that ELL students were less likely to be placed in the least restrictive environment than White students. They were also less likely to be removed for most of the day from the general education classroom than White students.

Contributing Factors

A fairly extensive body of literature exists documenting the overrepresentation of minority students in special education. However, identifying the variables that factor into overrepresentation has proven to be arduous and in some cases inconsistent. Given the complexity of this issue, researchers have yet to determine the actual causes. What is clear is that there seems to be a number of factors that contribute. Over the past four decades, studies have attempted to frame minority overrepresentation in three primary ways. The first frame is a sociodemographic model which focuses on factors including family characteristics, school district characteristics, socio-economic status (SES), health, the environment and academic/behavioral variables (Artiles, 1998; Hosp & Reschly, 2004). The second frame is a sociohistorical perspective that postulates that race relations, power and politics lie at the nexus

of education policy and therefore, by default, minority disproportionate representation (Artiles et al., 2010; Eitle, 2002; Patton, 1998; Waitoller et al., 2010). Finally, researches have attempted to frame minority overrepresentation through the study of professional practices (Waitoller et al., 2010). In a review of the overrepresentation research, Waitoller et al. (2010) found that, of the articles that met their selection criteria, 33% focused on sociodemographic variables, 62% looked at professional practices, and only 5% of the research articles in their study accounted for sociohistorical variables. The following sections will review the literature on contributing factors under the previously mentioned categories.

Sociodemographic Factors

One factor that has received the most attention in the literature is that of poverty. According to the U.S. Census Bureau (2012), minorities are at greater risk of being in poverty than non-Hispanic Whites. It is reasonable then to assume that because the risk factors of poverty lead to an increase in academic underachievement and behavioral problems, minority students are at a greater risk of being referred for special education services (Artiles et al., 2008). However logical this seems, the research on poverty and overrepresentation has yielded inconsistent results. For Example, Hosp and Reschly (2004) analyzed national level data and looked at three predictor variables: (a) academic, (b) demographic, and (c) economic. They found that the economic block was the strongest predictor across racial/ethnic groups for mental retardation. While disaggregating district level data for a sample of 295 schools Skiba, Poloni-Staudinger, Simmons, Feggin-Azziz and Chung (2005) found that as children receiving free or reduced lunch increased, disproportionality in learning disabilities and speech/language

programs decreased. However, the authors of the study also noted that MR was the only disability category for which increased poverty increased disproportionality. Finn (1982) also noted that there was a tendency for increased MR disproportions in lower SES districts, stating that, “In lower SES communities, both the program size and racial difference are larger” (p. 348).

In another study, Coutinho, Oswald, and Best (2002) studied the relationship between ethnicity, gender and nine sociodemographic variables chosen from the National Center for Educational Statistics (NCES) and included a sample size of 4, 151 school districts. Their results found that poverty was associated with an increased risk for being placed in the learning disabilities program. In another study conducted by Oswald, Coutinho, and Best (2002), MR rates declined as poverty increased, while behavior disabilities and learning disabilities increased as poverty rates increased. Finally, Oswald, Coutinho, Best, and Singh (1999) studied the relationship between special education enrollment, race, demographic and economic variables from a sample of 4, 454 districts from a 1992 OCR survey. They found that as poverty increased, disproportionate representation in MR programs increased, however, the opposite was true for behavioral disabilities. As poverty increased, few students were identified as having a behavioral disability, and disproportionate representation of African American students in behavioral disabilities was highest in the wealthier communities.

Another factor that has received limited attention in literature is suspension rates of minority students as a factor of disproportionality (Skiba et al., 2008). A study conducted by Oswald et al. (1999) found that suspension rates were the only consistent predictor of minority

disproportionality across all studied disability categories. They noted that suspension/expulsion rates were “significantly and positively” related to disproportionality.

Research has also looked at how school and district level demographics (e.g., minority student enrollment and rates of minority teacher representation) contribute to overrepresentation. Serwatka, Deering and Grant (1995) found that overrepresentation of African American students in emotionally handicapped classes decreased as the percentage of African American teachers increased. In a study using OCR data and NCES sociodemographic variables, Coutinho, Oswald and Best (2002) noted that as the proportion of non-White students increased, learning disability rates for students identified as Hispanic and African American decreased. They noted, however, that this correlation did not apply to the American Indian population giving indirect support to the hypothesis that the process for ESE identification works differently for different ethnic groups and thereby raises a concern of “inadvertent or deliberate bias” (p. 57). In a similar study, Oswald, Coutinho, Best and Nguyen (2001) concluded that MR identification of African Americans is markedly increased in largely White communities, but only slightly increases for other racial/ethnic groups. Finally, Hosp and Reschley (2004) found that the demographic block in their study was the strongest predictor of EBD placement.

Lastly, academic underachievement has been linked to referral for special education services (Artiles & Trent, 1994; Artiles et al., 2008; Skiba et al., 2008). Hibel, Farkas, and Morgan (2011) sought to determine how student, family, and school-level variables (e.g., race, gender, SES, academic achievement, and behavior) shape the likelihood of a student being placed in special education by the end of their fifth grade year. Using data from the Early

Childhood Longitudinal Study, Kindergarten (ECLS-K), that was collected and maintained by the NCES, the researchers were able to analyze individual data on academic achievement and behavior. The data was collected at five different points over a five year period beginning in 1998. The academic test score variable was the average of the student's reading and math test item response theory score in kindergarten. The researchers concluded that the strongest explanatory factor for special education placement was the student's academic achievement at school entry. When analyzing specific disability categories the authors discovered that a student's academic achievement fully mediated the SES effect on placement in speech/language programs and partially mediated the SES effect for overall placement in ESE and placement within SLD and MR programs. Other studies have also shown that academic achievement is differentially predictive for different ESE categories and racial/ethnic groups. For example, Hosp and Reschley (2004) concluded that the academic variable was predictive of SLD placement and stronger for African American and Asian/Pacific Islander students than other racial/ethnic groups.

Professional Practices

Studies have also conceptualized overrepresentation as associated with professional practices. As with sociodemographic factors, studies on professional practices have produced mixed results (Waitoller et al., 2010). For example, Tobias, Cole, Zibrin and Bodlakova (1982) examined the effects of teacher and student ethnicity on ESE referral decisions of 199 teachers. A case history of a 16 year old male was prepared and given to all teachers and only the ethnicity (e.g., black, Hispanic, white, or no ethnic identification supplied) of the student was changed.

One of the four versions of the vignettes were randomly assigned to the 199 teachers, and they were asked to respond to a number of questions and were asked to supply identifying demographic data when returning the case history. As a result, Tobias and colleagues (1982) found that the boy described in the case history was more likely to be recommended for ESE services when he was a different ethnicity from that of the responding teacher. That is, teachers who identified themselves as black more frequently recommended ESE referral for white or Hispanic students and teachers who identified themselves as white more frequently recommended ESE services for black or Hispanic students. On the other hand, MacMillan, Gresham, Lopez, and Bocian (1996) analyzed data derived from a variety of instruments of 150 children that were nominated for pre-referral interventions. The authors were attempting to examine the kinds of problems the students were having that prompted the nominations and the extent to which those nominated differed as a function of gender and ethnicity. They concluded that the minority children that were nominated scored significantly lower on the instruments that were administered than their white counterparts. The authors contend that teachers may be more reluctant in referring minority students and only refer those who are clearly academically deficit.

Another area of potential concern regarding overrepresentation is the decision making process in ESE eligibility team meetings. Knotek (2003) conducted an ethnographic study in an attempt to determine if bias existed in student study teams (SST). He utilized four data collection procedures: (a) observations, (b) transcripts of SST meetings, (c) collection of documents, (b) interviews. As a result of his data collection, Knotek (2003) concluded that the SSTs became more subjective when students were either from low SES backgrounds or

presented problem behavior. That is, the team focused more on the student as the problem rather than looking at the school and its educational practices. In a related study, Wilkinson, Ortiz, Robertson and Kushner (2006) used an expert panel to assess the appropriateness of eligibility decisions of ELL students. The panel found that of the 21 reports that they evaluated, the eligibility team only made 5 decisions that were appropriate. The decision making process of eligibility teams is an emerging area of research worthy of further exploration (Waitoller et al., 2011).

Finally, in an effort to understand school psychologists' beliefs regarding overrepresentation of African American students, Kerns, Ford, and Linney (2005) conducted a mixed quantitative and qualitative study. Their results suggested that school psychologists perceived cultural disadvantage and low parental involvement in education as the two most influential factors contributing to the overrepresentation of African American students. It was also noted that the psychologists also believe that cross-cultural competence was "critical" when making psycho-educational decisions. To that, Kerns and colleagues (2005) state, "The discrepancy between participants' beliefs about the critical impact of cross-cultural competence and beliefs about their own level of cross-cultural competence illustrated the need for increasing knowledge, skill, and confidence in working with people of diverse cultural backgrounds" (Discussion section, para. 2).

Sociohistorical Factors

Sociohistorical factors consist of issues revolving around race relations, power and politics. Some scholars theorize that these issues are at the nexus of education policy and

therefore by default minority disproportionate representation (Artiles et al., 2010; Eitle, 2002; Patton, 1998; Waitoller et al., 2010). One such study that examined these factors was conducted by Eitle (2002). In an effort to gain a better understanding of the variation of representation of black students in EMH programs, he examined school district structural factors (district enrollment demographics, district location, and ESE students who receive non-district services), the local racial and political-economic context (white economic resources, black economic resources, and black political resources), and school desegregation politics (between school segregation, court pressure to desegregate, white flight to private schools, and history of de jure segregation). The data was obtained by merging three different data sources to create a district level dataset for a sample of 981 school districts. Eitle (2002) concluded that as to school district structural factors, the enrollment of African American students in a district is negatively associated with representation in EMH programs. The author provided two possible explanations for this finding. First, increased proportions of minority students in a school district may be viewed as a proxy for the extent to which white parents have removed their children from that district. Thus, if placing black students in EMH programs is an alternative means of segregation, it is no longer necessary given the lower white enrollment. Second, school districts with larger proportions of black students may have greater political control increasing the proportion of black teachers, administrators and school board members thereby decreasing black representation in EMH programs. As to desegregation politics Eitle (2002) discovered that court ordered desegregation was positively correlated with black representation in EMH programs.

Litigation and Disproportionality

The overrepresentation of minority students in ESE has resulted in a number of court cases that have, directly or indirectly, changed the manner in which students are assessed and placed in ESE programs. The results of these cases have also influenced changes in legislation that has sought to minimize discriminatory practices in assessing and placing students in ESE. For example, the 2004 reauthorization of IDEA mandates that assessments should be administered in a student's native language, and that prior to being placed in exceptional education, a student should receive appropriate instruction in math and reading, and English proficiency should be addressed (Yell et al., 2006).

One of the first cases to address overrepresentation was *Diana v. California State Board of Education* (1970). In this case, the parents of Hispanic students in California filed a class action suit against the State Board of Education over concerns regarding "false positives"- children who did not need ESE services and were being identified as such (Hendrick, MacMillan & Watkins, 1988). More specifically the plaintiffs took issue with (a) English language IQ tests being administered to students whose primary language was something other than English, (b) the due process procedural safeguards, and (c) the training of the evaluators and special education teachers (Coutinho & Oswald, 2000; Reschly, 1991; Wright & Cruz, 1983). As a result of the court's ruling, evaluators were required to test students in their primary language, use a variety of assessments, and a number of due process procedural safeguards were implemented- many of which were incorporated into Public Law 94-142 (1975) (Coutinho & Oswald, 2000; Hendrick et al., 1988).

The next significant case involving disproportionality is *Larry P. v. Riles* (1972). Similarly to *Diana* (1970), this case involved allegations of I.Q. test bias, but against African American students. The plaintiffs, who scored below a 75 on the school district's I.Q. test, claimed that they were not educable mentally retarded (EMR) and that the tests were "biased against the culture and experience of black children as a class" (*Larry P. v. Riles*, 1972, p. 2). Affidavits from African American psychologists stated that when students were given the same I.Q. test and were given credit for non-standard answers that showed an intelligent approach to the problems, rapport was built and helped to overcome the plaintiffs' "defeatism" and "easy distraction" (*Larry P. v. Riles*, 1972, p. 2). Also, when some items were reworded to be more consistent with the students background, the students scored above the cutting-off point of 75 (*Larry P. v. Riles*, 1972). The plaintiffs also claimed irreparable injury because the EMR classes were so academically minimal, teacher expectations were low, and because of the ridicule they received due to their EMR status. The plaintiffs also presented "undisputed" statistics indicating a disproportionate representation of African American students in the EMR program in that district (*Larry P. v. Riles*, 1972).

The defendants justified the EMR program by stating that the pace and curriculum are designed to be beneficial for EMR students, and that the district uses the labels "ungraded" or "adjustment" in an effort to minimize any stigma associated with these classes. They also noted that the program was designed in such a way that students are able to achieve their way out of the EMR program by way of a yearly evaluation (*Larry P. v. Riles*, 1972). The outcome of this lengthy case resulted in affirmation of the disproportionate representation of African American

students in the EMR program, a ban on the use of IQ tests with African American students and an order to eliminate overrepresentation of African American students in the EMR program (Coutinho & Oswald, 2000; Hendrick et al., 1988; Reschly, 1988; Wright & Cruz, 1983).

In the lesser known case of *PASE v. Harmon* (1980), plaintiffs claimed that the IQ tests administered by the district were racially biased and resulted in the inappropriate placement of African American students in educable mentally handicapped (EMH) classes. The three tests in question were the Stanford-Binet, the Wechsler Intelligence Scale for Children (WISC), and the Wechsler Intelligence Scale for Children , Revised (WISC-R). The court reviewed these three assessment tools and found one item on the Stanford-Binet and a total of eight items on the WISC and WISC-R to be culturally biased against black children, and determined that these few items did not render these tests to be unfair or culturally biased. Unlike the previous two cases, the court ruled that the assessment process used by the district was not biased and that the overrepresentation observed in that district was not discriminatory (Coutinho & Oswald, 2000; *PACE v. Harmon*, 1980).

In *Guadalupe v. Tempe* (1972) a class action suit was filed on behalf of Mexican-American students against the elementary school district of Tempe, Arizona. The plaintiffs allege four discriminatory acts resulting in a violation of their rights according to the Equal Protection Clause of the Fourteenth Amendment:

1. Failure to provide bilingual instruction.
2. Failure to hire enough teachers of Mexican-American descent who can teach bilingual courses.

3. Failure to provide a curriculum that takes into account the plaintiffs educational needs.
4. Failure to provide a curriculum that reflects historical contributions of people of the plaintiffs' decent.

The court ruled in favor of the defendants, stating that the Fourteenth Amendment was not violated due to the adoption of measures that would “cure” the existing language deficiencies of non-English-speaking students, nor is there a constitutional duty to provide bilingual-bicultural education (*Guadalupe v Tempe*, 1978).

In the *S-I v. Turlington* (1986) case, the plaintiffs, African-American students in Miami, Florida, filed a class action suit against the State Department of Education alleging that the EMH program is made up disproportionately of black students, resulting in an “educationally stifling” environment and negatively stigmatizing them. Similar to the previously discussed cases, the plaintiffs claimed that the tests used to determine ESE program placement were culturally biased, and the state’s standards and procedures for classifying students do not fulfill federal mandates (*S-I v. Turlington*, 1986). However, the court found that the plaintiffs did not prove that any African-American students had been improperly placed and therefore the suit was dismissed with prejudice (Coutinho & Oswald, 2000; Reschly, 1988; *S-I v. Turlington*, 1986).

Although decisions have been split, the courts made it clear that school districts owed students equal protection of the law without discrimination on the basis of disability. In many instances, these decisions have helped pave the way for Congress to enact legislation that would fill loopholes and subsidize funding (Martin, Martin & Terman, 1996).

Federal Regulations

Up until the mid-1970s the education of students with disabilities was left up to the discretion of the local school districts that could refuse to enroll a student whom they considered to be “uneducable” (Martin et al., 1996). It wasn’t until Public Law (PL) 94-142, also known as the Education for All Handicapped Children Act (EAHCA), was passed in 1975 that policies mandating the education of all children became a reality (Martin et al., 1996; Yell & Rogers, 1998).

Prior to the EAHCA, federal involvement in the education of children was minimal (Martin et al., 1996). In the 1950s, the Soviet launch of Sputnik created a concern in Congress which in turn prompted them to pass the National Defense Education Act (NDEA) of 1958, one of the first pieces of education legislation. This particular legislation provided grants to improve the teaching of science and math in early grades. Four days after signing the NDEA, President Dwight Eisenhower signed PL 85-926 which provided federal money to higher education for training leadership personnel in teaching children with intellectual deficits. A few years later, this law was expanded to include the training of teachers in more disability groups, and was named the Special Education Act of 1961 (LaNear & Frattua, 2007; Martin et al., 1996; Yell & Rogers, 1998). Then in 1965 Congress passed the Elementary and Secondary Education Act (ESEA) which attempted to subsidize the direct of education of certain populations. The following year the ESEA was amended and Title VI was added to provide direct grants to the states for programs for children with disabilities. In 1970, the ESEA was replaced with the

Education for the Handicapped Act (EHA) and was the basic framework for subsequent legislation (Yell & Rogers, 1998).

At this point in legislative history, Congress took two approaches. First, they addressed nondiscrimination via the Rehabilitation Act. Second, Congress provided an educational grant program through the Education for All Handicapped Children Act (EAHCA) (Martin et al., 1996). In an effort to address the states responsibility to educate its students, regardless of disability, Congress passed the Rehabilitation Act in 1973 (LaNear & Frattura, 2007). Section 504 of the Rehabilitation Act provides that no individual with a qualified disability could be discriminated against, or be denied benefits of any program that is receiving federal financial assistance. It goes on to define a person with a disability as, “persons with a physical or mental impairment which substantially limits one or more major life activities” (LaNear & Frattura, 2007; Rehabilitation Act, Section 504, 29 U.S.C. 794; U.S Department of Justice, 2005).

In 1975, Congress passed the EAHCA in order to provide federal funding to assist states in the educating of students with disabilities. In order to be eligible for federal assistance, states were required to submit a plan on how they propose to educate students with disabilities in accordance with the procedures contained in the Act (Yell & Rogers, 1998). The core mandates of the EAHCA must be satisfied by the states in order to be eligible for federal funding and are what undergird the contemporary legislation in the IDEA (LaNear & Frattura, 2007). These requirements include: free appropriate public education (FAPE) for students with disabilities in the least restrictive environment (LRE) through the development of an individualized education plan. The EAHCA also provided parents with procedural due process rights and involvement in

the IEP process that they had not been previously afforded (Martin et al., 1996; LaNear & Frattura, 2007; Yell & Rogers, 1998). States were not required to comply with the mandates of the EAHCA, however, by not doing so they would have forfeited federal funding for their special education programs. With that, all states chose to comply and many developed state statutes and legislation expanding upon the EAHCA and increased standards with regard to FAPE (Yell & Rogers, 1998).

In 1990, amendments renamed the EAHCA to the Individuals with Disabilities Education Act (IDEA). One key feature included in IDEA was adopting a people first language. For example, the term “handicapped student: was replaced with “child/student with a disability.” Other changes included adding a transition plan on every student’s IEP by 16 years of age, and giving students with autism and traumatic brain injuries their own distinct exceptionality program thereby entitling them to benefits under IDEA (LaNear & Frattura, 2007; Yell & Rogers, 1998). In 1997, IDEA was reauthorized along with amendments. The primary changes focused on the measuring and reporting of goal statements that more accurately assesses a student’s progress towards his/her annual goals, requiring states to offer mediation as an alternative for dispute resolution, and the manner in which school officials handled discipline issues with students with disabilities (Yell & Rogers, 1998).

In 2004, Congress passed another authorization of IDEA; however, this time they included the word “improvement” making the official legislative name the Individuals with Disabilities Education Improvement Act, or IDEIA. Although the word “improvement” was added, this legislation is still referred to as IDEA. Along with the official name change, there

were three other significant changes made in this reauthorization (LaNear & Frattura, 2007; Smith, 2005; Yell, Shriner & Katsiyannis, 2006). First, when making rulings during a due process hearing, the hearing officer should examine the student's special education program. For example, the hearing officer may look at whether the special education program was based on the student's unique educational needs, if the ESE services were based on peer-reviewed literature, or if the student's progress was measured (Yell et al., 2006).

Second, IDEA 2004 attempted to align with provisions set in No Child Left Behind (NCLB) in 2001. The three primary ways in which this was accomplished was that (a) special education teachers had to be highly qualified, (b) ESE services had to be based on peer-reviewed research, and (c) students with disabilities had to be included in statewide assessments (Smith, 2005; Yell et al., 2006).

This was the first reauthorization of IDEA that included mandates related to teacher qualifications. Until this act, teacher qualification guidelines had been left up to the states to determine (Smith, 2005). This reauthorization states that teachers must be "highly qualified" if (a) they were hired after the start of the 2002-2003 school year, (b) they are teaching a core subject area, and (c) they are teaching in a program that is supported by Title 1 funding. In order to be considered highly qualified, a special education teacher must hold a minimum of a bachelor's degree, hold a full state certification in special education, and be able to demonstrate subject-matter competency in the subject(s) in which they teach (LaNear & Frattura, 2007; Smith, 2005; Yell et al., 2006).

Finally, the IDEIA made several changes to eligibility requirements, specifically as they relate to learning disabilities. Historically, school districts have used a discrepancy formula in order to determine if a student meets the eligibility requirements for the LD program even though it was not required through IDEA (Mandlawitz, 2006). The discrepancy formula requires that there be a significant difference between a student's IQ and academic achievement (Smith, 2005). IDEA 2004 states that schools may use a child's response to intervention as a tool to determine LD eligibility. Although it does not specifically state that a discrepancy formula cannot be used, the language of the Act encourages alternative means of assessment (Mandlawitz, 2006; Smith, 2005).

Along with these changes, provisions concerning disproportionality were addressed in the reauthorization of IDEA in 1997 and greatly expanded in the reauthorization in 2004 (Skiba et al., 2008). In an effort to take steps to reduce the disproportionality issue, states were given new reporting requirements regarding minority enrollment beginning in the 1998-99 school year (Gentry, 2009). In the reauthorization in 2004, Congress provided even stronger provisions regarding disproportionality in special education and added components regarding the monitoring of the least restrictive environment and discipline (Albrecht et al., 2012; USDOE, 2012). According to IDEA (2004), it is the responsibility of the Secretary of Education to monitor the states and that each state must report annually on a set of 20 "quantifiable and qualitative" indicators created by the Secretary, three of which address the issue of disproportionality (Albrecht et al., 2012).

Federal Monitoring

When the EAHCA (PL 94-142) was enacted, it brought up two primary concerns: (1) the number of students who were either not being served or were receiving ESE services that were not meeting their educational needs, and (2) the number of ethnic minorities who were mislabeled and/or inappropriately placed in special education programs (Markowitz et al., 1997). To that end, the Office for Civil Rights, (OCR) through the U.S. Department of Education, who is responsible for enforcing Section 504 of the Rehabilitation Act and Title II of ADA, has been concerned about the overrepresentation of minority students in ESE programs from its inception, and along with the U.S. Office of Special Education Programs (OSEP), have both made reducing disproportionate representation a high priority issue (Burnette, 1998; Donovan & Cross, 2002; Markowitz et al., 1997). Along with collecting and analyzing special education student enrollment data, the primary way in which the OCR and OSEP address the issue of disproportionality is through the dissemination of information to state and local educational agencies (Markowitz et al., 1997; Oswald, Coutinho, Best, & Nguyen, 2001).

OSEP is tasked with the responsibility of ensuring that states are properly adhering to the provisions contained in the Individuals with Disabilities Education Act (Albrecht et al., 2012; Burnette, 1998; Markawitz et al., 1997; USDOE, 2012). To that end, OSEP participates in the funding of research and provides technical assistance to states and LEAs in an effort to increase knowledge and strategies for the purpose of reducing disproportionality (Burnette, 1998).

Part of the mission of OCR is to “...ensure equal access to education...through vigorous enforcement of civil rights” (USDOE, 2012). As previously mentioned, OCR is responsible for

enforcing Section 504 of the Rehabilitation Act, Title II of the ADA, and Title VI of the Civil Rights Act of 1964 (Markawitz et al., 1997; USDOE, 2012). With that, OCR has made minority students in special education a priority enforcement issue (Burnette, 1998). In order to ensure compliance with anti-discriminatory legislation, OCR has been given the responsibility of collecting data on special education enrollment and educational placement (Coutinho & Oswald, 2000; Finn, 1982). This data collection is completed on a biannual basis (Oswald et al., 2001). OCR also participates in the commissioning of studies and sponsors training activities related to equal access to pre-referral services and programs, and access to general education settings (Markawitz et al., 1997).

State Monitoring

Under IDEA 2004, states are required to have policies in place to prevent misidentification and overrepresentation and monitor disproportionate representation by race/ethnicity and disability. The law states:

Sec. 300.646 Disproportionality.

- (a) General. Each state that receives assistance under Part B of the Act, and the Secretary of the Interior, must provide for the collection and examination of data to determine if significant disproportionality based on race and ethnicity is occurring in the state and the LEAs of the State with respect to—
 - (1) The identification of children as children with disabilities, including the identification of children as children with disabilities in accordance with a particular impairment described in section 602(3) of the Act;
 - (2) The placement of particular settings of these children; and
 - (3) The incidence, duration, and type of disciplinary actions, including suspensions and expulsions.
- (b) Review and revision of policies, practices, and procedures. In the case of a determination of significant disproportionality with respect to the identification of children as children with disabilities, or the placement in particular educational

settings of these children, in accordance with paragraph (a) of this section, the state or the Secretary of the Interior must—

- (1) Provide for the review and, if appropriate revision of the policies, procedures, and practices used in the identification or placement to ensure that the policies, procedures, and practices comply with the requirements of the Act (2004, U.S.C. 1418(d)).

The IDEA requires states and local educational agencies (LEA) to take measures to reduce disproportionate representation. More specifically, Part B of IDEA addresses how states and LEA's are to address this issue. States are required to address disproportionality in the State Performance Plan (SPP) by way of Indicators 9 and 10 and report annually to the Secretary of Education on the findings of these indicators (Albrecht et al., 2012; USDOE, 2012). These two indicators specifically address the issue of disproportionality. Indicator 9 refers to the percent of districts with disproportionate representation of racial and ethnic groups in special education and related services that is the result of inappropriate identification. Indicator 10 refers to the percent of districts with disproportionate representation of racial and ethnic groups in specific disability categories that are the result of inappropriate identification (FLDOE, 2012; USDOE, 2012).

Additionally, states are obligated to collect and analyze data on disproportionality with regard to identification of children as children with disabilities, their particular impairments, and the placement of children in particular educational settings. If disproportionality is identified as a result of data collection, states are required to: (1) review policies, procedures and practices, (2) reserve the maximum amount of funds (15%) to be used for early intervention services, and (3) publicly report on any revisions to policies, procedures and practices (USDOE, OSEP, 2012).

One point of conflict regarding these indicators are the terms “disproportionate representation” and “significant disproportionality”. Albrecht et al. (2012), points out that by

OSEP using these two terms, they have in turn created a system in which both must be monitored and enforced, yet they were never previously differentiated in professional literature. The researcher also notes that significant disproportionality is a “simple numerical criterion” (p. 17) and is left up to the state to define. Conversely, disproportionate representation is dependent upon finding that it was caused by inappropriate identification which first depends upon an extensive review of LEA’s policies, practices and procedures. The semantics of these terms is significant, in that, when a state finds significant disproportionality with respect to identification, placement, and discipline, the LEA must divert 15% of Part B funds to early intervention services and resolve the issue within one year (Albrecht et al., 2012).

Albrecht et al. (2012) examined the way in which the states were monitoring disproportionate representation since the new regulations in IDEA 2004. The researcher found that for school years 2005-2006 through 2007-2008 states reported disproportionality using the risk ratio, weighted risk ratio, alternate risk ratio, composition index, and other statistical measures. The researcher also found that for the states that used the risk ratio during the 2007-2008 school year no state set their risk ratio criteria for less than 2.0. In fact, there was an increase in states using a risk ratio of 3.0 and higher. Additionally, the researcher found that with the qualifier “with inappropriate identification” there has been a decrease in states reporting districts with disproportionate representation for indicators 9 and 10.

Florida, for example, currently defines disproportionate representation as a risk ratio of 3.5 or higher for overrepresentation and a risk ratio of 0.20 or less for underrepresentation for both indicators 9 and 10 (FLDOE, State Performance Plan, 2012). Beginning in 2002, the state

began using the relative risk ratio by dividing the percent of the majority population (white students) by the percent of black students in each disability category. A relative risk ratio of 1.0 means that the risk is comparable between the two groups. In 2005-2006 they began using Westat's risk ratio method for determining disproportionate representation with the baseline data generated from that school year. During that same year, the Florida Department of Education used an "n" size of 10 or greater, but changed to an "n" of 30 or greater in 2006-07. In other words, if a school district does not have at least 30 students of a particular racial/ethnic group, the Florida Department of Education will not use them in their calculations of disproportionality (FLDOE, 2012).

According to Florida's Part B Annual Performance Report (APR) for the 2010-11 school year, the state had no districts with disproportionate representation for indicator 9 or 10. As previously mentioned, any district with a racial/ethnic group of less than 30 was excluded from calculations. Tables 2 and 3 illustrate the number of districts excluded from calculations for disproportionate representation for indicators 9 and 10 for the 2010-11 school year.

Table 2.

Number of Districts Excluded from Calculations by Race/Ethnicity for Indicator 9

Racial/Ethnic Group	Districts Removed From the Calculation
White, not Hispanic	1
Black, not Hispanic	7
Hispanic	18
Asian	46
Native Hawaiian/Other Pacific Islander	71
American Indian/Alaska Native	54
Two or more races	30

Note. Adapted from the Florida Department of Education, Bureau of Exceptional Education and Student Services, Part B Annual Performance Report for 2010-11, p. 45.

Table 3.

Number of Districts Excluded from Calculations by Race/Ethnicity for Indicator 10

Racial/Ethnic Group	Intellectual Disability	Specific Learning Disability	Emotional/ Behavioral Disability	Speech or Language Impairment	Other Health Impairment	Autism Spectrum Disorder
White, not Hispanic	23	7	31	7	25	33
Black, not Hispanic	31	21	37	21	46	53
Hispanic	44	29	51	31	50	51
Asian	68	63	72	55	71	66
Native Hawaiian/Other Pacific Islander	72	71	72	71	72	72
American Indian/Alaska Native	72	64	72	69	72	72
Two or more races	66	44	64	45	64	68

Note. Adapted from the Florida Department of Education, Bureau of Exceptional Education and Student Services, Part B Annual Performance Report for 2010-11, p. 47-48.

Methods for Calculating Disproportionality

Although there is little disagreement that disproportionality exists, researchers have yet to agree upon one method in calculating disproportionality (Klinger et al., 2005). With that, researchers have used a number of methods in order to determine the extent of the issue. The first method was offered by Dunn (1968) when he used his “best judgment” to conclude that 60-

80% of ESE students were from low status backgrounds. Since Dunn (1968), researchers have identified three primary methods of analyzing disproportionality: the composition index, the risk index and the risk ratio (Skiba et al., 2006; Westat, 2004). The following three sections will give a brief introduction to the three indices that will be utilized in this research.

Composition Index

The composition index answers the question, “What percent of students in a specific ESE category are from a specific racial/ethnic group?” In order to determine disproportionality, the proportion of the racial/ethnic group in the ESE category is compared to the proportion of the same racial/ethnic group in the total student enrollment (Bollmer et al., 2007). A widely accepted criterion for assessing disproportionality using the composition index was established by Chinn and Hughes (1997). In a study by Chinn and Hughes (1987), they placed a 10% bandwidth around the general population for the racial/ethnic group being assessed. If the racial/ethnic group within the ESE category falls within the 10% bandwidth, plus or minus, the enrollment rate is considered proportional (Hosp & Reschly, 2003; Skiba et al. 2006). For example, in Chinn and Hughes’s (1987) study, they report that Hispanic enrollment accounted for 6.75% of the total student enrollment nationally. Based upon their 10% criterion, a range from 6.08% to 7.43% would be considered proportional representation. For that year, Hispanics represented 7.54% of the total enrollment in the Learning Disabled category. According to the 10% rule, Hispanics were overrepresented in that ESE category in 1987 (Chinn and Hughes, 1987).

Risk Index

The risk index compares the probability of students from one racial/ethnic background being identified in a specific ESE category to that of a comparison group (Bollman, 2007; De Valenzuela, Copeland, Qi & Park, 2006). It is calculated by dividing the number of students of a racial/ethnic group in an ESE category by the total enrollment of that racial/ethnic group at the level the data is being analyzed (e.g., national, state, district, or school level).

Risk Ratio

The risk ratio compares one racial/ethnic group's risk of being identified for ESE services to the risk of a comparison group. The comparison group can either be total student enrollment or white students only. Some researchers prefer to use only white students because they make up the majority racial/ethnic group and "...public perception of discriminatory behavior is generally based on a comparison to practices with respect to individuals who are white" (Coutinho & Oswald, 2000, p. 138). A risk ratio of 1.0 indicates equal risk, while anything above 1.0 indicates overrepresentation and a risk ratio below 1.0 indicates underrepresentation.

History of Separate Facilities

Under the Tenth Amendment to the U.S. Constitution, the founding fathers left the responsibility of education in the hands of the states, and, for the most part, the states were able to rise to this mandate (Myhill, 2010). However, prior to the twentieth century the availability of public education for students with disabilities was non-existent due to the lack of an existing framework and the emphasis on the medical model. Children with disabilities were viewed as, "...special, discrete groups, quite different from the general school population, and their needs

were thought to demand institutional isolation” (Winzer, 1993, p. 94). The programs that would be established over the next century were almost all exclusively residential (Myhill, 2010).

Because students with disabilities were seen as “charity recipients,” private organizations were the first to step forward and offer some type of education for children with disabilities (Myhill, 2010; Winzer, 1993). As these institutions began to spring up they followed the corporate voluntarism model. This model is financed through endowments and tuition and is overseen by a board of trustees. Although the states were not directly involved in the management of these facilities, they preferred the corporate voluntarism model and actively supported it through donating land and giving money to individual institutions. As the number of institutions grew, it became apparent that the institutions that were financially supported by the community or the state were defined as public, and by the middle of the 19th century, states assumed primary responsibility for costs and management (Winzer, 1993).

During the early 19th century, children who were deaf were the first recipients of what is now special education (Winzer, 1993). The Connecticut Asylum for the Education and Instruction of Deaf and Dumb Persons was opened on April 15, 1817 as a national school. The school was originally supported by prominent Hartford citizens. The actual numbers of deaf children were not known, and it was thought that this one school would be sufficient to accommodate all deaf children. Two years later in 1819 the name was changed to the American Asylum at Hartford for the Education and Instruction of the Deaf and Dumb to better reflect their national status (Winzer, 1993). A few years later the first publicly funded schools for deaf children were established in Kentucky in 1823 and then in Ohio in 1827 (Myhill, 2010). In the

following 50 years after the first school for deaf students opened, 24 more institutions were established, and by 1880 there were a total of 55 schools (Winzer, 1993).

Soon after the first schools for deaf children were established, schools for the blind began to open up first in New York in 1832 and then in Philadelphia in 1832. The establishment of the schools for blind students was much more gradual than those for the deaf. By 1847, only six schools existed that served blind students, and by 1875, there were 30 schools in existence. Many of these institutions were multipurpose facilities (Winzer, 1993). In 1864, Congress created the National College for the Deaf and Dumb now known as Gallaudet University in Washington, D.C. (Myhill, 2010).

In 1846, Samuel Gridley Howe began an inquiry into the treatment of mental retardation in Massachusetts. His report concluded that there were between 1,200 and 1,500 persons with mental retardation in the state of Massachusetts. Upon hearing these findings, the state legislature passed a resolution allowing no more than \$2,500 annually for the training of 10 “idiotic” children (Myhill, 2010). As a result, the experimental school for mentally retarded children opened in 1848. The success of this experimental school prompted the legislature to establish the Massachusetts School for Idiotic and Feeble-Minded Children in 1850. In the few years to follow, similar schools were opened in New York (1851), Pennsylvania (1852), Ohio (1857), and Kentucky (1860). By 1890 there were 14 states that established institutions for the mentally retarded (Myhill, 2010; Winzer, 1993).

Prior to the turn of the 19th century, perceptions regarding students with disabilities were beginning to change. Reformers were working hard to perpetuate the idea that every child had a

right to an education and that these special schools were no longer charitable institutions or asylums. In an effort to facilitate such change, institutions that served students with disabilities began to adopt name changes. By 1900, public day schools for students with disabilities became a regular fixture, particularly in larger cities. Similarly to the inception of the institution, deaf children were served first in public day schools followed by blind and mentally retarded students (Winzer, 1993).

By 1910, states began to establish compulsory attendance laws and pass legislation authorizing special education. Schooling for the deaf and blind was mandated in many states and schools began to experience an influx of immigrant children who lacked the ability to succeed in the regular classroom. Given these factors, schools were faced with the new challenge of not only educating students with varied disabilities, but those from multi-cultural backgrounds as well. Out of this, the segregated classroom was born (Winzer, 1993).

The segregated classroom was common place and considered the best option for students with disabilities from the 1930s through the 1950s. During the 1970s, ideas began to evolve regarding normalization and mainstreaming and an ideological shift began to take root. A combination of the accumulation of empirical data regarding the effectiveness of special classes, minority over-identification, and legislation acted as a catalyst for a more integrated educational placement philosophy (Myhill, 2010; Winzer, 1993).

Litigation and LRE

Educational placement has not only been one of the most controversial issues, but the most litigated as well (Yell & Katsiyannis, 2004). There have been a number of precedent

setting court cases that have helped pave the way for school districts and courts in determining what constitutes a least restrictive setting and how to determine what type of placement is appropriate. The following five court cases have been key decisions and have set precedent regarding the Least Restrictive Environment mandate.

In *Roncker v. Walter* (1983), the parents of Neil Roncker challenged the placement of their son in alternative school for students with disabilities. Neil Roncker was a nine year old boy with an IQ of below 50 and classified as Trainable Mentally Retarded. Also suffering from seizures, Neil almost always required constant supervision because he did not have the ability to recognize dangerous situations. Although he required intensive supervision, Neil was never seen as a threat or dangerous to others. In the spring of 1979, the IEP team met to reevaluate Neil's IEP and placement. As a result of the meeting, the school district placed Neil in an alternative school that they felt could better address his specific needs. Prior to the IEP meeting in 1979, an evaluation in 1976 recommended Neil to the Arlitt Child Development Center and it was believed that he would benefit from contact with regular education students.

The Ronckers refused to accept the placement and sought a due process hearing before a hearing officer. The hearing officer found that the school district failed to satisfy its burden of proving that their proposed placement was the least restrictive environment afforded the student. The school district appealed to the Ohio State Board of Education which found that the county school provided the educational accommodations that Neil required, thereby reversing the finding of the hearing officer. The State Board of Education also found that Neil needed more

social interaction with non-disabled students and ordered him to be placed in a county school with provisions for these social interactions.

In January 1980, Neil's parents filed suit against the state and the school district contending that Neil could be provided the services he needed in a setting that would afford him more contact with nondisabled students. During trial, the school district contended that Neil could not benefit significantly from mainstreaming and that any benefits would be outweighed by the county school. The district court found that the school district did not abuse its discretion in placing the student in a setting where he would have no contact with non-disabled students and that placement of a special education student requires "individual determinations."

Upon appeal, the Court of Appeals for the Sixth District found that the district court erred in reviewing the school district's placement decision under an abuse of discretion standard. They stated that if a segregated facility is considered to be superior due to the services that are provided there, the court should determine if the services can feasibly be provided in the non-segregated facility. If so, the placement in the segregated school would be inappropriate under EHA. They also considered three specific issues with regard to mainstreaming. First, does the benefit of mainstreaming far outweigh the benefits of the separate setting? Second, is the child a disruptive force to the regular setting? And third, is the cost of the change in placement taking too many funds from other children with disabilities? These three considerations become known as the "Roncker Standard" (Meade, 2009).

In *Daniel R.R. v. State Board of Education* (1989), Daniel R. was a six year old boy who was diagnosed with Down's syndrome and speech impairment. In 1985, Daniel was enrolled in

an early childhood half-day program that was devoted entirely to special education. Before the 1986-1987 school year, his mother requested that he have a change of placement in which he would have more interaction with regular education children. The school district acquiesced and placed the student in a combined regular and special education program. Upon entering the regular education classroom, Daniel began to experience difficulties. The teacher reported that Daniel did not participate without constant, individual attention and that he failed to master any of the skills. In order for him to understand many of the concepts, his teacher would have to modify the curriculum “almost beyond recognition.” Daniel’s placement was changed back to a special education class with some modifications: he would eat lunch in the school cafeteria with regular education children three days a week if his mother was present to supervise him, and he would have contact with regular education children during recess.

Mr. and Mrs. R. appealed to a hearing officer who upheld the school district’s decision. The hearing officer concluded that the student could not participate in the regular education kindergarten classroom without constant supervision and that the curriculum was beyond his abilities. He also found that Daniel was receiving little benefit from the classroom and “...his needs absorbed most of the teacher’s time and diverted too much of her attention away from the rest of the class.” Mr. and Mrs. R. brought their case to the district court where they affirmed the hearing officer’s decision (*Daniel R.R. v. State Board of Education*, 1989).

Upon appeal, the Court of Appeals for the 5th Circuit developed a standard, known today as the Daniel R.R. Two Prong Test, to determine if the school district’s actions were in compliance with IDEA:

- Can education in the regular classroom with the use of supplemental aids and services be achieved satisfactorily?
- If it cannot, has the school mainstreamed the child to the maximum extent appropriate?

As to the first test, the court found that based on the teacher's testimony and administrative records, the teacher was spending a "disproportionate" amount of time modifying the curriculum in order to meet Daniel's specific needs. In fact, the curriculum would have to be modified 90-100% in order to do so. They also found that his educational experience in the regular classroom had not been beneficial due to his inability to grasp the pre-kindergarten curriculum. Finally, they found that his presence in the regular classroom was unfair to the rest of the class due to the time that he required of the teacher (*Daniel R.R. v. State Board of Education*, 1989).

With regard to the second test, the court found the district took the steps to mainstream Daniel for lunch and recess which afforded him the opportunity to interact with non-disabled students. They therefore agreed that the school district had taken the steps in order to mainstream Daniel to the maximum extent appropriate (*Daniel R.R. v. State Board of Education*, 1989).

Another case in which the court utilized the two-part Daniel R.R. test to determine appropriateness of mainstreaming was *Oberti v. Board of Education of Clementon School District* (1992). Rafael, an eight year old child with Down 's syndrome, was recommended by the district's Child Study Team to be placed in a segregated special education class located in another district. Rafael's parents disagreed with the placement decision and reached an

agreement with the school district to place Rafael in a “developmental” kindergarten class (for children not ready for full time kindergarten) in the mornings and a special education class in another school district in the afternoons.

During his time in the developmental kindergarten classroom, Rafael experienced numerous behavioral issues. The following school year, the Child Study Team placed Rafael in the educable mentally retarded program and recommended a full time segregated special education classroom outside the district, since his neighborhood school was unable to accommodate a new classification. The Obertis objected to this placement and were able to mediate their dispute with the district. After Rafael spent the 1990-91 school year at his newly agreed upon placement, his parents learned that Rafael had no meaningful contact with nondisabled students and filed for another due process hearing. The Administrative Law Judge (ALJ) determined that Rafael was not ready for mainstreaming (*Oberti v. Board of Education of Clementon School District*, 1992).

In May of 1992, the Obertis filed civil action against the district claiming unlawful discrimination under Section 504 of the Rehabilitation Act of 1973. The court cited that the principle task before them was to provide standards for determining when a school’s decision to remove a child with disabilities from the regular classroom to a segregated special education classroom violates IDEA’s presumption in favor of inclusion. To that end, the court applied the two-part Daniel R.R. test. After considering all parts, the court ordered the district to develop an inclusive plan for Rafael consistent with the requirements of IDEA. The *Oberti* Court (1992) stated, “. . .that education law requires school systems to supplement and realign their resources

to move beyond those systems, structures and practices which tend to result in unnecessary segregation of children with disabilities” (*Oberti v. Board of Education of Clementon School District*, 1992, p. 5).

Next, in *Sacramento City Unified School District v. Holland* (1994), the parents of Rachel Holland challenged the district’s decision to not mainstream her to the extent they felt was appropriate. Rachel Holland was an 11 year old, moderately mentally retarded girl with an IQ of 44. During the fall of 1989, her parents moved to have the district increase her time in a regular classroom to full time. The school district denied the parents’ request and instead placed Rachel half-time in a regular classroom and half-time in a special education classroom. From 1985-1989, Rachel attended a number of special education programs throughout the district. Not satisfied with the district’s proposed placement, the Hollands appealed to a state hearing officer who found that the district failed to make adequate effort to mainstream Rachel based on the fact that she benefitted from her regular kindergarten classroom, she was not disruptive, and that the school district had overstated the cost of mainstreaming her. The district then appealed this finding to the district court.

Upon hearing this case, the Circuit Court for the Eastern District of California established a four-part balancing test, now known as the Rachel H. Four Factor Test, to determine if a school district is in compliance with IDEA by exploring the following: (a) the educational benefits of placing the child in a full-time educational program, (b) the non-academic benefits of interaction with children who were not disabled, (c) the effect of the child on the teacher and other students

in the regular classroom, and (d) the costs of mainstreaming in a regular education classroom (*Sacramento City Unified School District v. Holland*, 1994).

With regard to the first factor, the court found that the educational benefits weighed in favor of placing Rachel in a regular classroom. Her current teacher testified that Rachel was a “full member of the class and participated in all activities” (*Sacramento City Unified School District v. Holland*, 1994, p.4). The teacher stated that Rachel was making progress on her IEP goals, she was learning one-to-one correspondence in counting, and she could recite the English and Hebrew alphabets. When considering the second factor, the district court again found that the non-academic benefits weighed in favor of Rachel being placed in a regular classroom (*Sacramento City Unified School District v. Holland*, 1994).

When considering the third factor, the court looked at two aspects: (a) was the child disruptive or unruly?, and (b) did the child take up so much of the teacher’s time that other students would suffer from a lack of the teacher’s attention? Witnesses for both parties testified that Rachel was well behaved and therefore was not a disruption in the classroom. The teacher also testified that Rachel did not interfere with her ability to teach the other children. With that, the court found that the third factor weighed in favor of placing her in a regular classroom. Finally, the court found that the district was unable to prove that the cost of educating Rachel in a regular education classroom would adversely affect the education of other children. Therefore, the court weighed in favor of a regular education classroom placement for Rachel Holland (*Sacramento City Unified School District v. Holland*, 1994).

Upon appeal, the Court of Appeals for the 9th Circuit found that the presumption by the district that Rachel must be taught by a special education teacher is antithetical to the congressional mandate of the least restrictive environment. With that, they affirmed the decision of the circuit court, and stated that the present and future placement of Rachel should be determined based on the four principles established by the district court (*Sacramento City Unified School District v. Holland*, 1994).

Finally, in *Hartmann v. Loudoun County Board of Education* (1996/1997/1998), the Hartmanns filed suit against the school district alleging that they failed to mainstream their son to the maximum extent appropriate allowed by IDEA. Their son, Mark Hartmann, was an 11 year old boy with autism. According to the supervisor for the county's program for autistic children, Mark displayed daily episodes of disruptive behavior, such as hitting, pinching, kicking, biting and removing his clothes. Mark was initially placed in a regular education classroom during the 1993-1994 school year. The district carefully selected a teacher, hired a full-time teacher's aide and placed Mark in a smaller class. In May of 1994, the IEP Team concluded that Mark was making no academic progress in the regular classroom and therefore proposed placing him in a class specifically structured for students with autism.

The Hartmanns refused to approve the IEP and the county initiated due process hearings. In December of 1994, the hearing officer upheld the May IEP. She found that Mark's behavior was disruptive, and, despite the county's "enthusiastic" efforts, Mark made no academic progress during the year. In May of 1995, the state review officer affirmed the decision of the local

hearing officer. The Hartmanns then challenged the hearing officer's decision in federal court (*Hartmann v. Loudoun County Board of Education*, 1996/1997/1998).

The district court reversed the decisions of the state review officer and the local hearing officer, finding that the county did not take enough appropriate steps and stating that, "Given the strong presumption for inclusion under the IDEA, disruptive behavior should not be a significant factor in determining the appropriate educational placement for a disabled child" (*Hartmann v. Loudoun County Board of Education*, 1996/1997/1998). Upon appeal by the school district, the Fourth Circuit Court of Appeals reversed and remanded with directions to dismiss the case stating that the district court "substituted its own judgment" for that of the local school officials regarding Mark's educational program. The court of appeals found that the district court failed to account for the administrative findings and that their decision was not based on a correct application of the law. They went on to state that the mainstreaming provision represents a recognition of the importance and value of having students with disabilities interact socially with regular education students, but that "...social benefits is ultimately a goal subordinate to the requirement that disabled children receive educational benefit" (*Hartmann v. Loudoun County Board of Education*, 1996/1997/1998). Table 4 outlines the key rulings from the previously discussed cases.

Table 4.

Summary of Key Rulings on LRE

Case	Standard/Guideline
<i>Roncker v. Walter</i>	<i>Roncker Standard-</i> Determination if the mainstreaming benefits to the child would be far outweighed by the benefits of the separate setting? Is the child a disruptive force to the regular setting? Is the cost of change in placement taking too many funds from the other children with disabilities?
<i>Daniel R.R. v. Board of Education</i>	<i>Daniel RR Two Prong Test-</i> Can education in the classroom be achieved satisfactorily with supplemental aids and services? If the student is placed in a more restrictive placement, is the student integrated to the maximum degree possible?
<i>Oberti v. Board of Education of the Borough of Clementon School Districts</i>	Inclusive programming offers substantial benefits for all students and the community. Inclusion is a right, not a privilege for selected few. Success in separate settings does not negate success in integrated settings.
<i>Sacramento City Unified School Districts v. Rachel H.</i>	<i>Rachel H. Four Factor Test-</i> How do the educational benefits of full-time placement in a regular classroom with supplementary aids and services compare with special education placement? What are the nonacademic benefits of such a placement? What effect does the student with disabilities have on the regular classroom teacher and children? What are the associated costs?
<i>Hartmann v. Loudoun County Board of Education</i>	Inclusion is not necessary if a student with a disability would not receive any benefit from such a placement, or the student’s presence is a disruptive force.

IDEA and LRE

As illustrated by the previous court cases, school districts have long since had the challenge of interpreting and putting into practice the arguably ambiguous laws pertaining to students with disabilities. Many times IEP teams are unclear as to the criteria needed to place a student in a more restrictive setting and their beliefs regarding the criteria may be more different than they are similar (Hallenbeck, 1994). With that, compliance with the principle of LRE is of paramount importance with regard to the disproportionate placement of minorities in special education. Once minority students are identified for special education placement, they are more likely to be placed in more segregated settings than white students with the same disability (Cartledge, Singh & Gibson, 2008). Serwatka, Deering, and Grant (1995) also note that African American students, particularly in the special education programs of EMH and SLD, are placed in more segregated settings at a higher rate than their peers. Skiba et al., (2006) found similar results when disaggregating state level data for the state of Indiana. They found that when looking at all special education students, African American students were underrepresented in the general education classroom (defined as removal of less than 20% of the day) and overrepresented in more restrictive settings (defined as removal greater than 60% of the day). A study conducted by De Valenzuela, Copeland, Huaquing Qi, and Park (2006), found that African American, Hispanic, Native American and ELL students have a greater chance of being placed in more segregated settings. More specifically, ELL students had an odds ratio of 1.74, Native Americans 1.67, African Americans 1.58, and Hispanics 1.51.

Defining LRE

The passage of P.L. 94-142, the Education for All Handicapped Children Act (EAHCA), was the first of its kind to explicitly express the principles of normalization and LRE (Winzer, 1993). However, over the years there has been confusion over the meaning of LRE (Champagne, 1993; Yell, 1995; Yell & Katsiyannis, 2004). Beginning with the passage of EAHCA through the current reauthorization of IDEA, the term LRE has not been explicitly defined by law and debates still abound as to the specifics; yet LRE continues to be a priority of IDEA (Champagne, 1993; Etscheidt, 2006; Rueda, Gallego & Moll; 2000).

Section 612(a)(5)(A) of IDEA states:

“In general.—To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only with the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.”

Given that the primary theme of IDEA is individualization; operationalizing and giving general rules to this concept has proven difficult (Champagn, 1993). Yell (1995) defined LRE as “...a principle stating that students with disabilities are to be educated in settings as close to regular classes as appropriate for the child” (p. 193). Rueda et al. (2000) proposed a more expanded view of LRE through a sociocultural framework. The traditional medical model approach views competence or incompetence as a characteristic that is innate with the individual. Conversely, the sociocultural perspective is interested in how the basic social organization of a given context affects the participation and competence of a student. They contend that the physical setting, in and of itself, is inadequate when determining the most appropriate

educational placement. When considering placement, Rueda and colleagues suggest that rather than the unit of analysis being the individual, it should be the individual in interaction with others in a specific activity setting. They define activity setting as the, "...who, what, when, where, why, and how of the routines that constitute everyday life" (Rueda et al., 2000, p. 71).

Taylor (2004) contends that it is the lack of specificity inherent in the principle of LRE that has given it such appeal among professionals and which allows people to define it differently. He proposes defining LRE as follows:

"Services for people with developmental disabilities should be designed according to a range of program options varying in terms of restrictiveness, normalization, independence, and integration with a presumption in favor of environments that are least restrictive and most normalized, independent, and integrated" (Taylor, 2004, p. 222).

Although ambiguity abounds as to how districts are to carry out and define LRE, the legislation is clear that (1) students with disabilities are to be educated with their non-disabled peers, and (2) schools must provide supplementary aids and additional services in the regular classroom in an effort to achieve the least restrictive environment. Only after the school has exhausted these efforts and the student is unable to achieve satisfactorily can a more restrictive placement be considered.

Educational Placement Recommendations

In order to maintain compliance with the LRE mandate, IEP teams would be prudent to consider a number of recommendations to assist them when making placement decisions. One such recommendation is that all placement decisions should be based on the individual needs of the student. With that, these decisions cannot be based simply on the student's disability or where the team believes that special education should occur (Yell, Katsiyannis, Ryan, McDuffie

& Mattocks, 2008). The IEP team can use a number of resources to aid in this process, such as teacher recommendations, aptitude tests, achievement tests, physical condition of the student and adaptive behavior (Yell & Katsiyannis, 2004).

Next, IEP teams should make placement decisions in accordance with the least restrictive environment principle as a guide. That is, all disabled students have the right to be educated with non-disabled students and schools must implement the use of supplementary aids and services prior to considering a more restrictive setting (Yell et al., 2008; Rozalski, Stewart & Miller, 2010). Supplementary aids and services may be, but are not limited to, resource rooms, behavior management plans, one-on-one paraprofessional, assistive technology, and staff in-service training (Yell & Katsiyannis, 2004). Etscheidt and Bartlett (1999) proposed a four step process when IEP teams are taking into consideration supplementary aids and services. The first proposed step is to review the child's IEP. A thorough review of the annual goals and objectives should reveal that they are designed to aid the student in participating in and progressing through the regular curriculum. Second, the many dimensions of the classroom need to be considered. The authors offer the physical dimension (e.g., mobility, room arrangement, and seating), the instructional dimension (e.g., lesson planning and delivery, methodology, and evaluation), the social-behavioral dimension (student behavior), and the collaborative dimension (personnel factors) as relative areas that should be assessed prior to the implementation of additional aids and services. Next, Etscheidt and Bartlett (1999) recommend that the IEP document the process used and factors considered. The final step includes the IEP team determining the method, frequency and personnel responsible for data collection. The progress monitoring

component can many times be done through monitoring the IEP goals and objectives via behavioral observations and artifacts (Etscheidt & Bartlett, 1999).

Next, it is recommended that districts have available to them a continuum of placements when teams are making placement decisions to ensure that the student will be placed in the most appropriate and least restrictive environment (Champagne, 1993; Rozalski et al., 2010; Yell & Katsiyannis, 2004; Yell et al., 2008). Restrictiveness is determined by the amount of time that a student spends out of the regular classroom without access to the general education curriculum. For example, a student that spends 60% of the day in a special class, or non-integrated setting, is in a more restrictive setting than a student who spends 60% of the day in a regular education classroom with access to the regular education curriculum (Rozalski et al., 2010). Champagne (1993) offers a sequential approach to the continuum of alternative placements. He suggests that districts use a model in which placements are considered from least restrictive to most restrictive. Alternative placements may include special classes, alternative schools, home instruction, and hospital/institutions (Champagne, 1993; Rozalski et al., 2010; Taylor, 2004).

Champagne (1993) also suggests that school districts use a four step model when making placement decisions. First, the principle of LRE states that placement decisions are to be made based upon the student's educational needs. With that, the IEP team should first develop an appropriate educational program. This is done through the use of measurable goals and objectives on the students IEP. Second, after the educational program is developed the IEP team may then begin to examine placement options. Champagne (1993) suggests considering these placement options with the addition of supplementary aids and services in an effort to achieve

the least restrictive environment. Third, the team should consider each placement one at a time in a sequential order from least to most restrictive. Finally, after the primary placement is determined, the team should continue to explore options for integration throughout the day, including non-academic times (e.g., regular school bus, lunch, and recess times).

The laws allow IEP teams to consider the student's behavior with making placement decisions. If a student's behavior is so disruptive in the general education classroom that it is interfering with his or her learning or other students learning, then the placement may not be appropriate (Yell, 1995; Yell & Katsiyannis, 2004). As illustrated in *Hartmann v. Loudoun County* (1997), the court determined that more restrictive placements may be appropriate if the student's behavior is a disruptive force that interferes with the learning of self or others. With that, disruptive behavior should be considered when making placement decisions (Yell, 1995; Yell & Katsiyannis, 2004; Yell, Katsiyannis, et al., 2008). In such cases, Katsiyannis (2008) suggests that the IEP team include behavioral goals and objectives in the IEP and implement behavioral strategies and services.

Finally, not only are there legal considerations when the IEP team is contemplating the placement for special education students, but they should also consider the social/emotional impact. Special education students report feelings of embarrassment, worthlessness and low self-esteem when placed in a self-contained classroom due to behavioral reasons. On the contrary, they report feeling normal when they are part of the regular school environment, and are welcomed by regular education counterparts without bias (Jayne, 1991; Roberts & Teigland, 2008). Dunn (1968) noted, "...we cannot ignore the evidence that removing a handicapped child

from the regular grades for special education probably contributes significantly to his feelings of inferiority and problems of acceptance” (p. 9). Although the social/emotional component cannot be the primary purpose for mainstreaming a student, non-academic considerations should be part of the decision making process as well (*Rachel H. v. Sacramento City Unified School District*, 1994).

Summary

The overrepresentation of minority students in ESE programs was first noted in professional literature by Lloyd Dunn (1968) and has been well documented in literature over the past 40 years (Chinn & Hughes, 1987; Donovan & Cross, 2002; Dunn, 1968; Eitle, 2002; Finn, 1983; Horner et al., 1987; Parish, 2002; Skiba et al., 2006). With that, Hispanic representation in ESE programs has been less well documented and proven to vary by region, state, district, school and disability group (Donovan & Cross, 2002). Although minority overrepresentation has been clearly established, there are a plethora of factors that may contribute to this issue and they have produced inconsistent findings in the research. The literature has attempted to conceptualize overrepresentation through the study of sociodemographic factors (Artiles, 1998; Artiles et al., 2008; Coutinho et al., 2002; Finn, 1982; Hosp & Reschly, 2004; Skiba et al., 2005), sociopolitical factors (Artiles et al., 2010; Eitle, 2002; Patton, 1998; Waitoller et al., 2010), and through the study of professional practices (Kerns et al., 2005; Knotek, 2003; MacMillan et al., 1996; Tobias et al., 1982; Waitoller et al., 2010).

The overrepresentation of minority students in ESE has also resulted in a number of court cases that have, directly or indirectly, changed the manner in which students are assessed and

placed in ESE programs (*Diana v. California State Board of Education*, 1970; *Guadalupe v Tempe*, 1978; *Larry P. v. Riles*, 1972; *PACE v. Harmon*, 1980; *S-I v. Turlington*, 1986). The results of these cases have also influenced changes in legislation that has sought to minimize discriminatory practices in assessing and placing students in ESE. Although decisions have been split, the courts made it clear that school districts owed students equal protection of the law without discrimination on the basis of disability. In many instances, these decisions have helped pave the way for Congress to enact legislation that would fill loopholes and subsidize funding (Martin, Martin & Terman, 1996).

Once students are identified and placed into an ESE program, IDEA mandates that they are to be educated in the Least Restrictive Environment. Research has shown that once minority students are identified as ESE, they are more likely to be placed in a more segregated educational setting than white students (Cartledge et al., 2008; De Valenzuela et al., 2006; Serwatka et al., 1995; Skiba et al., 2006). With that, school districts have had difficulties in interpreting and defining this inherently ambiguous mandate. Although IDEA does not prescribe exactly how districts are to carry out and define LRE, the legislation is clear that only after the school has exhausted these efforts and the student is unable to achieve satisfactorily can a more restrictive placement be considered.

This study will build upon the limited body of literature on Hispanic disproportionate representation by examining district level data for this demographic for the state of Florida. By examining the high incidence categories, this research study will help to gain a better understanding of the representation patterns of Hispanic students in these ESE categories. This

study will also examine the representation patterns of Hispanic students across education settings in the state of Florida.

CHAPTER THREE: METHODOLOGY

Introduction

The primary goal of this study was to determine if a disproportionate representation of Hispanic students exists in the high incidence categories and more restrictive educational placements in the 67 counties in the state of Florida. Three separate measures were utilized to make this determination. The methodology employed to test the research questions is discussed in this chapter. This chapter is divided into the following sections: (a) statement of the problem, (b) research questions, (c) data source, and (d) measurement.

Statement of Problem

The incorrect placement of minority students can take the form of overrepresentation, underrepresentation and misidentification. Overrepresentation occurs when the percentage of minority students in ESE programs is greater than the percentage of minority students in the student population as a whole. Conversely, underrepresentation occurs when students with disabilities are not identified and therefore do not receive subsequent services. Finally, misidentification occurs when students with a disability are identified as having a disability they do not have and subsequently placed in an inappropriate ESE program (Guiberson, 2009; Meyer & Patton, 2001). Since Dunn (1968) to present, research into minority and African-American male overrepresentation in ESE has been well established at the state and national levels (Allen, 2010; Artiles & Trent, 1994; Chinn & Hughes, 1987; Coutinho & Oswald, 2000; Dunn, 1968; Gentry, 2009; Ortiz & Yates 1983, Rotsenberg, 2010).

To date, little research has focused on Hispanic students' representation in ESE programs. Some researchers have concluded that although an analysis of national data indicates that Hispanic students are not overrepresented in ESE (Finn, 1982), overrepresentation varies from the state to the district levels and between and within states (Artiles, Rueda, Salazar, & Higuera, 2005; Meyer & Patton, 2001; Waitoller, Artiles, & Cheney, 2010). For example, Wright and Cruz (1983) found that in the state of California, Hispanic students were overrepresented in one fourth of the 96 Special Education Local Planning Areas in the ESE categories of Intellectual Impairment (then referred to as mental retardation or MR), Speech and Language programs, and Specific Learning Disability (SLD). With that, more scrutiny of data at the state and district level is needed.

Research Questions

1. How does the representation of Hispanic students compare to all other race/ethnicities in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?
2. How does the representation of Hispanic students, already identified for ESE services, compare to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers \geq 80% of the week, 40-80% of the week, $<$ 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Hypothesis

Hypothesis 1: There is no statistically significant disproportionality of Hispanic students in the ESE categories of Intellectual Disabilities, Emotional/Behavioral Disabilities, and the Specific Learning Disabled in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Hypothesis 2: There is no statistically significant disproportionality of Hispanic students, already identified for ESE services, compared to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers \geq 80% of the week, 40-80% of the week, < 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Data Source

This study utilized publically available data from the Florida Department of Education (FLDOE) for the 2011-2012 school year, and the U.S. Department of Education's (USDOE) Thirtieth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, Parts B and C. The data was obtained through each department's respective website and contains the following information:

1. Total Student Enrollment in the State of Florida,
2. Total Student Enrollment by Race/Ethnicity in the State of Florida,
3. Total Membership in Exceptional Student Education by Category,
4. Membership in Programs for Exceptional Student by Race/Ethnicity,
5. Educational Environment by ESE Category,

6. Educational Environment by Race/Ethnicity.

Measurement

Although there is little disagreement that disproportionality exists, researchers have yet to agree upon one method in calculating disproportionality (Kingler et al., 2005). With that, researchers have used a variety of methods in order to determine the extent of the issue. The first method was offered by Dunn (1968) when he used his “best judgment” to conclude that 60-80% of ESE students were from “low status backgrounds” (p. 6). Since Dunn (1968), researchers have identified three primary methods of analyzing disproportionality: The composition index (CI), the risk index (RI) and the risk ratio (RR) (Skiba et al., 2006). These three indices were calculated for the 67 districts in the state of Florida. In order to answer the research questions regarding disproportionality in ESE category and educational placement for Hispanic students, data was computed for the high incidence categories. These categories are: Specific Learning Disabled (SLD), Intellectual Disabilities (ID), and Emotional/Behavioral Disabilities (EBD; FLDOE, 2010). In order to determine if disproportionality exists in educational placements, data was computed for students that are placed with non-disabled peers \geq 80% of the week, 40-80% of the week, <40% of the week and in other separate environments. The Florida Department of Education defines other separate environments as separate day schools, residential facilities, and homebound/hospital placements. The percentage parameters defined above and the definition of *Other Separate Environment* have been adopted by the Florida Department of Education for this research study.

Given that the composition index, risk index, and the risk ratio reports the data differently and each answers a different question, this research study utilized all three indices in order to obtain an accurate and comprehensive analysis of the research questions (Bollmer, Bethel, Garrison-Morgan, & Brauen, 2007). The following three sections will give a brief introduction to the three indices used in this research.

Composition Index

The composition index answers the question, “What percent of students in a specific ESE category or a particular educational environment are from a specific racial/ethnic group?” In order to determine disproportionality, the proportion of the racial/ethnic group in the ESE category is compared to the proportion of the same racial/ethnic group in the total student enrollment (Bollmer et al., 2007). A widely accepted criterion for assessing disproportionality using the composition index was established by Chinn and Hughes (1997) (Skiba et al., 2006). Chinn and Hughes (1987) placed a 10% bandwidth around the general population for the racial/ethnic group being assessed. If the racial/ethnic group within the ESE category falls within the 10% bandwidth, plus or minus, the enrollment rate is considered proportional (Hosp & Reschly, 2003; Skiba et al. 2006). For example, in a study conducted by Chinn & Hughe (1987), the researchers report that Hispanic enrollment accounted for 6.75% of the total student enrollment nationally. Based upon their 10% criterion, a range from 6.08% to 7.43% would be considered proportional representation. For that year, Hispanic students represented 7.54% of the total enrollment in the Learning Disabled category. According to the 10% rule, Hispanic students were overrepresented in that ESE category in 1987 (Chinn and Hughes, 1987). For

purposes of this research, the 10% bandwidth criterion will be utilized in order to determine proportionality. As is recommended by Westat (2004), the proportion for general Hispanic enrollment will be calculated using all other races. The equation for the composition index is as follows:

$$\text{Composition Index} = \frac{\text{Number of students from racial group in disability or educational environment}}{\text{Number of students in disability or educational environment}} (100)$$

Risk Index

The risk index compares the probability of students from one racial/ethnic background being identified in a specific ESE category to that of a comparison group (Bollman, 2007; De Valenzuela, Copeland, Qi & Park, 2006). The risk specifically answers the question, “What percentage of students from a specific racial/ethnic group receive special education and related services for a particular disability” (Westat, 2004, p. 8). It is calculated by dividing the number of students of a racial/ethnic group in an ESE category by the total enrollment of that racial/ethnic group at the level the data is being analyzed (e.g., national, state, district, or school level).

When applying the risk index to the educational environment, the denominator, or the comparison group, of the equation becomes students with disabilities, rather than total student enrollment. This change in the denominator is necessary given that only students with disabilities receive special education and related services in various educational environments. The equation for risk index for disability category is as follows:

$$\text{Risk Index} = \frac{\text{Number of students from racial group in disability category}}{\text{Number of enrolled students from racial group}} (100)$$

The equation for risk index for educational environment is as follows:

$$\text{Risk Index} = \frac{\text{Number of students from racial group in educational environment category}}{\text{Number of students with disabilities from racial group}} (100)$$

Risk Ratio

The risk ratio, also referred to as odds ratio in some literature, compares one racial/ethnic group's risk of being identified for ESE services to the risk of a comparison group (Coutinho & Oswald, 2000). The comparison group can either be *All Other Students* or *White Students* only. Some researchers prefer to use only white students because they make of the majority racial/ethnic group and "public perception of discriminatory behavior is generally based on a comparison to practices with respect to individuals who are white" (Coutinho & Oswald, 2000, p. 138). Per the recommendation of Westat (2004), this research study used *All Other Students* when calculating all risk ratios. A risk ratio of 1.0 indicates equal risk between the racial/ethnic group and the comparison group. A risk ratio above 1.0 indicates greater risk and a risk ratio below 1.0 indicates less risk than that of the comparison group. The equation for risk ratio for disability category is as follows:

$$\text{Risk Ratio} = \frac{\text{Risk for racial group for disability category}}{\text{Risk for comparison group for disability category}}$$

The equation for risk ratio for educational environment is as follows:

$$\text{Risk Ratio} = \frac{\text{Risk for racial group for educational environment category}}{\text{Risk for comparison group for educational environment category}}$$

Summary

Chapter 3 revisited the statement of the problem, research questions and discussed the methodologies employed for this study. This study utilized publically accessible data from the Florida Department of Education and the U.S. Department of Education for the 2011-2012 school year. The data included total student population by race/ethnicity, ESE population by race/ethnicity and exceptionality, and educational environment by race/ethnicity and exceptionality for the 67 counties in the state of Florida. The composition index, risk index, and risk ratio were the three primary statistical methods used to calculate overrepresentation and underrepresentation of Hispanic students. Results of the data analysis are presented in the following chapter.

CHAPTER FOUR: FINDINGS

Introduction

This study intended to investigate Hispanic disproportionality in the high incidence ESE categories of Intellectual Disabilities, Emotional/Behavioral Disabilities, and Specific Learning Disabilities, and Hispanic representation in educational environments. The purpose of this study was achieved by examining the representation patterns of Hispanic students as compared to all other students (e.g., White, Black, American Indian/Alaskan Native, Asian, and Native Hawaiian or other Pacific Islander) in the 67 school districts in the state of Florida. The following chapter presents the results of the data analysis for the two stated research questions.

Descriptive Statistics

This study utilized publically available data from the Florida Department of Education (FLDOE) for the 2011-2012 school year, and the U.S. Department of Education's Thirtieth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, Parts B and C. The unit of analysis for this study consisted of Florida's 67 school districts. The minimum, maximum, mean, and standard deviation was calculated for each race/ethnicity for the general enrollment and the three high incidence ESE categories being analyzed in this research. Tables 6-10 display the descriptive statistics for all of the tested variables.

As evidenced in Tables 5 and 6, the state of Florida has great variability from district to district as it relates to demographics. Dade County is the largest school district in Florida with 350, 227 students, while Jefferson County is the smallest with 1,029 students. The greatest variability exists with Hispanic students ranging from a minimum of 49 students in Gulf County,

and a maximum of 230, 860 students in Dade County and a SD of 31,326.11. Although Gulf County contains the fewest Hispanic students, it is only the fourth lowest proportionally at 2.51%, while Dade County contains the highest number of Hispanic students proportionally at 65.92% of their total student enrollment. Descriptive statistics for the three high incidence categories is presented in Tables 7-9.

Table 5.

Total Number and Percentage of General Enrollment and High Incidence Enrollment for the 2011-2012 School Year

	White		Black		Hispanic		^a Other		Total Membership
	#	%	#	%	#	%	#	%	
Gen Enr	1,127,113	42.4	610,003	22.95	760,773	28.62	160,311	6.03	2,658,200
ID	9,600	35.6	10,789	40.1	5,981	22.2	525	1.9	26,896
EBD	8,139	40.5	8,275	41.2	3,523	17.5	124	0.6	20,063
SLD	56,312	42.2	34,427	25.8	42,759	32	1,745	1.3	133,245

Note. ID = Intellectual Disability; EBD = Emotional/Behavioral Disability; SLD = Specific Learning Disabled.
^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 6.

Descriptive Statistics for General Enrollment for 2011-2012 School Year

	N	Min.	Max.	M	SD
Hisp	67	49	230,860	11,354.82	31,326.11
Wh	67	227	75,907	16,822.58	18,962.09
Bk	67	93	101,064	9,104.52	19,005.53
^a Other	67	20	16,862	2,392.70	3,687.28

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 7.

Descriptive Statistics for EBD Enrollment for 2011-2012 School Year

	N	Min.	Max.	M	SD
Hisp	67	0	1464	52.58	183.43
Wh	67	1	561	121.48	141.81
Bk	67	1	1558	123.51	243.77
^a Other	67	0	72	11.28	15.70

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 8.

Descriptive Statistics for ID Enrollment for 2011-2012 School Year

	N	Min.	Max.	M	SD
Hisp	67	0	1289	89.27	197.39
Wh	67	4	657	143.28	160.28
Bk	67	1	1340	161.03	291.04
^a Other	67	0	99	16.67	24.16

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 9.

Descriptive Statistics for SLD Enrollment for 2011-2012 School Year

	N	Min.	Max.	M	SD
Hisp	67	0	11922	638.12	1682.37
Wh	67	9	4380	840.48	951.12
Bk	67	1	4354	513.84	926.14
^a Other	67	0	505	79.55	112.66

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Testing the Research Questions

Research Question #1

How does the representation of Hispanic students compare to all other race/ethnicities in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

To begin, within each of the three ESE categories of interest, two variables were prepared: one variable reflected the number of Hispanic students receiving services in the category; the other variable reflected the number of students of all other ethnicities receiving services in the category, created by simply summing students across all other ethnicity groups. The latter was called the “comparison group.” In addition, population variables were created in the same fashion.

The three indices of interest were calculated as follows:

- Composition Index: # of Hispanic students in specific ESE category/# of Comparison students in specific ESE category
- Risk Index (Hispanic): # of Hispanic students in specific ESE category/# of Hispanic students in **entire population** (*all students in district, regardless of ESE status*)
- Risk Index (Comparison): # of Comparison students in specific ESE category/# of Comparison students in **entire population** (*all students in district, regardless of ESE status*)
- Risk Ratio: Risk Index (Hispanic)/Risk Index (Comparison)

Composition Index

Composition indices (CI) were explored from the perspective of underrepresentation, equal representation, or overrepresentation of Hispanic students within a specific ESE subgroup. This three-level categorization was determined by calculating a 10% bandwidth, or a lower and upper bound, around the representation of Hispanic students within the general (*ESE and non-ESE*) population. If the CI falls within that 10% bandwidth, then Hispanic students are considered to be proportionally represented within that subgroup as compared to the overall makeup of the district's Hispanic population. Falling below the bandwidth means underrepresentation; falling above the bandwidth means overrepresentation.

Highlighting the individual districts with the highest and lowest CI values does not serve any great comparative purpose, as every district's target range will vary according to their proportion of Hispanic students in the district. Therefore, "high" or "low" does not necessarily mean bad or good on its own. However, the percentage above or below the 10% bandwidth, does give an indication as to the severity of over or underrepresentation for that particular district.

Given the number of districts that were found to have significant disproportionality, only those with the notable CIs will be discussed. Tables 10-12 illustrate the top three districts with the highest CIs for each of the three high incidence categories. Distribution of the districts within the various representation categories are displayed in Figure 1. As indicated, the CI for Hispanic students in the SLD category revealed the highest number of districts with overrepresentation with 16, and the lowest number of districts with underrepresentation at 20

districts. In other words, a total of 36 counties fall outside of the 10% bandwidth indicating either overrepresentation or underrepresentation for this category. For example, Liberty County has a CI of 13.6 and a 10% range of 6.4-7.9, Baker County has a CI of 5 with a range of 1.7-2.1, and Osceola County has a CI of 63 with a range of 49.5-60.4. On the other hand, the EBD category contained the smallest number of districts with overrepresentation of Hispanic students with 5 districts, and the largest number of underrepresentation at 60 districts. As illustrated in Table 10, the three counties with the greatest CI ranges are St. Johns with a CI of 8.6, and a range of 5.9-7.2, Baker County with a CI of 3.1, and a range of 1.7-2.1, and Nassau County with a CI of 5.7, and a range of 4.3-5.2.

Although the SLD category contained the most districts with overrepresentation, the ID category revealed the districts with the greatest percentages above the 10% bandwidth, and contained the most districts that fall outside of the 10% range for both over- and underrepresentation, with 49 districts. For example, Lafayette County has an 18.2% Hispanic general enrollment giving it an upper bound of 20%. With a CI of 33.3%, Lafayette County is 13.3% above the upper bound. The next highest CIs were found in De Soto County with a CI of 50, and a range of 35.9-43.9, and Monroe County with a CI of 40.2, and a 10% range of 29.3-35.8. As illustrated in Figure 1, 11 districts are considered as having overrepresentation of Hispanic students in the ID category. See Appendix B for disproportion indices for all school districts.

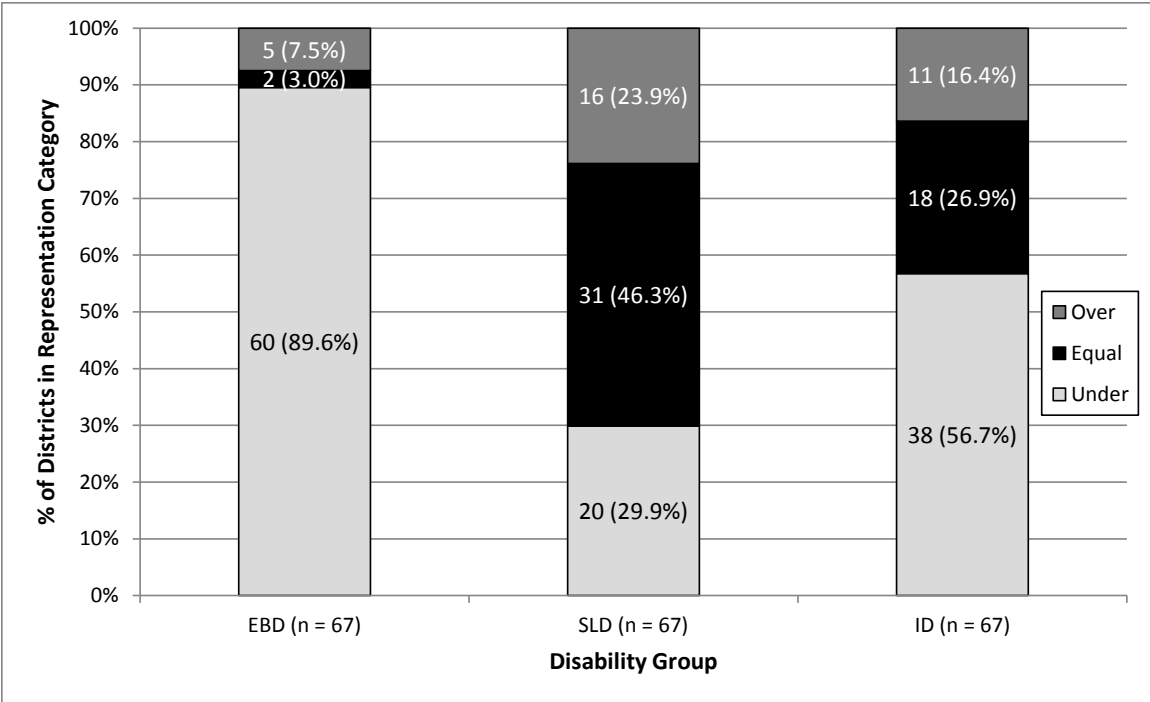


Figure 1. Proportions of districts in each representation category as determined by Hispanic composition index for selected ESE subgroups.

Table 10.

Comparison of School Districts with Highest Composition Index and Risk Ratio for Hispanic Students in the EBD Category

District	CI	10% Range for CI	RR	Percent of Hispanic Students Enrolled
Highest CI				
St. Johns	8.6	5.9-7.2	1.34	6.5
Baker	3.1	1.7-2.1	1.68	1.9
Nassau	5.7	4.3-5.2	1.2	4.7
Highest RR				
Baker	3.1	1.7-2.1	1.68	1.9
St. Johns	8.6	5.9-7.2	1.34	6.5
Nassau	5.7	4.3-5.2	1.2	4.7

Note: The following counties had risk ratios of zero due to not having any Hispanic students in this category: Calhoun, Dixie, Franklin, Gilchrist, Glades, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Liberty, Union, Wakulla, and Walton.

Table 11.

Comparison of Districts with the Highest Composition Index and Risk Ratio for Hispanic Students in the SLD Category

District	CI	10% Range for CI	RR	Percent of Hispanic Students Enrolled
Highest CI				
Liberty	13.6	6.4-7.9	2.04	7.2
Baker	5	1.7-2.1	2.72	1.9
Osceola	63	49.5-60.4	1.4	54.9
Highest RR				
Baker	5	1.7-2.1	2.72	1.9
Liberty	13.6	6.4-7.9	2.04	7.2
Union	6.1	3.5-4.2	1.62	3.9

Note: Jefferson County had a risk ratio of zero due to not having any Hispanic students in this category.

Table 12.

Comparison of Districts with the Highest Composition Index and Risk Ratio for Hispanic Students in the ID Category

District	CI	10% Range for CI	RR	Percent of Hispanic Students Enrolled
	Highest CI			
Lafayette	33.3	16.4-20	2.25	18.2
De Soto	50	35.9-43.9	1.51	39.9
Monroe	40.2	29.3-35.8	1.39	32.6
	Highest RR			
Lafayette	33.3	16.4-20	2.25	18.2
Washington	5.1	2.5-3	1.93	2.7
Union	6.7	3.5-4.2	1.78	3.9

Note: The following counties had risk ratios of zero due to not having any Hispanic students in this category: Dixie, Franklin, Gilchrist, Gulf, Jefferson, and Wakulla.

Risk Index

It should be noted that although the risk indices were calculated, they serve no real comparative purpose; however, they are essential to obtaining the risk ratio. Therefore, they will not be isolated for analytical discussion. Please see Appendix B for RI scores.

Risk Ratio

Risk ratios (RR) were explored from the perspective of underrepresentation, equal representation, or overrepresentation of Hispanic students within a specific ESE subgroup. This

three-level categorization was determined by the rule such that a value of < 0.3 means underrepresentation, > 1.5 means overrepresentation, and the values in between show equal representation. The end result, theoretically speaking, is designed to be similar to that of the CI, but serves as a different means by which to calculate proportionality and representation.

Distribution of the districts within the various representation categories are displayed in Figure 2. Furthermore, since RR is a standardized value and can be fairly compared among districts, the three highest RR values among districts are highlighted in Tables 10-12 above. It should be noted that some districts did not have any Hispanic students at all in the selected ESE categories (therefore yielding a numerator of zero for the RR); these districts are listed in the footnote. For purposes of interpretation, it should also be noted, that the RR value indicates how many times more likely the test group (Hispanic students) will be placed in an ESE category as compared to the comparison group.

An analysis of the districts RR's revealed only one county, Baker (RR=1.68), with overrepresentation, and 25 counties with underrepresentation in the EBD category. Other notable counties in this category are St. Johns (RR=1.34) and Nassau Counties (RR=1.2). In the SLD category, four districts, Baker (RR=2.72), Liberty (RR=2.04), Taylor (RR=1.57) and Union (RR=1.62) contained Hispanic overrepresentation and one county had an underrepresentation.

In the ID category, five districts, Lafayette (R=2.2), Washington (R=1.93), Union (R=1.78), Bradford (R=1.57), and De Soto (R=1.5) indicated overrepresentation, while eight districts had an underrepresentation of Hispanic students in this category. It is interesting to note that substantially fewer districts were indicated as having overrepresentation utilizing the RR

versus the CI. The RR also shows a much larger percentage of districts having equal representation than that of the CI.

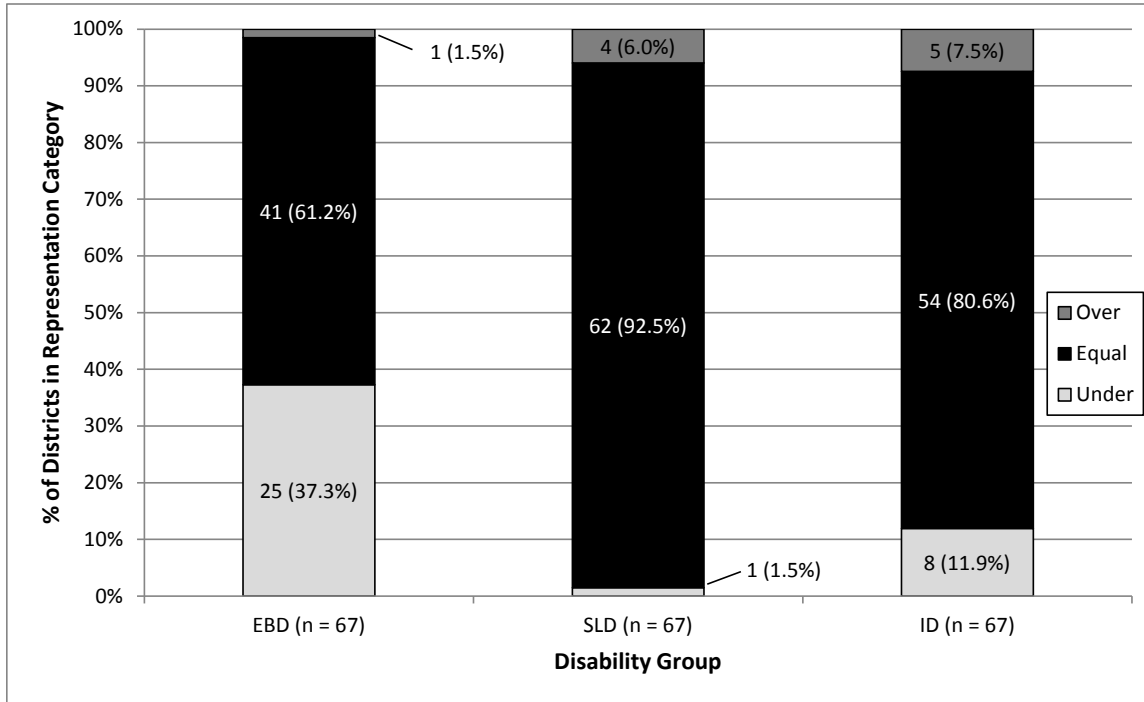


Figure 2. Proportions of districts in each representation category as determined by Hispanic versus comparison risk ratio for selected ESE subgroups.

Research Question #2

How does the representation of Hispanic students, already identified for ESE services, compare to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers > 80% of the week, 40-80% of the week, < 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Variables were prepared just as they were for Research Question #1; however, read the subsequent index calculation descriptions below to understand the difference in population.

The three indices of interest were calculated as follows:

- Composition Index: # of Hispanic students in specific ESE setting/# of Comparison students in specific ESE setting
- Risk Index (Hispanic): # of Hispanic students in specific ESE setting/# of Hispanic students in **ESE Population Only**
- Risk Index (Comparison): # of Comparison students in specific ESE setting/# of Comparison students in **ESE Population Only**
- Risk Ratio: Risk Index (Hispanic)/Risk Index (Comparison)

Two additional analytical notes:

- On the reports used to compile these metrics, Lake Wales was listed as district number 53D. Since Lake Wales is part of Polk County, their observations were absorbed into the rest of Polk County.

- Some of the less populated minority categories (e.g., American Indian/Alaskan Native, Asian, Multiracial, and Native Hawaiian) did not have any data to populate the various ESE categories. To avoid a situation where nearly every district would have to be eliminated, these "fewer than 10" categories were treated as zeroes. This treatment of the data is not believed to cause any substantial adverse effects on the results.

Composition Index

Composition indices (CI) were explored from the perspective of underrepresentation, equal representation, or overrepresentation of Hispanic students within a specific ESE setting. This three-level categorization was determined by calculating a 10% bandwidth around the representation of Hispanic students within the **ESE Only** population. If the CI falls within that 10% bandwidth, then Hispanic students are considered to be proportionally represented within that subgroup as compared to the overall makeup of the district's Hispanic **ESE Only** population. Falling below the bandwidth means underrepresentation; falling above the bandwidth means overrepresentation.

Distribution of the districts within the various representation categories are displayed in Figure 3. Highlighting the individual districts with the highest and lowest CI values does not serve any great comparative purpose, as every district's target range will vary according to their proportion of Hispanic students in the district. Therefore, "high" or "low" does not necessarily mean bad or good on its own. However, the percentage above or below the 10% bandwidth, does give an indication as to the severity of over or underrepresentation for that particular district.

You will notice that the sample sizes vary from category to category. Removal of a district could occur for the following reasons:

- No Hispanic ESE students at all (e.g., it is impossible to draw a 10% bandwidth around zero)
- No students of either ethnicity group in the specific ESE environmental subgroup (e.g., it is unfair to draw conclusions about an empty ESE environmental group)

As indicated by the findings, ESE Hispanic students are overrepresented in four districts in the > 80% category and underrepresented in 18 school districts in the same category. In the 40-80% category, ESE Hispanic students are overrepresented in 10 districts and underrepresented in 22 districts. This category also had the greatest number of districts with overrepresentation. The < 40% category had 8 districts overrepresented and 31 districts with underrepresentation. Finally, the *Other Separate Environment* category had the fewest districts with overrepresentation with 2, and the greatest number of districts with underrepresentation at 34.

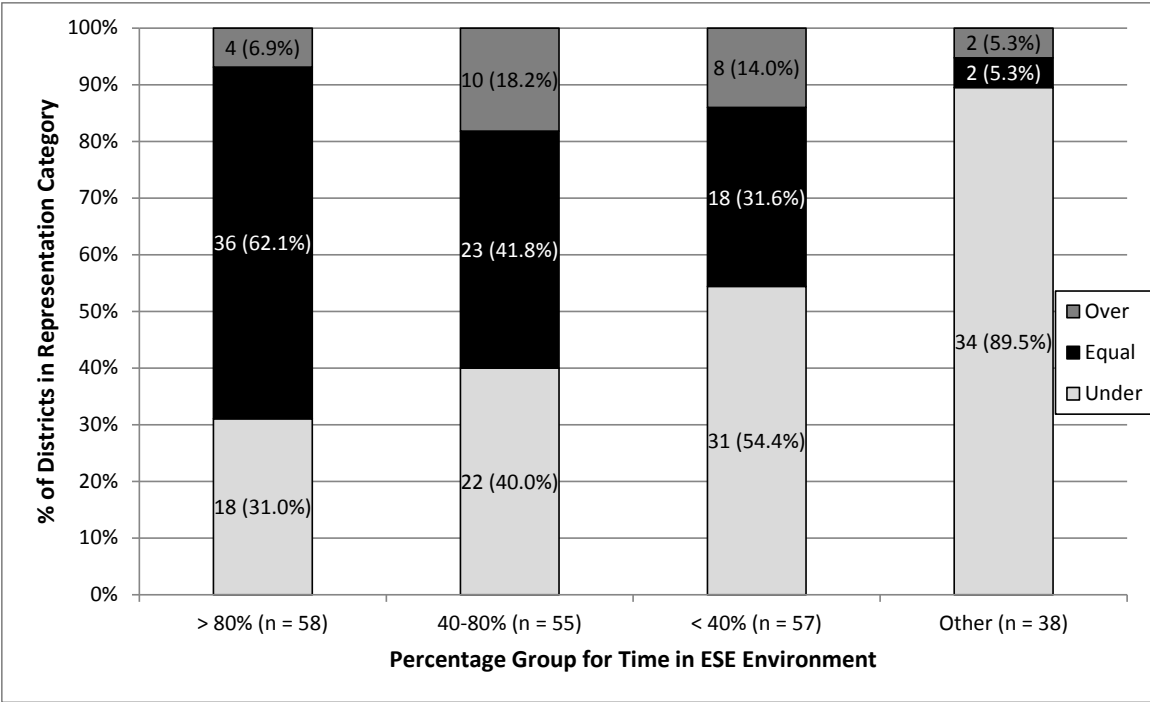


Figure 3. Proportions of districts in each representation category as determined by Hispanic composition index for selected ESE environment subgroups.

Risk Index

It should be noted that although the risk indices were calculated, they serve no real comparative purpose; however, they are essential to obtaining the risk ratio. Therefore, they will not be isolated for analytical discussion.

Risk Ratio

Risk ratios (RR) were explored from the perspective of underrepresentation, equal representation, or overrepresentation of Hispanic students within a specific ESE environment. This three-level categorization was determined by the rule such that a value of < 0.3 means underrepresentation, > 1.5 means overrepresentation, and the values in between show equal

representation. The end result, theoretically speaking, is designed to be similar to that of the CI, but serves as a different means by which to calculate proportionality and representation.

Distribution of the districts within the various representation categories are displayed in Figure 4. Furthermore, since RR is a standardized value and can be fairly compared among districts, highest RR values among districts are highlighted in Tables 13-16. It should be noted that some districts did not have any Hispanic students at all in the selected ESE environments (therefore yielding a numerator of zero for the RR); these districts are listed in the footnote.

You will notice that the sample sizes vary from category to category. Removal of a district could occur for the following reasons:

- No Hispanic ESE students at all (no risk index denominator = no risk ratio numerator)
- No students of either ethnicity group in the specific ESE environmental subgroup (e.g., it is unfair to draw conclusions about an empty ESE environmental group)

The results indicate that 3 counties were considered to have Hispanic ESE overrepresentation in the > 80% category, Lafayette County (R=1.78), Washington County (R=1.67), and Jackson County (R=1.57), while zero counties had underrepresentation. In the 40-80% category, one district, St. Johns County had an RR=1.69, and 13 districts with underrepresentation of Hispanic ESE students compared to *All Other Students*. The < 40% category had one county with overrepresentation, Martin County (RR=1.6), and 12 counties with an underrepresentation of Hispanic ESE students. Finally, the *Other Separate Environment* category had one district with overrepresentation, Osceola County (RR=1.87), and 16 school districts with underrepresentation.

Figure 4 represents a graphical illustration of the number and percentages of school districts with disproportionality, while Tables 13-16 list the five counties with the highest RR's.

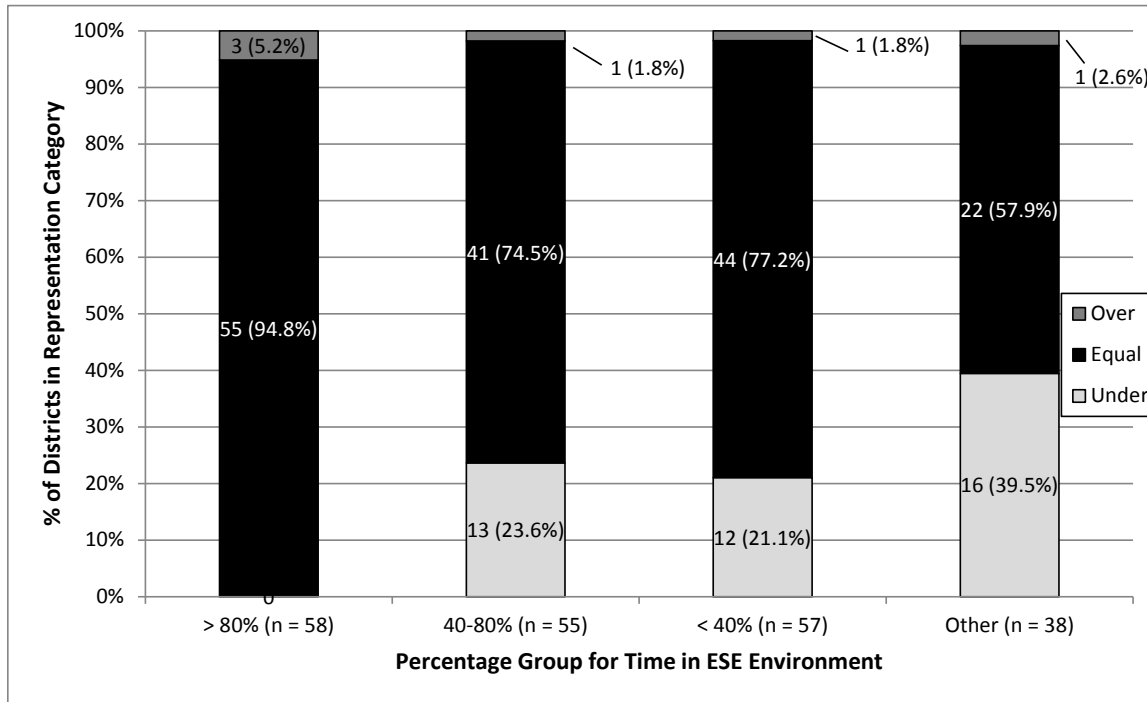


Figure 4. Proportions of districts in each representation category as determined by Hispanic versus comparison risk ratio for selected ESE environment subgroups.

Table 13.

Counties with Highest Risk Ratios, > 80% of Time with Non-Disabled Peers

County	Risk Ratio
Lafayette	1.78
Washington	1.67
Jackson	1.59
Union	1.36
Gadsden	1.27

Table 14.

Counties with Highest Risk Ratios, 40-80% of Time with Non-Disabled Peers

County	Risk Ratio
St. Johns	1.69
Martin	1.45
Okaloosa	1.40
Lake	1.35
Highlands	1.33

Note. The following counties had risk ratios of zero due to not having any Hispanic students in this category: Bradford, Calhoun, Columbia, Dixie, Gadsden, Gilchrist, Jackson, Levy, Nassau, Suwanee, Union, Walton, and Washington.

Table 15.

Counties with Highest Risk Ratios, < 40% of Time with Non-Disabled Peers

County	Risk Ratio
Martin	1.62
Citrus	1.28
Monroe	1.28
Clay	1.24
Flagler	1.24

Note. The following counties had risk ratios of zero due to not having any Hispanic students in this category: Bradford, Calhoun, Dixie, Gilchrist, Jackson, Lafayette, Levy, Suwanee, Union, Walton, and Washington.

Table 16.

Counties with Highest Risk Ratios, Other Separate Environments

County	Risk Ratio
Osceola	1.87
Citrus	1.20
Okaloosa	1.10
Putnam	0.92
Polk	0.91

Note. The following counties had risk ratios of zero due to not having any Hispanic students in this category: Alachua, Clay, Collier, Escambia, Gadsden, Indian River, Jackson, Leon, Levy, Okeechobee, Pasco, Santa Rosa, St. Johns, St. Lucie, and Sumter.

Summary

This chapter began by giving a brief introduction by discussing the overall purpose of this research and how that was achieved as well as the layout of the chapter. This was then followed by descriptive statistics in which demographic information for general enrollment and the high incidence categories was discussed and analyzed for the sample. Next, the results for each research question were addressed utilizing the composition index, risk index and risk ratio.

The following chapter will present a summary of the study, a discussion of the findings, implications for practice and recommendations for further research in this area.

CHAPTER FIVE: DISCUSSION

Introduction

The previous chapter presented an analysis of the data. The following chapter consists of a summary of the study, a discussion of the findings, implication for practice, recommendations for further research, and conclusions.

Summary of the Study

The purpose of this study was three-fold. First, this study investigated the relevant data to determine the representation patterns of Hispanic students, as compared to students of other ethnicities, in Exceptional Student Education in the 67 counties in the state of Florida for the 2010-2011 school year. Second, this study determined the representation of Hispanic students in segregated settings. Finally, given the limited research regarding Hispanic representation in ESE within the state of Florida, one of the desired outcomes is that this study would act as a catalyst for further research in this area.

To date, little research has focused on Hispanic students' representation in ESE programs. Some researchers have concluded that, although an analysis of national data indicates that Hispanic students are not overrepresented in ESE programs, others have found that overrepresentation varies from the state to the district levels and between and within states (Artiles, Rueda, Salazar, & Higareda, 2005; Finn, 1982; Meyer and Patton, 2001; Waitoller, Artiles, & Cheney, 2010). With that, more scrutiny of data at the state and district level is needed.

In order to answer the research questions regarding disproportionality in ESE category and educational placement for Hispanic students, data was computed for the high incidence categories. These categories are: Specific Learning Disabled (SLD), Intellectual Disability (ID), Emotional/Behavioral Disabilities (EBD; FLDOE, 2010). In order to determine if disproportionality exists in educational placements, data was computed for students that are placed with non-disabled peers \geq 80% of the week, 40-80% of the week, <40% of the week and in other separate environments. The Florida Department of Education defines other separate environments as separate day schools, residential facilities, and homebound/hospital placements. The percentage parameters defined above and the definition of “other separate environment” have been adopted by the Florida Department of Education for this research study.

Given that the composition index, risk index, and the risk ratio reports the data differently and each answers a different question, this research study utilized all three indices in order to obtain an accurate and comprehensive analysis of the research questions (Bollmer, Bethel, Garrison-Morgan, & Brauen, 2007). This study included two research questions and two corresponding hypothesis:

1. How does the representation of Hispanic students compare to all other race/ethnicities in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?
2. How does the representation of Hispanic students, already identified for ESE services, compare to that of all other race/ethnicities in segregated settings (e.g., with non-disabled

peers \geq 80% of the week, 40-80% of the week, $<$ 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Hypothesis

Hypothesis 1: There is no statistically significant disproportionality of Hispanic students in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Hypothesis 2: There is no statistically significant disproportionality of Hispanic students, already identified for ESE services, compared to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers \geq 80% of the week, 40-80% of the week, $<$ 40% of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio.

Discussion of the Findings

Studies have shown that Hispanic disproportionality varies depending upon the level of data being disaggregated. Data at the state and district levels has shown overrepresentation, (Artiles, Rueda, Salazar & Higuera, 2002; Ortiz & Yates, 1983; Wright & Cruz, 1983) whereas analysis of national level data commonly shows Hispanic students as underrepresented in most ESE categories (Chinn & Hughes, 1987; Finn, 1982). This study sought to build upon the current body of literature by examining Hispanic representation in the high incidence categories

and educational environments at the district level. This section presents and discusses the findings for each research question and the indices.

Research Question One

How does the representation of Hispanic students compare to all other race/ethnicities in the ESE categories of Intellectual Disabilities (ID), Emotional/Behavioral Disabilities (EBD), and the Specific Learning Disabled (SLD) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Emotional/Behavioral Disability

The results of the analysis for the composition index indicate significant disproportionality for 65 of 67 counties in the state of Florida. More specifically, five districts have an overrepresentation of Hispanic students in the EBD category, while 60 districts show underrepresentation of Hispanic students in this category as compared to all other students. The findings for the risk ratio resulted in fewer districts with significant disproportionality. However, considerably more districts still indicated underrepresentation, with only one school district showing an overrepresentation, and 25 with underrepresentation of Hispanic students as compared to *All Other Students*. These findings are consistent with those of Chinn and Hughes (1987) that found Hispanic students were underrepresented in the EBD, then SED, category while examining national level data. Wright and Santa Cruz (1983) also found that Hispanic students were underrepresented in the EBD program in California and only overrepresented in 2 of 96 Special Education Local Planning Areas.

The discrepancy in the results between these two indices illustrates the need for consensus among researchers and practitioners in determining the most appropriate measure when addressing disproportionality issues. As previously discussed, IDEA does not give direction to the states when selecting the measure and cut-off scores used when examining disproportionality. Given that, results can vary significantly depending upon the selected measure and cut-off criteria.

Specific Learning Disabled

In a study of a southwestern state, Sullivan (2011) found that ELL students (91% Hispanic) were overrepresented in all high incidence categories including SLD. Artiles et al. (2005) analyzed the placement of ELL students in 11 urban districts in California. In his study over 90% of the ELL students were Hispanic. This research revealed that ELLs showed considerable overrepresentation in SLD placement. While examining district level data, Valenzuela et al. (2006) found that Hispanic students were overrepresented in the SLD category. The data showed that Hispanic students made up 50.5% of the total student population and 55.9% of the SLD category.

The results of this research also indicate Hispanic overrepresentation in SLD. The analyses for the composition index indicate significant disproportionality in 36 of 67 school districts. The SLD category contained the largest number of districts with overrepresentation for the CI with 16, while 20 districts have an underrepresentation of Hispanic students in this ESE category. The extent of disproportionality for Hispanic students, as measured by the RR, is greater in this ESE category than in the EBD and ID programs. The data may indicate the

inappropriate placement of Hispanic students in the SLD category, given the large ELL population in the state. Additional research is needed to investigate whether ELL students are being inappropriately identified in any of the high incidence categories.

As with the previous ESE category, the risk ratio calculations resulted in considerably fewer school districts as having over and underrepresentation with four and one respectively. It is interesting to note, however, that while the CI resulted in a greater percentage of districts as having underrepresentation, the RI resulted in a greater percentage of districts as having overrepresentation. This is yet another illustration as to the importance of reaching a consensus as to the measure(s) that will be used in reporting disproportionality per IDEA.

Intellectual Disability

The composition index results indicated significant disproportionality of over and underrepresentation in 49 of the 67 school districts. The findings illustrate that 11 school districts have overrepresentation while 38 districts have an underrepresentation of Hispanic students in the ID category. As with the two previous categories, the results for the risk ratio calculations show fewer school districts has having significant disproportionality with five districts having an overrepresentation and 8 districts having underrepresentation. The extent of disproportionality for this category, as measured by the CI for districts with overrepresentation, were the highest among the three categories. Similar to the SLD category, these data may also indicate inappropriate placement of ELL students when ELL programs are not available (Finn, 1982).

The findings of this study are consistent with those of other studies of overrepresentation at the state and district levels (Artiles et al., 2005; Sullivan, 2011; Wright & Santa Cruz, 1983). For example, Finn (1982) originally found that Hispanic students were slightly underrepresented in EMR classes compared to non-minorities utilizing national level data. However, as he disaggregated state level data he discovered that the average percentage of Hispanic students exceeded that of non-minorities in 26 out of 31 states.

Research Question Two

How does the representation of Hispanic students, already identified for ESE services, compare to that of all other race/ethnicities in segregated settings (e.g., with non-disabled peers $\geq 80\%$ of the week, 40-80% of the week, $< 40\%$ of the week or other separate environment) in the 67 counties in the state of Florida, employing the composition index, risk index and risk ratio?

Contributing factors leading to disproportionate representation in educational environments has not received much attention in the research (Skiba et al., 2006). In an effort to add to this limited body of literature, this study analyzed the representation of ESE Hispanic students in the four educational environments (e.g., with non-disabled peers $> 80\%$ of the week, 40-80% of the week, $< 40\%$ of the week or other separate environment) recognized by the FLDOE, compared to all other students. Data was not available for individual ESE categories, so this research disaggregated data for all ESE categories combined.

As with research question one, the findings for research question two yielded similar results of significant disproportionality across all educational environments for both the CI and

RR. The CI yielded the highest number of districts with disproportionality across all environments with 24. Of particular interest are the < 40% and “Other” educational environment categories. These two categories are the most restrictive settings and the data shows that 10 districts have an overrepresentation of Hispanic students in these environments for the CI and 2 for the RR. The RR yielded fewer districts with significant disproportionality; however, 6 districts still resulted in overrepresentation with 2 of them coming from the < 40% and “Other” educational environment categories.

Although disproportionality was found for at least one school district in each of the educational environments, the total number of districts with ESE Hispanic overrepresentation, particularly in the most restrictive settings, is rather low considering the higher disproportionality rates in the high incidence categories and the high Hispanic enrollment in the state. Given that, and the high proportions of underrepresentation in the most restrictive settings for both indices, further research is needed to determine if ESE Hispanic students are academically achieving in the least restrictive environments, or if they would benefit from the accommodations that are inherent with more restrictive placements.

Implications for Practice

The following are recommendations for practitioners based on the findings of this research study:

1. Consensus is needed regarding the use of disproportionality measures that are supported by research. The variability that was illustrated in the results of the current study illustrates the need for agreement among researchers and practitioners in determining the

most appropriate measure when addressing disproportionality issues. As previously discussed, Albrecht et al. (2012) reported that states are using one or more of at least four different measures of disproportionality with no consensus regarding cut-off scores. With such variability in the use of measures, gaining an accurate picture of state and national level disproportionality trends becomes convoluted.

2. The state of Florida should consider a more rigorous cutoff score when determining disproportionality. Currently, the Florida Department of Education (2012) defines disproportionate representation as a risk ratio of 3.5 or higher for overrepresentation and a risk ratio of 0.20 or less for underrepresentation for indicators 9 and 10. Consequently, using such a conservative cutoff score decreases the likelihood of finding disproportionate representation. For example, this research study used the more aggressive cutoff score of 1.5 for the risk ratio and found a total of 10 school districts with Hispanic overrepresentation in the high incidence categories and 6 school districts with Hispanic overrepresentation in more restrictive educational environments. According to Florida's Part B Annual Performance Report for the 2010-11 school year, the state had no districts with disproportionate representation of any ethnic/minority group utilizing a 3.5 cutoff for the risk ratio.
3. The Florida Department of Education used an "n" size of 10 or greater, but changed to an "n" of 30 or greater in 2006-07. Therefore, if a school district does not have at least 30 students of a particular racial/ethnic group, the FLDOE will not use them in their calculations of disproportionality (FLDOE, State Performance Plan, 2012). In an effort to

account for the placement of all students for all ethnic minorities, the state of Florida should consider using the alternate risk ratio, recommended by Westat (2004), for districts that contain fewer than 30 students in a particular minority group.

4. If disproportionality is identified as a result of data collection, the IDEA requires states to: (1) review policies, procedures and practices, (2) reserve the maximum amount of funds (15%) to be used for early intervention services, and (3) publicly report on any revisions to policies, procedures and practices. Given the results of this study, a review of the state's policy and procedures regarding the identification and placement of ESE students is recommended.

Recommendations for Further Research

The following includes research recommendations that would build upon the findings of this research:

1. Additional research needs to be conducted on disproportionate representation that includes analyzing the relationship of state, district and school level variables (e.g., poverty, school/district level demographic variables, teacher demographics) on the identification and placement in the high incidence categories for the Hispanic student population in the state of Florida.
2. Given that proportions of Hispanic student enrollment vary from district to district, just as they do state to state and regionally, studies could be conducted at the school level with each district in order to gain a better understanding of local representation patterns.

3. A study could be conducted examining the representation patterns of the “Other” ethnic/minority demographic, defined by the FLDOE as American Indian/Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander, in the high incidence ESE categories. Given that these populations compose such small proportions of district and state student enrollments, depending upon the region being examined, these minority groups tend to be overlooked in disproportionality research.
4. Although research indicates that the likelihood of disproportionate representation is greatest in the high incidence categories, a study examining Hispanic representation in all ESE categories would provide an overall assessment of the state of Hispanic representation in state of Florida.
5. Given the relatively limited body of research on disproportionality of ethnic/minority students in educational environments, more research is needed in this area to explore possible contributing factors.
6. To date, disproportionality research has focused on the overrepresentation of ethnic/minority groups, and has given little if any attention to the underrepresentation of these groups in ESE. Given the stigma associated with ESE, it stands to reason that research has focused on overrepresentation issues. However, if underrepresentation is occurring, students may not receiving needed ESE services. With that, research is needed to look at factors leading to the underrepresentation of ethnic/minority groups in ESE programs.

7. A study disaggregating state or district level data by ESE category could prove beneficial in determining patterns of disproportionality in educational environments.
8. A study to determine if there is disproportionately of Hispanic students in the high incidence ESE programs in the state of Florida based on grade configuration (e.g., elementary, middle, high school).

APPENDIX A: DEMOGRAPHIC DATABASE TABLES

Table 17.

Racial Composition of Students in General Enrollment

School District	White	Black	Hispanic	^a Other
Alachua	12,827	9,889	2,107	2,610
Baker	4,203	590	95	162
Bay	19,328	3,995	1,227	1,795
Bradford	2,354	791	94	115
Brevard	45,986	10,189	9,051	6,560
Broward	66,509	101,064	74,019	16,862
Calhoun	1,689	262	130	144
Charlotte	12,067	1,455	1,935	956
Citrus	12,780	742	1,118	898
Clay	24,985	4,747	3,460	2,467
Collier	16,967	5,203	19,195	1,882
Columbia	6,630	2,160	443	529
Dade	29,092	83,857	230,860	6,418
DeSoto	2,105	604	1,888	133
Dixie	1,746	153	79	74
Duval	49,164	55,564	10,563	10,173
Escambia	20,124	14,287	1,995	4,089
Flagler	8,373	2,062	1,567	1,005
Franklin	1,089	150	59	48
Gadsden	227	4,721	1,140	79
Gilchrist	2,346	119	115	70
Glades	588	164	492	258
Gulf	1,554	273	49	78
Hamilton	738	633	244	58
Hardee	1,644	302	2,910	160
Hendry	1,697	1,028	4,005	87
Hernando	16,338	1,625	3,466	1,183
Highlands	5,731	2,032	3,622	613
Hillsborough	75,907	42,313	64,058	14,723
Holmes	3,019	123	89	100
Indian River	10,658	2,892	3,558	854
Jackson	4,334	2,122	216	378
Jefferson	251	692	66	20
Lafayette	827	93	213	39
Lake	23,996	6,469	8,267	2,583
Lee	39,961	12,882	27,713	3,340
Leon	15,466	13,943	1,569	2,240

School District	White	Black	Hispanic	^a Other
Levy	4,191	802	517	213
Liberty	1,161	183	106	31
Madison	984	1,468	115	54
Manatee	23,428	6,569	12,990	2,000
Marion	23,499	8,234	7,633	2,918
Martin	11,701	1,414	4,450	803
Monroe	4,493	850	2,753	352
Nassau	9,212	812	527	564
Okaloosa	20,588	3,698	2,243	2,855
Okeechobee	3,464	524	2,287	293
Orange	56,413	49,336	60,756	13,484
Osceola	15,234	6,365	30,099	3,078
Palm Beach	63,445	50,792	51,308	11,356
Pasco	45,057	3,886	12,973	4,741
Pinellas	61,379	19,804	13,904	8,618
Polk	44,233	20,293	26,261	5,247
Putnam	6,207	2,829	1,669	437
St. Johns	25,488	2,446	2,061	1,590
St. Lucie	15,557	11,692	9,930	2,238
Santa Rosa	20,704	1,367	1,337	2,431
Sarasota	27,448	3,696	7,071	2,861
Seminole	36,078	8,893	14,268	5,096
Sumter	5,384	1,020	1,015	367
Suwannee	4,078	847	877	258
Taylor	2,123	727	74	122
Union	1,744	322	87	102
Volusia	37,789	9,282	10,953	3,500
Wakulla	4,192	516	126	290
Walton	5,935	575	612	452
Washington	2,604	571	94	177

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 18.

Racial Composition of EBD Category

School District	White	Black	Hispanic	^a Other
Alachua	62	143	5	8
Baker	26	4	1	1
Bay	201	71	4	13
Bradford	23	23	1	1
Brevard	295	158	50	48
Broward	489	634	242	45
Calhoun	11	5	-	3
Charlotte	164	34	32	15
Citrus	123	23	6	6
Clay	417	83	27	13
Collier	69	27	25	6
Columbia	60	24	2	2
Dade	236	1,558	1,464	17
DeSoto	7	11	4	-
Dixie	11	3	-	-
Duval	321	640	56	49
Escambia	124	143	6	18
Flagler	52	28	4	5
Franklin	16	6	-	2
Gadsden	6	51	1	-
Gilchrist	9	1	-	1
Glades	1	5	-	2
Gulf	6	5	-	1
Hamilton	3	2	-	-
Hardee	14	2	5	-
Hendry	7	15	4	4
Hernando	144	28	29	4
Highlands	46	43	17	66
Hillsborough	524	701	260	-
Holmes	12	4	-	7
Indian River	41	27	9	7
Jackson	52	58	-	-
Jefferson	1	11	-	-
Lafayette	3	3	-	15
Lake	232	149	40	19
Lee	305	255	128	7
Leon	68	132	9	2

School District	White	Black	Hispanic	^a Other
Levy	24	8	1	2
Liberty	17	12	-	-
Madison	15	31	1	11
Manatee	152	172	42	24
Marion	233	143	54	5
Martin	81	32	20	1
Monroe	46	25	25	6
Nassau	86	8	6	15
Okaloosa	158	104	12	2
Okeechobee	23	31	3	20
Orange	230	430	182	10
Osceola	119	77	148	34
Palm Beach	306	378	131	28
Pasco	464	96	68	73
Pinellas	561	689	77	23
Polk	185	180	60	6
Putnam	43	41	2	3
St. Johns	104	53	15	8
St. Lucie	70	60	28	8
Santa Rosa	69	9	3	36
Sarasota	243	154	42	22
Seminole	248	119	84	1
Sumter	23	18	1	3
Suwannee	26	10	1	1
Taylor	16	16	1	-
Union	15	5	-	23
Volusia	311	235	84	3
Wakulla	36	7	-	2
Walton	28	12	-	1
Washington	26	10	1	1

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 19.

Racial Composition of SLD Category

School District	White	Black	Hispanic	^a Other
Alachua	743	1,057	133	97
Baker	103	9	6	3
Bay	867	188	55	48
Bradford	190	86	6	4
Brevard	2,626	880	553	301
Broward	2,138	3,232	2,757	225
Calhoun	126	26	9	8
Charlotte	910	147	165	46
Citrus	700	68	63	28
Clay	1,788	327	189	95
Collier	763	314	1,007	81
Columbia	305	102	15	16
Dade	1,125	4,354	11,922	42
DeSoto	106	29	76	1
Dixie	132	17	6	8
Duval	2,145	2,403	464	157
Escambia	1,049	1,283	87	164
Flagler	374	129	56	31
Franklin	66	4	1	2
Gadsden	11	92	19	1
Gilchrist	216	19	11	5
Glades	33	14	28	24
Gulf	118	27	2	4
Hamilton	17	21	4	-
Hardee	104	28	203	3
Hendry	91	83	282	2
Hernando	809	99	181	24
Highlands	263	135	199	22
Hillsborough	4,380	2,840	4,463	416
Holmes	100	6	2	1
Indian River	516	263	210	36
Jackson	131	66	7	13
Jefferson	9	19	-	-
Lafayette	38	1	5	3
Lake	1,063	309	419	44
Lee	2,011	1,023	1,745	88
Leon	570	362	57	33

School District	White	Black	Hispanic	^a Other
Levy	419	123	50	14
Liberty	46	11	9	-
Madison	40	57	2	1
Manatee	1,212	516	715	55
Marion	1,601	664	444	147
Martin	583	104	254	38
Monroe	311	96	258	12
Nassau	425	50	27	25
Okaloosa	777	177	83	68
Okeechobee	355	54	246	26
Orange	3,264	2,754	4,180	271
Osceola	666	286	1,755	57
Palm Beach	3,047	3,569	3,643	339
Pasco	2,364	240	706	173
Pinellas	1,864	1,135	510	137
Polk	1,880	1,164	1,250	144
Putnam	366	209	102	15
St. Johns	1,664	352	129	39
St. Lucie	675	562	390	58
Santa Rosa	688	57	48	65
Sarasota	1,724	389	540	147
Seminole	1,808	624	904	110
Sumter	221	34	47	7
Suwannee	137	24	25	4
Taylor	80	21	4	1
Union	98	36	9	4
Volusia	2,700	949	992	155
Wakulla	180	18	5	13
Walton	185	25	13	7
Washington	196	65	7	14

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

Table 20.

Racial Composition of ID Category

School District	White	Black	Hispanic	^a Other
Alachua	63	113	14	5
Baker	63	17	1	1
Bay	161	71	16	8
Bradford	27	17	2	-
Brevard	330	188	64	37
Broward	367	1,078	420	51
Calhoun	24	13	1	2
Charlotte	108	36	23	10
Citrus	216	18	19	6
Clay	235	92	41	14
Collier	108	59	152	9
Columbia	101	67	9	14
Dade	146	1,048	1,289	9
DeSoto	14	13	28	1
Dixie	13	5	-	-
Duval	566	1,340	109	23
Escambia	161	237	18	25
Flagler	55	33	10	3
Franklin	12	3	-	-
Gadsden	7	155	13	1
Gilchrist	17	5	-	-
Glades	5	5	9	4
Gulf	8	4	-	-
Hamilton	9	26	1	2
Hardee	23	5	36	1
Hendry	15	26	57	2
Hernando	98	19	27	7
Highlands	59	64	43	2
Hillsborough	657	942	609	57
Holmes	71	4	1	-
Indian River	83	41	19	4
Jackson	68	67	3	7
Jefferson	4	25	-	-
Lafayette	7	1	4	-
Lake	278	182	107	13
Lee	241	180	156	12
Leon	158	269	12	8

School District	White	Black	Hispanic	^a Other
Levy	46	17	4	3
Liberty	32	19	4	-
Madison	17	58	3	-
Manatee	117	127	97	14
Marion	280	213	94	33
Martin	54	29	33	-
Monroe	21	28	35	3
Nassau	111	38	7	5
Okaloosa	211	100	25	15
Okeechobee	50	12	32	-
Orange	387	915	577	37
Osceola	179	132	379	15
Palm Beach	370	785	368	47
Pasco	479	72	98	23
Pinellas	583	403	136	38
Polk	565	491	319	50
Putnam	77	99	18	2
St. Johns	99	30	7	2
St. Lucie	100	175	79	11
Santa Rosa	225	32	8	23
Sarasota	204	72	57	8
Seminole	174	123	105	13
Sumter	40	20	6	2
Suwannee	67	37	15	5
Taylor	25	13	1	1
Union	20	7	2	1
Volusia	370	239	156	18
Wakulla	48	10	-	4
Walton	50	9	1	2
Washington	21	16	2	713

Note. ^a“Other” includes American Indian/Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Two or More Races

APPENDIX B: DISPROPORTIONALITY INDICES

Table 21.

Disproportionality Indices for EBD Category

School District	CI	RI	RR
Alachua	2.3	.002	.282
Baker	3.1	.011	1.683
Bay	1.4	.003	.287
Bradford	2.1	.011	.738
Brevard	9.1	.006	.692
Broward	17.2	.003	.516
Calhoun	.0	.0	.0
Charlotte	13.1	.017	1.124
Citrus	3.8	.005	.509
Clay	5.0	.008	.490
Collier	19.7	.001	.307
Columbia	2.3	.005	.489
Dade	44.7	.006	.418
DeSoto	18.2	.002	.335
Dixie	.0	.0	.0
Duval	5.3	.005	.603
Escambia	2.1	.003	.406
Flagler	4.5	.003	.344
Franklin	.0	.0	.0
Gadsden	1.7	.001	.077
Gilchrist	.0	.0	.0
Glades	.0	.0	.0
Gulf	.0	.0	.0
Hamilton	.0	.0	.0
Hardee	23.8	.002	.226
Hendry	15.4	.001	.128
Hernando	14.1	.008	.910
Highlands	15.5	.005	.423
Hillsborough	16.8	.004	.418
Holmes	.0	.0	.0
Indian River	10.7	.003	.486
Jackson	.0	.0	.0
Jefferson	.0	.0	.0
Lafayette	.0	.0	.0
Lake	9.2	.005	.404
Lee	18.1	.005	.448
Leon	4.2	.006	.877

School District	CI	RI	RR
Levy	2.9	.002	.296
Liberty	.0	.0	.0
Madison	2.1	.009	.474
Manatee	11.1	.003	.309
Marion	11.9	.007	.613
Martin	14.5	.004	.530
Monroe	25.8	.009	.718
Nassau	5.7	.011	1.205
Okaloosa	4.2	.005	.524
Okeechobee	5.1	.001	.100
Orange	21.1	.003	.525
Osceola	41.8	.005	.589
Palm Beach	15.4	.003	.447
Pasco	10.4	.005	.479
Pinellas	05.5	.006	.376
Polk	13.4	.002	.411
Putnam	2.2	.001	.126
St. Johns	8.6	.007	1.343
St. Lucie	16.9	.003	.603
Santa Rosa	3.4	.002	.639
Sarasota	8.8	.006	.466
Seminole	17.8	.006	.758
Sumter	2.3	.001	.159
Suwannee	2.5	.001	.152
Taylor	2.9	.014	1.217
Union	.0	.0	.0
Volusia	12.9	.008	.682
Wakulla	.0	.0	.0
Walton	.0	.0	.0
Washington	.2.6	.011	.964

Table 22.

Disproportionality Indices for SLD Category

School District	CI	RI	RR
Alachua	6.5	.063	.834
Baker	5.0	.063	2.721
Bay	4.7	.045	1.015
Bradford	2.1	.064	.743
Brevard	12.6	.061	1.001
Broward	32.6	.037	1.204
Calhoun	5.3	.069	.901
Charlotte	13.0	.085	1.113
Citrus	7.3	.056	1.020
Clay	7.8	.055	.788
Collier	46.4	.052	1.084
Columbia	3.4	.034	.744
Dade	68.1	.052	1.104
DeSoto	35.8	.040	.841
Dixie	3.7	.076	.954
Duval	8.8	.044	1.053
Escambia	3.3	.044	.668
Flagler	9.5	.036	.763
Franklin	1.4	.017	.303
Gadsden	15.4	.017	.806
Gilchrist	4.4	.096	1.010
Glades	28.3	.057	.810
Gulf	1.3	.041	.522
Hamilton	9.5	.016	.616
Hardee	59.5	.070	1.065
Hendry	61.4	.070	1.119
Hernando	16.2	.052	1.069
Highlands	32.0	.055	1.088
Hillsborough	36.6	.070	1.199
Holmes	1.8	.022	.675
Indian River	20.3	.059	1.034
Jackson	3.2	.032	1.055
Jefferson	.0	.0	.0
Lafayette	10.6	.023	.536
Lake	22.6	.051	1.166
Lee	35.7	.063	1.123
Leon	5.5	.036	1.182

School District	CI	RI	RR
Levy	8.2	.097	.904
Liberty	13.6	.085	2.048
Madison	2.0	.017	.445
Manatee	28.6	.055	.985
Marion	15.5	.058	.832
Martin	25.9	.057	1.091
Monroe	38.0	.094	1.268
Nassau	5.1	.051	1.085
Okaloosa	7.4	.037	.968
Okeechobee	36.1	.108	1.059
Orange	39.3	.069	1.270
Osceola	63.0	.058	1.398
Palm Beach	34.1	.071	1.268
Pasco	20.2	.054	1.047
Pinellas	13.8	.037	1.038
Polk	28.1	.048	1.037
Putnam	14.7	.061	.980
St. Johns	5.8	.063	.888
St. Lucie	23.1	.039	.890
Santa Rosa	5.5	.036	1.075
Sarasota	19.2	.076	1.141
Seminole	25.9	.063	1.229
Sumter	15.2	.046	1.192
Suwannee	13.2	.029	.895
Taylor	3.8	.054	1.575
Union	6.1	.103	1.625
Volusia	20.6	.091	1.197
Wakulla	2.3	.040	.940
Walton	5.7	.021	.682
Washington	2.4	.074	.895

Table 23.

Disproportionality Indices for ID Category

School District	CI	RI	RR
Alachua	7.1	.007	.920
Baker	1.2	.011	.644
Bay	6.2	.013	1.353
Bradford	4.3	.021	1.576
Brevard	10.2	.007	.791
Broward	21.5	.006	.681
Calhoun	02.4	.008	.403
Charlotte	12.8	.012	1.103
Citrus	07.3	.017	1.013
Clay	10.5	.012	1.093
Collier	46.3	.008	1.082
Columbia	4.7	.020	1.040
Dade	51.3	.006	.545
DeSoto	50.0	.015	1.505
Dixie	.0	.0	.0
Duval	5.2	.010	.600
Escambia	4.0	.009	.806
Flagler	9.8	.006	.794
Franklin	.0	.0	.0
Gadsden	7.4	.011	.352
Gilchrist	.0	.0	.0
Glades	39.1	.018	1.320
Gulf	.0	.0	.0
Hamilton	2.6	.004	.158
Hardee	55.4	.012	.898
Hendry	57.0	.014	.931
Hernando	17.8	.008	1.193
Highlands	25.6	.012	.796
Hillsborough	26.4	.010	.744
Holmes	1.3	.011	.486
Indian River	12.8	.005	.596
Jackson	2.1	.014	.668
Jefferson	.0	.0	.0
Lafayette	33.3	.019	2.251
Lake	18.2	.013	.887
Lee	26.2	.006	.720
Leon	2.7	.008	.550

School District	CI	RI	RR
Levy	5.7	.008	.610
Liberty	7.3	.038	1.017
Madison	3.8	.026	.872
Manatee	27.2	.007	.923
Marion	15.1	.012	.810
Martin	28.2	.007	1.229
Monroe	40.2	.013	1.392
Nassau	4.3	.013	.896
Okaloosa	7.0	.011	.911
Okeechobee	34.0	.014	.966
Orange	29.3	.009	.815
Osceola	52.9	.013	.919
Palm Beach	23.0	.007	.732
Pasco	14.5	.008	.703
Pinellas	11.5	.010	.837
Polk	22.2	.012	.757
Putnam	9.1	.011	.571
St. Johns	4.9	.003	.743
St. Lucie	21.1	.008	.795
Santa Rosa	2.8	.006	.520
Sarasota	16.5	.008	.952
Seminole	24.8	.007	1.155
Sumter	8.7	.006	.635
Suwannee	12.1	.017	.813
Taylor	2.5	.014	1.030
Union	6.7	.023	1.780
Volusia	19.6	.014	1.124
Wakulla	.0	.0	.0
Walton	1.6	.002	.183
Washington	5.1	.021	1.928

Table 24.

Hispanic Students with Non-Disabled Peers > 80% of the Week

School District	CI	RI	RR
Alachua	6.2	.671	1.009
Baker	-	-	-
Bay	4.7	.576	1.006
Bradford	2.1	1.000	1.261
Brevard	12.2	.808	1.025
Broward	29.5	.794	1.044
Calhoun	4.0	1.000	1.253
Charlotte	12.8	.574	1.010
Citrus	6.3	.470	.879
Clay	8.4	.754	.972
Collier	44.9	.895	1.039
Columbia	3.8	.680	1.038
Dade	68.4	.537	1.199
DeSoto	34.4	.704	.953
Dixie	4.0	1.000	1.166
Duval	7.6	.795	1.010
Escambia	3.9	.707	1.037
Flagler	10.5	.653	.941
Franklin	-	-	-
Gadsden	10.4	.740	1.265
Gilchrist	3.8	1.000	1.146
Glades	28.0	1.000	1.000
Gulf	-	-	-
Hamilton	-	-	-
Hardee	56.1	.729	.953
Hendry	55.3	.737	.979
Hernando	15.8	.817	1.000
Highlands	29.5	.680	.995
Hillsborough	33.4	.672	1.017
Holmes	-	-	-
Indian River	19.8	.730	1.076
Jackson	2.8	1.000	1.585
Jefferson	.-	-	-
Lafayette	29.7	1.000	1.778
Lake	19.2	.640	.972
Lee	30.5	.612	.979
Leon	4.4	.712	1.078

School District	CI	RI	RR
Levy	7.9	1.000	1.131
Liberty	-	-	-
Madison	5.3	1.000	1.246
Manatee	26.0	.565	.929
Marion	16.9	.729	1.064
Martin	22.9	.654	.893
Monroe	34.5	.729	.943
Nassau	4.2	.776	1.167
Okaloosa	7.7	.768	1.012
Okeechobee	34.5	.774	1.043
Orange	36.2	.767	1.019
Osceola	59.1	.742	1.023
Palm Beach	31.1	.727	1.050
Pasco	18.5	.826	1.021
Pinellas	13.6	.742	1.093
Polk	25.7	.705	1.031
Putnam	14.0	.800	1.029
St. Johns	6.0	.804	.959
St. Lucie	21.9	.765	1.002
Santa Rosa	5.5	.797	1.091
Sarasota	17.9	.579	1.041
Seminole	22.3	.074	.906
Sumter	12.9	.805	1.067
Suwannee	12.6	1.000	1.247
Taylor	-	-	-
Union	6.7	1.000	1.361
Volusia	18.6	.700	.974
Wakulla	-	-	-
Walton	5.7	1.000	1.189
Washington	4.1	1.000	1.670

Table 25.

Hispanic Students with Non-Disabled Peers 40-80% of the Week

School District	CI	RI	RR
Alachua	7.9	.216	1.319
Baker	-	-	-
Bay	3.6	.087	.773
Bradford	.0	.0	.0
Brevard	11.6	.052	.973
Broward	27.9	.080	.965
Calhoun	.0	.0	.0
Charlotte	13.6	.202	1.082
Citrus	7.6	.328	1.083
Clay	7.3	.050	.834
Collier	23.0	.006	.379
Columbia	.0	.0	.0
Dade	64.5	.254	1.007
DeSoto	39.6	.107	1.192
Dixie	.0	.0	.0
Duval	9.0	.064	1.209
Escambia	4.2	.183	1.102
Flagler	9.7	.071	.857
Franklin	-	-	-
Gadsden	.0	.0	.0
Gilchrist	.0	.0	.0
Glades	-	-	-
Gulf	-	-	-
Hamilton	-	-	-
Hardee	62.9	.140	1.261
Hendry	54.8	.092	.957
Hernando	14.1	.069	.878
Highlands	35.8	.135	1.326
Hillsborough	36.1	.176	1.147
Holmes	-	-	-
Indian River	20.6	.168	1.129
Jackson	.0	.0	.0
Jefferson	-	-	-
Lafayette	-	-	-
Lake	24.9	.171	1.352
Lee	31.8	.095	1.042
Leon	4.4	.135	1.070

School District	CI	RI	RR
Levy	.0	.0	.0
Liberty	-	-	-
Madison	-	-	-
Manatee	30.8	.177	1.177
Marion	13.6	.084	.827
Martin	32.5	.102	1.447
Monroe	38.0	.112	1.097
Nassau	.0	.0	.0
Okaloosa	10.3	.086	1.396
Okeechobee	32.7	.044	.963
Orange	34.8	.080	.958
Osceola	58.8	.081	1.010
Palm Beach	30.1	.154	1.001
Pasco	14.3	.026	.752
Pinellas	11.4	.080	.901
Polk	25.4	.071	1.013
Putnam	13.0	.071	.945
St. Johns	10.0	.108	1.691
St. Lucie	24.6	.094	1.162
Santa Rosa	5.1	.116	1.017
Sarasota	17.1	.177	.984
Seminole	27.5	.014	1.194
Sumter	12.5	.097	1.025
Suwannee	.0	.0	.0
Taylor	-	-	-
Union	.0	.0	.0
Volusia	20.1	.146	1.078
Wakulla	-	-	-
Walton	.0	.0	.0
Washington	.0	.0	.0

Table 26.

Hispanic Students with Non-Disabled Peers < 40% of the Week

School District	CI	RI	RR
Alachua	5.7	.113	.928
Baker	-	-	-
Bay	5.4	.250	1.166
Bradford	.0	.0	.0
Brevard	11.6	.116	.968
Broward	25.0	.104	.830
Calhoun	.0	.0	.0
Charlotte	12.0	.155	.934
Citrus	8.9	.119	1.278
Clay	10.5	.196	1.244
Collier	39.9	.098	.844
Columbia	4.5	.320	1.233
Dade	55.5	.180	.690
DeSoto	37.8	.189	1.102
Dixie	.0	.0	.0
Duval	6.7	.106	.878
Escambia	4.0	.111	1.068
Flagler	13.4	.276	1.236
Franklin	-	-	-
Gadsden	6.4	.260	.749
Gilchrist	.0	.0	.0
Glades	-	-	-
Gulf	-	-	-
Hamilton	-	-	-
Hardee	58.6	.131	1.054
Hendry	58.9	.172	1.133
Hernando	17.0	.114	1.091
Highlands	26.5	.185	.860
Hillsborough	30.2	.133	.879
Holmes	-	-	-
Indian River	13.8	.102	.696
Jackson	.0	.0	.0
Jefferson	-	-	-
Lafayette	.0	.0	.0
Lake	19.4	.137	.984
Lee	32.4	.264	1.072
Leon	3.8	.153	.903

School District	CI	RI	RR
Levy	.0	.0	.0
Liberty	-	-	-
Madison	.0	.0	.0
Manatee	30.4	.242	1.159
Marion	14.5	.131	.886
Martin	34.9	.195	1.616
Monroe	41.7	.159	1.277
Nassau	3.8	.224	1.047
Okaloosa	5.6	.097	.719
Okeechobee	31.5	.182	.913
Orange	37.0	.126	1.054
Osceola	55.5	.168	.886
Palm Beach	26.2	.086	.825
Pasco	18.0	.149	.988
Pinellas	10.0	.120	.776
Polk	23.5	.148	.912
Putnam	11.8	.071	.843
St. Johns	6.0	.088	.973
St. Lucie	21.8	.141	.993
Santa Rosa	3.1	.087	.605
Sarasota	17.8	.193	1.028
Seminole	24.4	.896	1.019
Sumter	10.4	.097	.831
Suwannee	.0	.0	.0
Taylor	-	-	-
Union	.0	.0	.0
Volusia	20.4	.149	1.098
Wakulla	-	-	-
Walton	.0	.0	.0
Washington	.0	.0	.0

Table 27.

Hispanic Students in Other Separate Environment

School District	CI	RI	RR
Alachua	.0	.0	.0
Baker	-	-	-
Bay	4.1	.087	.868
Bradford	-	-	-
Brevard	7.9	.025	.630
Broward	21.9	.022	.697
Calhoun	-	-	-
Charlotte	11.2	.069	.870
Citrus	8.4	.082	1.201
Clay	.0	.0	.0
Collier	.0	.0	.0
Columbia	-	-	-
Dade	57.6	.029	.750
DeSoto	-	-	-
Dixie	-	-	-
Duval	6.8	.034	.895
Escambia	.0	.0	.0
Flagler	-	-	-
Franklin	-	-	-
Gadsden	.0	.0	.0
Gilchrist	-	-	-
Glades	-	-	-
Gulf	-	-	-
Hamilton	-	-	-
Hardee	-	-	-
Hendry	-	-	-
Hernando	-	-	-
Highlands	-	-	-
Hillsborough	21.4	.019	.552
Holmes	-	-	-
Indian River	.0	.0	.0
Jackson	.0	.0	.0
Jefferson	-	-	-
Lafayette	-	-	-
Lake	14.4	.052	.687
Lee	25.6	.029	.770
Leon	.0	.0	.0

School District	CI	RI	RR
Levy	.0	.0	.0
Liberty	-	-	-
Madison	-	-	-
Manatee	15.4	.016	.483
Marion	14.1	.055	.857
Martin	17.6	.049	.643
Monroe	-	-	-
Nassau	-	-	-
Okaloosa	8.3	.049	1.096
Okeechobee	.0	.0	.0
Orange	25.4	.027	.612
Osceola	72.5	.009	1.869
Palm Beach	22.2	.033	.663
Pasco	.0	.0	.0
Pinellas	9.6	.058	.741
Polk	23.3	.076	.906
Putnam	12.7	.058	.923
St. Johns	.0	.0	.0
St. Lucie	.0	.0	.0
Santa Rosa	.0	.0	.0
Sarasota	12.4	.051	.672
Seminole	15.6	.016	.582
Sumter	.0	.0	.0
Suwannee	-	-	-
Taylor	-	-	-
Union	-	-	-
Volusia	11.5	.006	.555
Wakulla	-	-	-
Walton	.0	.0	.0
Washington	-	-	-

**APPENDIX C: INSTITUTIONAL REVIEW BOARD
APPROVAL LETTER**



University of Central Florida Institutional Review
Board Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-
882-2276
www.research.ucf.edu/compliance/irb.html

NOT HUMAN RESEARCH DETERMINATION

From : **UCF Institutional Review
Board #1 FWA00000351,
IRB00001138**

To : **Douglas A. Miller**

Date : **September 04, 2012**

Dear Researcher:

On 9/4/2012 the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review: Not Human Research Determination
Project Title: Examining the representation of hispanic students
in exceptional student education programs and
educational environments in K-12 schools across
the 67 counties in the state of Florida.

Investigator: Douglas A
Miller IRB ID:
SBE-12-
08644

Funding Agency:
Grant Title:
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is

signed by: Signature applied by Patria Davis on 09/04/2012 01:19:49 PM EDT

A handwritten signature in black ink, appearing to read 'Patria Davis', written over a horizontal line.

IRB Coordinator

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