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# Baker Act examination referrals among children and adolescents: An analysis of school related variables

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Baker Act Examination Referrals Among Children and Adolescents: An Analysis of  
School Related Variables

by

Bradley Scott Beam

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
Department of Psychological and Social Foundations  
College of Education  
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## Dedication

This dissertation is dedicated to my many wonderful friends, who have consistently provided the support and laughter necessary for persevering throughout this arduous process. My three wonderful older sisters, Karla; Angie; and Kerry; who have had to deal with my personality, the consequence of being the youngest and only male child in the family! To my beautiful mother, who has provided consistent, unconditional love and support throughout my college and graduate school studies. Without this support, I would not have been able to realize my professional goals, and more importantly, I would not have been able to develop the life perspective that has allowed me to persevere during the most difficult times. To my father, whose life and death has shaped my life in incalculable ways. You are always missed, never forgotten, and always in my heart.

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Baker Act Examination Referrals Among Children and Adolescents: An Analysis of  
School Related Variables

Bradley S. Beam

ABSTRACT

The Baker Act is legislation that provides civil rights for individuals suspected of having a mental illness and may be in need of involuntary psychiatric evaluation. Its intent is to prevent the indiscriminate placement of individuals in residential treatment facilities and other restrictive placements. Referrals for involuntary psychiatric evaluation under Baker Act statutes have increased among children and adolescents in recent years, raising concerns related its use with this population. The purpose of this study was to explore the relationship between school based factors and the use of the Baker Act among children and adolescents. Results indicate that the use of the Baker Act is more prevalent receiving among the high school population, females, Other/mixed children and adolescents, and White children and adolescents. Multiple regression analyses indicated that school district variables (e.g., minority enrollment, graduation rates, out-of-school suspension, etc.) contributed to a statistically significant proportion of the variance in Baker Act ER rates and repeat Baker Act ER rates among the 67 counties in the state of Florida. The percent of students in a district that graduated with a standard diploma was the variables that most consistently contribute to a unique proportion of the variance in Baker Act ER and repeat Baker Act ER rates. The findings from the study have

implications for the design of mental health and behavioral support systems for children and adolescents. Additional research is necessary to more closely examine the relationship between demographics, school related variables, and the use of the Baker Act.

## Chapter One

### Introduction

Incidents of school violence have brought the issue of school safety to the forefront of public debate in the past decade. School shootings like Columbine and Jonesboro sent shockwaves across the United States as Americans tried to comprehend how such events could unfold in one of our nations most valued and basic institutions. These incidents prompted educators and policy makers alike to ask the question: Just how safe are our children when they are in school and what can be done to prevent future incidents of school violence (United States Secret Service and United States Department of Education, 2002). At the core of the issue are beliefs about the proper environments to raise and teach children. From a practical standpoint, it is difficult to imagine any social or academic growth occurring in school environments where children feel unsafe and threatened. From a moral perspective, the thought of children being denied access to the safest, most nurturing environments violates one of our most basic values as a society.

So what happens when students engage in behavior that is disruptive to orderly school environments? Programs such as Safe and Drug Free Schools (U.S. Department of Education [USDOE], 2002) and reports like Early Warning, Timely Response (USDOE, 1998) have been developed to address growing concerns about safety in schools. Additionally, law enforcement approaches have been implemented to confront disruptive behavior and drug use in schools. School security officers now roam the hallways in

many schools. Random locker searches, metal detectors, school surveillance cameras, and other approaches have been utilized in a preventative fashion (Skiba, 2000). Zero tolerance policies that increase the severity of consequences for all disciplinary infractions also have become common in public schools across the United States. A direct consequence of zero tolerance is the utilization of punitive disciplinary practices (e.g., suspension and expulsion) that often culminate in the removal of disruptive students from school (Skiba, 2000).

### *Exclusion from Schooling*

In the context of the current climate of zero tolerance, students who exhibit a continuous pattern of disruptive behavior are at risk for being excluded from schooling. These students sometimes are diagnosed with emotional and behavioral disorders (EBD). Intensive behavioral and mental health services often are necessary to facilitate social development among the most troubled students. However, students with EBD encounter significant barriers to obtaining these services, and consequently, represent an underserved population of youth (U.S. Department of Health and Human Services [USDHHS], 1999). Further, eligibility criteria for special education programs often restrict access to school based behavioral and mental health services until students have experienced a protracted period of failure in school (Morrison & D’Incau, 2000). For many students, unaddressed emotional and behavior problems escalate and are expressed as severe incidents of disruptive behavior that threaten the safety of the student as well as that of other students and school staff. It often becomes necessary to allocate even more intensive resources to address the needs of these students, and these resources are unavailable in most schools (Wagner & Sumi, 2005). Consequently, exclusion becomes a

likely response in environments without adequate support services, and a favored response among school personnel who are concerned about the quality of the learning environment.

*Types of exclusion.* Exclusion from schooling can take many forms, ranging from being sent to the office to involuntary psychiatric placement. Students who qualify for special education services for EBD are suspended and expelled more often than students with other disabilities, and they are more likely than students with other disabilities to receive instruction in the most restrictive educational environments (USDOE; 2003; Wagner et al., 2005). Students with severe EBD sometimes manifest behaviors that culminate in a referral to community based agencies that provide the most intensive mental health services. These placements can be voluntary (school or family placement) or involuntary. Involuntary evaluation and placement in hospitals, residential treatment facilities or special day schools remove children from schools, families, and communities. Consequently, most states have passed legislation to protect the rights of individuals suspected of having severe mental illness that necessitates involuntary evaluation and treatment.

*The Baker Act.* In the state of Florida, The Baker Act (F.S. 394, Part I, 2005) provides due process and civil rights to individuals suspected of having severe mental illness who meet certain criteria for involuntary placement and may be in need of emergency evaluation or treatment. The Florida Legislature passed the Baker Act in 1971 in response to advocacy efforts targeted toward the indiscriminate admission of adults and children with severe mental illness into residential treatment facilities. The Baker Act established a patients' bill of rights and also prohibited placements of persons with severe

mental illness into jails, unless they had committed criminal acts. Prior to the final passage of the Baker Act in 1971, placement in state residential treatment facilities was the primary treatment settings available to individuals diagnosed with severe forms of mental illness (Florida's Baker Act Website, 2002).

In recent years, concerns have been raised about the utilization of the Baker Act for children in the state of Florida. Recent research (Christy, Stiles, & Shanmugam, 2003; Florida Senate, 2005) indicates that Baker Act examination referrals (ERs) for children have increased across the past several years. Further, Baker Act ERs are less likely in the summer than during the months when students are in attendance, suggesting that law enforcement personnel and mental health professional may initiate a meaningful proportion of Baker Act ERs via the public schools. It has been suggested that schools may be using Baker Act examination referrals to remove disruptive students from school environments instead of addressing these problems through the use of school based behavioral and mental health support systems (Florida Senate, 2005). If this is the case, then the Baker Act can be viewed as a crisis oriented, reactive approach to addressing emotional and behavioral problems in schools. Baker Act examination referrals may be one avenue for accessing intensive resources that are unavailable in most school settings. Additionally, zero tolerance policies related to the use of weapons or substance abuse may impact the beliefs and practices of school personnel. Schools personnel that utilize Baker Act examination referrals may embrace a culture of exclusion, and view removal from the school environment as an appropriate response to disruptive behavior that is manifested in schools (Florida Senate, 2005).



### *Accountability and Reform*

The growing concerns over school safety and the reliance on educational practices that exclude students from schooling have occurred at a time when accountability for student outcomes has become the driving force behind the school reform movements in the United States. These efforts are not new, and in fact, have been supported by various reform advocates for several decades. In 1983, the United States Department of Education published “A Nation at Risk” (National Commission on Excellence in Education, 1983), which called attention to the status of public education. The report described a disturbing decline in educational performance of students in the United States, and warned that American prosperity was in jeopardy due to inadequate educational practices:

“Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that undergirds American prosperity, security, and civility. We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur—others are matching and surpassing our educational attainments.” (p.1)

Twenty-three years later, similar concerns regarding the overall effectiveness of public schools in the United States remain at the forefront of efforts to improve public education. A renewed focus on student outcomes has ushered in a new wave of school reform efforts, and accountability has become the cornerstone of these educational policies. The stakes have never been higher for our nation's schools. The No Child Left Behind Act (NCLB) of 2002 (No Child Left Behind Act, 2002) was developed by a bipartisan effort in the United States congress to address underachievement in schools. Under No Child Left Behind, schools must demonstrate that all students meet annual objectives and benchmarks for achievement by 2014. Schools that fail to make Adequate Yearly Progress (AYP) are identified, and corrective actions must be undertaken to improve student achievement.

*Students with EBD.* The accountability movement presents an interesting conundrum for educators in an era of zero tolerance. On the one hand, schools personnel are under intense pressure to maintain order and discipline to facilitate optimal student outcomes. On the other hand, educators must assure that even the most difficult to teach are provided with effective, evidence based instruction, and to do this, students with EBD must be in school and academically engaged. Reform efforts intended to improve the effectiveness of public schools must address the needs of students with EBD or a significant number of students will be left behind. Students with disabilities now are included as one of the eight categories of students that must achieve Adequate Yearly Progress (AYP) to ensure that a school or district is not identified as "in need of improvement." Consequently, schools will be held accountable for the educational

outcomes obtained by students with disabilities, including those with EBD (USDOE, 2002).

Educators face substantial challenges in meeting the needs of this population. Students with EBD are at an increased risk for a myriad of negative academic outcomes throughout childhood (Hinshaw, 1992; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005; Willcutt & Pennington, 2000). Many students with EBD have reading and math scores that fall in the bottom quartile of performance. Consequently, 22% of elementary/middle school children with EBD and 37.7% of secondary children with EBD have been retained at least once (Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). Due to negative social and academic outcomes, children with EBD are more likely than students in other disability categories to drop out of school. According to the U.S. Department of Education (2001), 41.9% of students who qualify for special education services under the Emotional Disturbance category received a standard diploma during the 1998-1999 school year. In comparison, 63.3% of students with Specific Learning Disabilities (SLD) graduated with a standard diploma during the 1998-1999 school year. These negative experiences continue across childhood, adolescence, and into adulthood. Students who qualify under the Emotional Disturbance category are less likely than students in other disabilities categories, with the exception of Mental Retardation, to enroll in postsecondary education programs. Further, they are more likely than students in other disability categories to be terminated from their jobs and to be arrested (Wagner, Newman, Cameto, & Levine, 2005).

### *Developmental Models and EBD*

Developmental models can be utilized to understand the emergence of EBD across childhood and the social problems encountered across the lifespan. According to developmental models, children develop social competencies as they interact with their environment. In educational environments, successful adaptation is dependent on the emergence of social competencies associated with the attainment of academic skills. These competencies facilitate task engagement across a wide range of educational environments (Sroufe, 1997). Social skill deficits are likely to preclude the attainment of academic skills and children with EBD often engage in inappropriate behaviors maintained by classroom contingencies that allow them to escape and avoid difficult academic tasks and situations. These interactions unintentionally reinforce maladaptive behavior and lessen opportunities to develop prosocial and academic skills. This interaction between academic and social competence often repeats itself in a reciprocal pattern across childhood. The nature of the reciprocal relationship between academic and social competence demonstrates an important tenet of development models: Failure in one domain of competence rapidly accelerates the risk of failure in other areas of competence (Sroufe, 1997).

*Prevention and intervention.* Developmental models have important implications for the design of effective educational environments that serve students with EBD. Prevention and intervention efforts require a timely response to early signs of EBD. Adequate responses involve the creation of systems that enhance competence early in the developmental course of emotional disturbance (Masten & Curtis, 2003). In the absence of these support systems, children encounter a wider range of social problems as

environmental expectations require an increasingly sophisticated repertoire of social and academic competencies. Children who fail to obtain a competency at one stage of development will encounter more pronounced emotional and behavior problems as the gap between their competence and environmental expectations widens (Sroufe, 1997). Support services that are more costly and resource intensive are reserved for children who do not respond to prevention programs and require individualized levels of support (Sugai, Sprague, Horner, & Walker, 2000; USDOE, 2003). Most importantly, schools must provide support services that maximize academic engagement or children with EBD will fail to acquire the skills needed to meet district and state benchmarks.

#### *Rationale for This Study*

The increase in the number of Baker Act ERs among school aged children is problematic for two reasons. First, exclusion from schooling of any kind, whether it is through the use of suspension or referral for involuntary psychiatric treatment, is problematic because it removes students from academic instruction. The consequence is reduced opportunities for exposure to the core or remedial curriculum within a district. Second, exclusion may be symptomatic of an educational system that is unable to provide effective behavioral and mental health services to students with severe EBD. The implications associated with the failure to provide effective academic instruction and behavioral support services are of a heightened significance in an era of accountability and reform.

Currently, no explanation has been suggested for the rapid increase in the use of the Baker Act with children and youth. In addition, no studies have investigated the relationship between the policies and practices that guide school-based decision-making

regarding the delivery of mental health services and the use of the Baker Act by school personnel. It is important that educators, community based clinicians, policy makers, and child advocates achieve a greater understanding of factors that result in the use or non-use of the Baker Act with school children and youth. In addition, it is important to know what happens to children and youth who receive Baker Act ERs following their return to schooling. These efforts will assist with the development of policies intended to provide children with access to the most effective behavior and mental health support systems in the least restrictive environments.

There is little information, other than the number of children who have received Baker Act ERs and the demographics of those children, to understand the conditions under which schools are likely to use this placement option. However, research has addressed the utilization of other school based practices that culminate in exclusion. Demographic characteristics such as gender, race, and socioeconomic status are associated with higher rates of exclusionary disciplinary practices (Costenbader & Markson, 1998; Florida Department of Education, 2005; Kleiner, Porch, & Farris, 2005; McFadden, Marsh, Price, & Hwang, 1992; National Center for Education Statistics (NCES), 2004; Raffaele-Mendez, Knoff, & Ferron, 2002; Skiba, Peterson, & Williams, 1997; Skiba, Michael, Nardo, & Peterson, 2002;). Students who receive special education services also are at an increased risk of disciplinary exclusion (Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). Further, schools that embrace behavior support systems as a method for addressing disruptive behavior often have lower rates of disciplinary exclusion (Raffaele-Mendez et al., 2002; Skiba et al., 2002). Research also indicates that placement decisions are influenced by the availability of adequate resources

within educational and community based setting (Bickman, Foster, & Lambert, 1996; Hendrickson, Smith, & Frank; 1998; Rock, Rosenberg, & Cannan, 1994; Romansky, Lyons, Lehner, & West, 2003).

It may be possible to apply the results of studies from other types of exclusion to answer questions about the utilization of Baker Act referrals among children. Children and adolescents may be removed from schooling from a relatively short period of time to longer periods depending on a number of factors associated with Baker Act ERs. Regardless of the time period, the Baker Act involves a process that culminates in the removal of children from mainstream environments and thus represents a major form of exclusion. The over utilization of Baker Act referrals may be symptomatic of a larger systemic problem associated with the availability of effective behavior and mental health support systems in schools, and conversely, the over reliance on exclusion as a method to remove disruptive students from educational environments.

#### *Purpose of the Study*

The purpose of the present study is to explore the relationship between school-based factors and frequency of Baker Act referrals among school age children in the state of Florida. The following research questions will be addressed by this study:

1. What is the distribution of demographic variables (e.g., age/grade level, gender, and race/ethnicity) for children who received Baker Act examination referrals?
2. Do African American children receive Baker Act examination referrals at rates that are disproportionate to their total student enrollment within Florida public schools?

3. What percentage of Baker Act examination referrals are repeat Baker Act examination referrals?
4. What percentage of children received more than one Baker Act examination referral?
5. What is the relationship between the size of the school district, percent of students in a district who belong to an ethnic minority category, the percent of African American, the percent of students in a district who received free and reduced lunch, the percent of students in a district who receive special education services, the percent of students in a district who receive special education services under the EH/SED category, the percent of students in a district who graduate with a standard diploma, the percent of students in a district who are retained, the percent of students in a district who obtained a Level 3 or higher on the FCAT, and total Baker Act examination referrals and repeat Baker Act examination referrals, school district use of suspension and expulsion, and the ratio of mental health workers to students in a school district, and total Baker Act examination referrals and repeat Baker Act examination referrals?

*Research Hypotheses*

1. There will be significant differences between the proportion of students in each demographic category who received a Baker Act examination referral and the proportion of all enrolled students in each demographic category in the Florida public schools.



2. There will be no difference between the proportions of African American students who received a Baker Act examination referral and the proportion of enrolled students in the Florida public schools.
3. There will be no relationship between the size of the school district, percent of students in a district who belong to an ethnic minority category, the percent of African American students in a district, the percent of students in a district who receive free and reduced lunch, the percent of students in a district who receive special education services, the percent of students in a district who receive special education services under the EH/SED category, the percent of students in a district who graduate with a standard diploma, the percent of students in a district who are retained, the percent of students in a district who obtained a Level 3 or higher on the FCAT and total Baker Act examination referrals and repeat Baker Act examination referrals, school district use of suspension and expulsion, the ratio of mental health workers to students in a school district, and total Baker Act examination referrals and repeat Baker Act examination referrals?

## Chapter Two

### Literature Review

The purpose of this chapter is, first, to review research that investigates the range of procedures (e.g., suspension, expulsion, involuntary psychiatric placements) used by public schools to address the behaviors of students with severe emotional and behavioral difficulties. Second, a program and data-based overview of Florida's Baker Act will be presented. Third, models of psychopathology will be explored to provide possible explanations for severe behavior in students and to evaluate the appropriateness of school-based procedures designed to address those behaviors. Next, literature related to the availability of support services for children with severe emotional and behavioral disorders will be presented. Finally, literature that explores the variables associated with the decision to choose exclusionary settings for treatment of children with severe emotional and behavioral disorders will be reviewed.

#### *School Exclusion*

Public schools employ a wide range of procedures to address behaviors that are harmful to other students, staff, or to the student. Most of the procedures used involve some level of exclusion from the general education setting. Exclusion can be conceptualized as occurring along a continuum from least restrictive to most restrictive placement. For purposes of this literature review, time out and office referrals are viewed as the least restrictive form of exclusion because removal from typical environments

tends to be relatively brief. Special education programs that remove children from mainstream settings also are considered along a continuum of least to most restrictive placements. Suspension and alternative education represent the next most restrictive form of exclusion. Finally, involuntary placement in psychiatric facilities represents a very restrictive placement because children are removed from school and community. Perhaps suspension and expulsion represent the most severe form of exclusion. In this case, the student is removed both from educational settings and from any school or community supported intervention program.

*Rates of disciplinary exclusion.* As part of a broader project investigating the use of office referrals to inform school wide discipline planning, Sugai and colleagues (2000) examined the prevalence of office referrals among 11 elementary schools and 9 middle/junior high schools across seven school districts. Elementary schools averaged 567 disciplinary referrals per year with a mean of 0.5 discipline referrals per student per year, and a mean of 1.7 disciplinary referrals per school day. On average, 21% of students at the elementary school level received one or more disciplinary referrals. Middle schools averaged 635 students per year with a mean 2.4 disciplinary referrals per student. Middle schools averaged 8.6 disciplinary referrals per school day. An average of 47.6% of middle school students received at least one office referral. These data suggest that office referrals are more likely during middle school.

According to DeVoe, Peter, Noonan, Snyder, & Baum (2005), 54% of public schools used a serious disciplinary action such as a suspension or expulsion against at least one student during the 1999-2000 school year. Eighty three percent of office referrals led to suspensions lasting 5 or more days, 11% led to removals with no services

(i.e., expulsions), and 7% were transferred to specialized schools. During the 1999-2000 school year, 6.6% of enrolled students in the United States were suspended and 0.21% of enrolled students were expelled (National Center for Educational Statistics [NCES], 2005).

According to the Florida Department of Education (2005), 1.84% of enrolled elementary school students, 16.72% of middle school students, and 15.98% of high school students received in-school suspensions during the 2004-2005 school year. During the 2004-2005 school year, 2.99% of elementary school students, 14.07% of middle school students, and 11.77% of high school students received an out-of-school suspension. Raffaele-Mendez (2000) examined the out-of-school suspension (OSS) percentages and rates for a large urban school district in Florida. During the 1996-1997 school year, there were a total of 33,620 out-of-school suspensions (duplicated count) and 16,204 unduplicated out-of-school suspensions. Data were reported as the percentage of students who received at least one suspension and the rate of students who were suspended. The OSS percentage represents the number of students who were suspended at least once and is reported here as the mean percentage across schools. The OSS percentage for elementary schools was 3.3% and the rate was 5.6 per 100 students. For middle schools, the OSS percentage was 23.68% and the rate was 52.3 per 100 students. At the high school level, the OSS percentage was 20.7% and the rate was 39.2 per 100 students. These data indicate that middle school students are more likely than elementary and high school students to receive an in-school and out-of-school suspension.

Students often are transferred to alternative educational programs following the term of expulsion from a regular public school. Alternative educational programs are

designed to serve students who are at risk for educational failure due to poor grades, truancy, disruptive behavior, suspensions, pregnancy, or similar factors associated with early withdrawal from school (Kleiner, Porch, & Farris, 2002). Kleiner et al. (2002) indicated that 39% of public school districts in the United States administered at least one alternative school or program for at-risk students during the 2000-01 school year. Fifty-nine percent of alternative school programs were located in a facility separate from a regular school, 4% were housed in juvenile detention centers, 3% were in community centers, and 1% were charter schools. As of October 1, 2000, 1.3% of all public school students were enrolled in alternative educational programs in the United States. These data indicate that although a substantial proportion of school districts utilize alternative education programs, only a small percentage of students within these districts actually attend alternative education programs.

*Behaviors that lead to disciplinary exclusion.* Students are referred to the principal's office for a wide range of behaviors including: defiance, disobedience, physical contact and fighting, insubordination, and verbal abuse (Skiba, Peterson, & Williams, 1997). In addition, non-interpersonal behaviors such as excessive tardiness and absences, leaving the classroom or building without permission, and failure to complete written work result in both in- and out-of-school suspensions (Costenbader & Markson, 1998; Raffaele-Mendez, Knoff, & Ferron, 2002; Skiba et al., 1997). More serious disciplinary infractions, such as possession of a weapon or possession of drugs and alcohol account, for a higher percentage of out-of-school suspensions than other less serious violations (Costenbader & Markson, 1998; DeVoe et al., 2005). DeVoe et al. (2005) reported that physical attacks and fights accounted for 35% of all suspensions and

expulsions in the United States during the 1999-2000 school year. Insubordination accounted for 18% of all serious disciplinary actions, threat or intimidation accounted for 22%, possession or use of alcohol or illegal drugs accounted for 20%, and possession of a weapon other than a firearm accounted for 19% of all serious disciplinary actions. Use of a weapon other than a firearm accounted for 5% of serious disciplinary actions, possession of a firearm/explosive device accounted for 4%, and use of a firearm/explosive device accounted for 2% of all serious disciplinary actions. Other nonacademic infractions accounted for 14% of all serious disciplinary actions (DeVoe et al., 2005). It should be noted that these are aggregated data, and do not specify the disciplinary action taken (i.e., suspension vs. expulsion). Thus, it seems that the restrictiveness of the disciplinary action is related to the seriousness of the infraction. Disciplinary actions that culminate in the most restrictive disciplinary actions are reserved for more serious offenses that threaten the safety and well being of students and school staff. However, minor offenses such as insubordination also can lead to removal from schooling if they occur on a continuous basis across time.

According to Kleiner et al. (2002), approximately one-half of all districts with alternative programs report that the following disciplinary incidents were the sole reason for transfers: possession of illegal substance, distribution or use of drugs (52%), physical attacks or fights (52%), chronic truancy (51%), use of a weapon other than a firearm (50%), continual academic failure (50%), disruptive verbal behavior (45%), and possession or use of a firearm (44%). Reported arrests or involvement in the juvenile justice system were cited as a sufficient reason for transfer to an alternative school in 38% of districts surveyed. Mental health needs were least likely to be cited as the sole

reason for transfer. The research did not address the relationship between externalizing behaviors and underlying mental health issues in the students placed in alternative programs. The distinction between externalizing behaviors and underlying mental health issues may be a false dichotomy and may obscure a thorough examination of the mental health needs of students placed in alternative education programs.

A number of conclusions can be drawn from the literature cited. It appears that schools utilize office referrals, suspensions, out of school suspensions, expulsion, and transfers to alternative schools in response to a wide range of student behavior. Similar behaviors can lead to less exclusionary disciplinary practices such as office referrals or they can be followed by more serious disciplinary actions such as suspension and expulsion. For example, noncompliance can lead to an office referral, and in some cases be followed by internal and external suspension. More serious disciplinary offense such as physical fighting and weapons possession tend to lead to greater levels of exclusion. Thus, there appears to be a relationship between the severity of student behavior and the degree to which schools utilize the most exclusionary practices. However, the relationship is imperfect, and less severe behaviors often are followed by disciplinary actions that exclude students from school.

*Student characteristics and disciplinary exclusion.* Certain demographic characteristics (gender, race, and socioeconomic status) are associated with greater use of exclusionary disciplinary practices. The literature reviewed suggests that males are more likely to be excluded than females (Costenbader & Markson, 1998; Florida Department of Education, 2005; Raffaele-Mendez, et al., 2002; Skiba et al., 1997). The National Center for Education Statistics (2003) reported that 9.2% of enrolled males and 3.9% of

enrolled females were suspended during the 1999-2000 school year. Additionally, 0.31% of enrolled males and 0.10% of enrolled females were expelled during the 1999-2000 school year (NCES, 2004). Skiba, Michael, Nardo, and Peterson (2002) found that although males represented 51.8% of enrolled students in a large urban school district, they accounted for 67.2% of suspensions and 83.7% of expulsions. Females were underrepresented on all measures of school discipline. According to the Florida Department of Education (2005), 2.76% of males and 0.86% of females received an in-school suspension at the elementary school level during the 2004-2005 school year. At the elementary school level, 4.60% of males and 1.27% of females received an out-of-school suspension. These trends were found across the middle school and high school levels (Florida Department of Education, 2005). Males are about 3.2 times more likely to receive an internal suspension at the elementary school level, 1.74 times more likely at the middle school level, and 1.48 times more likely to be suspended in high school. For out of school suspensions, males are 3.62 times more likely to receive an out-of-school suspension in elementary school, 1.94 times more likely to receive an out-of-school suspension in middle school, and 1.72 times more likely at the high school level. Thus, although rates of disciplinary exclusion increase in middle school among both males and females, the disparity between the genders is greatest at the elementary school level.

Race and socioeconomic status are associated with rates of discipline practices that exclude students from school (Costenbader & Markson, 1994, 1998; McFadden, Marsh, Price, & Hwang, 1992; Raffaele-Mendez, 2003; Skiba et al., 1997). Data from the Florida Department of Education (2005) demonstrates that 7.20% of enrolled African American elementary school students, 25.84% of African American middle school



students, and 19.74% of African American high school students received an out-of-school suspension during the 2004-2005 school year. In comparison, 1.71% of White elementary school students, 10.07% of White middle school students, and 9.24% of White high school students received at out-of-school suspension (Florida Department of Education, 2005). These data indicate that compared to White students, African Americans are 2.34 times more likely to receive an internal suspension at the elementary school level, 2.02 times more likely in middle school, and 1.76 times more likely in high school to receive an internal suspension. Compared to White students, African Americans are 4.2 times more likely to receive an out-of-school suspension at the elementary school level, 2.56 times more likely at the middle school level, and 2.13 times more likely at the high school level.

Skiba et al. (2002) found that African American students received office referrals, suspensions, and expulsion at rates disproportionate to their total enrollment while Caucasian students were underrepresented. African American students accounted for 56% of all middle schools students in a large, urban school district, but they accounted for 66.1% of office referrals, 68.5% of suspensions, and 80.9% of expulsions. Significant racial disparities remained after controlling for socioeconomic status (Skiba et al., 2002). Raffaele-Mendez et al. (2002) found that schools serving a higher percentage of minority students from low socioeconomic backgrounds were more likely to have higher out-of-school suspension (OSS) rates. The association between race, socioeconomic status, and OSS rates was strongest at the elementary school level. However, there were schools that served higher percentages of African American students from low socioeconomic

backgrounds and had lower suspension rates, suggesting that other variables may moderate this relationship.

Race and socioeconomic status also are associated with presence of alternative school programs in school districts (Kleiner et al., 2005). School districts with less than 5% minority enrollment were less likely to have alternative school programs than districts with 6-20%, 21-50%, and more than 50% minority school enrollment during the 2000-2001 school year. Additionally, school districts with 10% or less of students at or below the poverty level were less likely to have alternative school programs than districts with 11-20%, and more than 20% of students at or below the poverty level.

*Academic achievement and exclusion.* Christle, Jolivette, and Nelson (2005) examined the relationship between school level variables and suspension rates among middle schools in Kentucky. Multivariate analysis indicated that schools with higher suspension rates had significantly higher dropout rates, board of education and law violations, percentages of students from low socioeconomic backgrounds, and per pupil expenditures compared to middle schools with lower suspension rates. Schools with lower suspension rates had higher mean scores on standardized achievement tests, greater attendance rates, and a higher percentage of Caucasian students. Retention rate, enrollment, average years of teaching experience for the staff, student/teacher ratio, and the percentage of enrolled boys were not related to suspension rates. In a related study, these authors found that schools with higher drop out rates had higher percentage of students from low socioeconomic backgrounds, retention rate, suspension rate, and board of education violation rate compared to schools with low drop out rates. Rodney, Crafter, Rodney, and Mupier (1999) found that the number of suspensions received by students

was the strongest predictor of grade retention among African American male teenagers. These results indicate that school level academic performance variables such as mean scores on norm referenced achievement tests and graduation rates are associated with disciplinary exclusion. There also appears to be an association between grade retention and suspension.

*Special education and exclusion.* The Least Restrictive Environment (LRE) clause of the Individual's with Disabilities Education Improvement Act (IDEIA) (U.S. Department of Education [USDOE], 2004) mandates that students with disabilities receive academic instruction in environments with non-disabled peers to the maximum extent that is appropriate given their individual needs. Students with disabilities should receive academic instruction in classes or school separate from non-disabled peers only if available support services are insufficient to provide an appropriate education. The clause states:

...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 when the nature and severity of the disability of the child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Section 612, (a) (A) IDEA, 2004).

Students who receive services under the Emotional Disturbance (ED) category represent 0.85% of the school age population, indicating that a small percentage of students receive special education services under this category (Wagner, Kutash,

Duchnowski, Epstein, & Sumi, 2005). According to the Twenty-Fifth Annual Report to Congress on the Implementation of IDEA (U.S. Department of Education, 2003), 8.1% of students who are eligible for special education received services under the ED category. Among these students, 16% of students ages 6-12 and 22% of student ages 13-17 were included in the regular education classroom 100% of the time during the 1999-2000 school year. Among all students with ED, 31.8% served more than 60% of their school day outside the regular classroom, and 18.1% of students with ED were served in a separate facility (USDOE, 2005). Thus, a substantial proportion of students with ED receive academic instruction in environments separate from their non-disabled peers. Some of these placements (i.e., separate facilities) represent the most restrictive educational environments.

In addition to exclusion through placement in restrictive educational settings, students with EBD are subjected to disciplinary methods that lead to exclusion. Punitive disciplinary methods such as in and out-of-school suspension may be a more severe method of exclusion because behavior support systems are not provided while these students are absent from educational settings. Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005 (2005) examined disciplinary exclusion rates among students receiving special education services for an Emotional Disturbance (ED) using data from the Special Education Elementary Longitudinal Study and the National Longitudinal Transition Study-2. They found that among elementary school students, 47.7% of the ED population had been suspended or expelled compared to 11.7% of students with other disabilities. Further, 72.9% of secondary students with ED were suspended or expelled compared to 27.6% of students with other disabilities. These findings parallel the overall trend found

in rates of disciplinary exclusion, and indicate that secondary students with ED are more likely than elementary school students with ED to receive a suspension or expulsion.

Skiba et al. (1997) also found that students who received special education services under the Emotionally Handicapped (EH) label were more likely than students in general and special education to receive both an office referral and a suspension. Students classified as learning disabled or mildly mentally retarded also were more likely than students in general education to receive a suspension. These findings suggest that enrollment in special education, especially in programs for students with emotional/behavioral disorders, is a risk factor for receiving a disciplinary referral.

*Cumulative effects of demographic variables.* The literature reviewed thus far suggests that race, socioeconomic status, and gender are associated with disciplinary practices that exclude student from school. Research also suggests that as membership in one or more of these demographic categories increase, so to does the odds of receiving a disciplinary referral that leads to removal from school. Raffaele-Mendez (2003) conducted a longitudinal study based on data from a cohort of 8, 268 students who entered kindergarten in 1989. During the 1995-1996 school year, there was an overrepresentation of black males who were enrolled in special education, receiving free or reduced priced lunch, and had experienced an out-of-school suspensions (OSS). Students who fit in this demographic group represented less than 5% of the total student population. However, they accounted for 24% of all students suspended three to five times, 34% of all students suspended six to eight times, 48% of all students suspended nine to eleven times, and 56% of all students suspended 12-14 times. In sixth grade, 66.27% black males receiving free or reduced priced lunch and enrolled in special

education were suspended at least once. In comparison, 44.12% of all white males receiving free and reduced priced lunch and special education services were suspended at least once in sixth grade. Among black males who paid for their lunch and received special education services, 13.60% were suspended compared to 54.29% of white males who paid for their lunch and were enrolled in special education. Black females also were more likely to be suspended regardless of whether or not they received special education services. Thus, the risk of receiving an out-of-school suspension was greatest among African American males enrolled in special education and receiving free and reduced priced lunch.

In summary, office referrals, time out, special education placement in settings separate from the general education classroom, suspensions and expulsions represent educational practices that exclude students from mainstream environments. The risk of disciplinary exclusion is greatest among males (Costenbader & Markson, 1998; Florida Department of Education, 2005; NCES, 2003; Raffaele-Mendez et al., 2002; Skiba et al., 1997;), African American students ( Florida Department of Education, 2005; Kleiner et al., 2005; Raffaele-Mendez et al., 2002; Skiba et al., 2002) and students from low socioeconomic backgrounds (Kleiner et al., 2002; McFadden, et al., 1992; Raffaele-Mendez et al., 2002; Skiba et al., 2002). Student who receive special education services under the Emotional Disturbance (ED) category also are at an increased risk of exclusion due to placements in the most restrictive educational environments (U.S. Department of Education, 2005) and disciplinary exclusion (Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005). Further, the risk of being excluded increases as the number of demographic risk factors increase within a population. African American males who receive free and

reduced priced lunch and special education services appear to be at the greatest risk of disciplinary exclusion (Raffaele-Mendez et al., 2003).

*Baker Act Examination Referrals.*

Children often engage in high intensity behaviors that threaten the safety and well being of themselves and others in their environment. Schools may react to these incidents with a disciplinary referral for a suspension, expulsion, and placement in an alternative education program. In many cases, these behaviors are so severe that schools may choose to initiate an involuntary psychiatric examination if there also is evidence of a mental illness. In the state of Florida, the Baker Act (F.S. 394, Part I, 2005) provides due process rights for individuals suspected of having a mental illness and in need of an involuntary examination. Individuals with severe mental illness must meet certain criteria for involuntary examination and placement in a residential treatment facility.

Several revisions to the Baker Act have had important implications for children. In 1982, the Florida legislature directed the Department of Health and Rehabilitative Services to draft a plan for the elimination of placement in state hospitals by developing community alternatives to treatment. The legislature also added language that encouraged exploration of less intrusive treatment options for children. In 1998, the Comprehensive Child and Adolescent Mental Health Services Act in Part III of Chapter 394 led to language specific to the creation of a system of care for children and adolescents with emotional and behavioral disorders. It directed the Department of Children and Family Services to establish a continuum of treatment options for children and adolescents. Crisis stabilization, including Baker Act ERs was included as one option available to children. An amendment to the Baker Act in 2000 prohibited admission of children and

adolescents to state owned or operated mental health treatment facilities under any circumstance. However, the amendment authorized admission to crisis stabilization units, residential treatment facilities, or a licensed hospital pursuant to an involuntary or voluntary admission process. Additionally, the amendment required treatment in the least restrictive environment (Florida Senate, 2005).

Baker Act ERs occur in receiving facilities that receiving funding from private and public sources. Receiving facilities that receive public funding are called crisis stabilization units. A “crisis stabilization unit” as defined by Part IV of Chapter 394, F.S., the Community Substance Abuse and Mental Health Services Act, is “a program that provides an alternative to inpatient hospitalization and that provides brief, intensive services 24 hours a day, 7 days a week, for mentally ill individuals who are in an acutely disturbed state.” In Florida, ten facilities are specifically designated as children’s units. However, children and adolescents can be taken to any available receiving facility that can perform the evaluation procedures associated with Baker Act ERs. Children are taken to the nearest receiving facility if a referral is initiated in a county without a designated receiving facility. Crisis stabilization units were developed to provide short term acute mental health care and identification of the most appropriate and least restrictive community setting available (Florida Senate, 2005).

*Prevalence of Baker Act referrals.* The Baker Act Reporting Center at the Louis de la Parte Florida Mental Health Institute is responsible for maintaining a data base on Baker Act examination referrals (ERs). In 2002, the center received 105,062 Baker Act Initiation Forms. The report indicated that 16% of Baker Act ERs were for individuals 17 years and younger and 84% were for adults. Additional analysis indicated



that 21% of children experienced more than one examination between 2002 through most of 2004. Children who had one or more Baker Act ERs accounted for more than 44% of all examinations (Christy, 2005). Further, there was a 34% increase in Baker Act ERs for children and adolescents aged 4-17 from 2001-2005 and only a 7% increase in the population of children and adolescents in that age range (Christy, 2005). These findings indicate that the use of the Baker Act has increased substantially among children and adolescents in recent years and that the increase cannot be attributed to in growth in the population.

Males accounted for 50.10% of Baker Act ERs between the time period of 1999-2002 in a large urban county in Florida. During the same time period, the average age of receiving an initial Baker Act ER was 13.60 years of age for those children and adolescents under 18 years of age. In 88% of reported cases, the justification for a Baker Act ER was related to the finding that the individual would likely cause serious bodily harm to self or others in the future. Evidence suggesting that the individual would likely suffer from neglect resulting in real and present threat of substantial harm accounted for 5.34% of Baker Act ERs among children. Harm and neglect accounted for 4.72% of Baker Act examination referrals among children and evidence was missing from 1.56% of reported cases (Christy, Petrila, Hudacek, Haynes, Wedekind, & Pulley, 2005). These data indicate that males and females are at an equal risk for a Baker Act ER. Behaviors that threaten the physical safety of the individual or others within the individual's environment are the most common reasons cited for a Baker Act ER. It is difficult to make a statement regarding the age that represents the greatest risk period for receiving a Baker Act ER. Although the average age of receiving a Baker Act ER is at the onset of

adolescence, differences in the distribution of Baker Act ERs across childhood and adolescents may present challenges to making a valid conclusion regarding the greatest period of risk.

*Baker Act referrals and school-based behavior.* Several concerns related to the process by which children are referred to Baker Act receiving facilities have arisen in recent years. First, the increase in the number of Baker Act ERs suggests that systems responsible for serving children are utilizing the most restrictive option in response to intense behavioral incident. These findings may indicate that fewer options are available for serving children with severe EBD in less restrictive environments. It has been argued that involuntary examinations have been utilized inappropriately with children and adolescents. Anecdotal reports suggest that children are receiving involuntary examinations without exploration of less intrusive options (Florida Senate, 2005).

A second concern stems from evidence suggesting that schools may be utilizing Baker Act ERs in response to zero tolerance policies, which often lead to other disciplinary strategies that remove children from school. Schools may be using Baker Act ERs to remove children with severe emotional and behavioral disorders from school settings rather than implementing less intrusive school based services (Florida Senate, 2005). Christy et al. (2005) examined factors associated with acute mental health care (Baker Act examination referrals) within a large county in Florida. Information was collected from statewide and county Medicaid service utilization claims, the Florida Department of Children and Families Integrated Data System, the Baker Act database, and the Child Welfare and Emergency Management Services. Results indicated that

Baker Act ERs for children were less likely during the summer months, suggesting that schools may be involved in the initiation of many Baker Act ERs.

Christy (2005) found evidence suggesting that the availability of crisis stabilization units (CSU) within a region may be associated with repeat Baker Act ERs. The Sun Coast Region in Florida had 25% of children having two or more Baker Act examinations between 2002 and most of 2004. The region also had the highest population of children of any district/region and had more children's crisis stabilization units than any other district/region. The availability of crisis stabilization units may prompt schools to utilize this resource to address severe EBD. Thus, crisis stabilization units may serve as a resource for schools faced with addressing the needs of students with severe EBD. Intensive behavior support services along with adequately trained personnel may be underutilized or unavailable in most school settings, prompting a reliance on crisis stabilization units to address challenging behavior.

Schools are designed to address the needs of typical students and those students with less intense emotional and behavioral problems. When a student engages in a very intense behavioral incident, schools might initiate a Baker Act ER because it provides a mechanism by which students can access more intensive support services that are unavailable in most school settings. Additionally, the presence of beliefs that support the removal of disruptive students from school environments through any means possible may increase the likelihood of a Baker Act referral.

### *Models of Psychopathology*

Literature related to models of psychopathology will be presented prior to discussing the research base that has identified an association between the availability of

mental health and behavioral support services and exclusion from schooling and placement in the most restrictive environments. Explanations for disturbance are derived from models that specify the origin of human behavior. Once a particular paradigm or theoretical orientation is adopted, incoming data and information are integrated into a framework that serves as a heuristic for assessment and intervention planning.

Hypotheses about the etiology of severe childhood psychopathology are developed during evaluation and treatment planning for children. The evaluation techniques and services provided to children are consistent with explanatory models of psychopathology, and these beliefs also guide the selection of the most appropriate interventions. Implicit in this process are underlying beliefs about the most appropriate environments and support services for children who manifest severe psychopathology. Consequently, the adoption of a model of psychopathology can influence the degree to which support services are utilized within environments that provide educational and mental health services for children (Sroufe, 1997).

*Medical models.* Traditionally, medical models have been emphasized as the primary explanatory model of severe psychopathology. Medical models have a long tradition in the literature that has addressed the etiology of severe psychopathology. According to Sroufe (1997), the medical model of psychopathology emphasizes traits and conditions within the child. These traits are thought to have an organic basis and represent pathological disturbance of the individual. Human problems are grouped into taxonomic systems according to unique traits associated with membership in a category of disturbance. Characteristics common to each category are analyzed to determine traits that discriminate groups from one another. These categories are given names and serve

as systemic frameworks for conceptualizing the nature of disturbance. Within these systems, disturbance and the names given to delineate these categories are believed to be representative of enduring conditions and traits endogenous to the individual. Following this line of reasoning, an organic basis for severe psychopathology is emphasized within a medical model (Sroufe, 1997).

The organic pathological expression of disturbance can develop from genetic or environmental pathogens. Research and clinical treatment is directed towards the identification of pathological symptoms and management of the symptoms associated with disturbance. Consequently, assessment techniques are designed to identify symptoms that covary with a particular category of pathology and medical treatments often are emphasized to eliminate or reduce the impact of neuropsychological deficits and excesses. Environmental manipulations also might be included in treatment. However, limited emphasis is directed towards enhancing the adaptational skills of the child. Similarly, modifications to environmental systems that facilitate adaptation are given less attention in research and treatment programs within a traditional medical model. Symptom management is emphasized during treatment of mental illness within a medical model while early intervention and preventative approaches are given less attention (Sroufe, 1997).

Neurobiological theories of psychopathology are an example of an etiological explanation that can be subsumed under a medical model. Individual variations and differences in neurobiologically based processes are emphasized. These processes are influenced by evolutionary mechanisms, genetic influences, neurochemical characteristics, and the neuroanatomical makeup of the individual. The manifestation of

severe psychopathology is influenced by dysfunction in one or several of these processes, which causes emotional and behavioral disturbance (Mash & Dozois, 2003). Models that emphasize neuropsychological constructs have been used to explain various forms of childhood psychopathology. For example, Moffit (1993) reviewed 47 studies that explored the neuropsychological constructs associated with Conduct Disorder. Deficits in language based skills and “executive” self-control functions were identified as two processes commonly impaired in antisocial children. Neuropsychological theories postulate that executive function deficits interfere with a child’s ability to control his or her behavior. Consequently, the child has difficulty considering the future, long term consequences of present behavior. Childhood behavioral disorders are influenced by deficits in executive functioning, which impair a child’s ability to adapt to social demands within his or her environment, setting the stage for the emergence of antisocial behavior.

*Developmental models.* Developmental models of disturbance also have been developed to explain emotional and behavioral maladjustment. According to these models, the development of adaptive and maladaptive behaviors is best explained when conceptualized as an interaction between the individual and the environmental context in which growth occurs. Endogenous neuropsychological differences are examined when attempting to explain the emergence of behavioral maladjustment. However, the endogenous characteristics of the individual and environmental influences are viewed as inseparable within a developmental model. Further, similar principles that govern normal development also govern the emergence of maladaptive behavior. Prior adjustment

interacts with current environmental characteristics in a reciprocal manner, influencing the manifestation of maladaptive behavior at each stage of development (Sroufe, 1997).

Psychopathology is reflected in a child's failure to meet developmental expectations. According to Mash and Dozois (2003), psychopathology is an expression of adaptational failure. Adaptational failure is described as "deviation from age-appropriate norms, an exaggeration of normal developmental trends, an interference in normal developmental progress, or a failure to obtain a specific developmental function or mechanism" (2003, p. 22). Disturbance occurs when a child fails to develop a competency that facilitates the successful completion of developmentally appropriate tasks. The child's ability to meet age appropriate developmental expectations is diminished, and the emergence of maladaptive behavior becomes more likely.

Developmental expectations change across the lifespan and across environments.

Therefore, disturbance can be manifested in various ways depending on the expectations of the environment and the age of the child. Environmental expectations influence which behaviors are judged to be deviant, leading to the perception of disturbance.

Consequently, the manifestation of adaptational failure involves a certain level of social judgment from adults within a child's environment. This judgment entails the perception that a child has failed to attain a developmental task necessary for successful environmental adaptation.

The concept of developmental pathways is one of the most important and influential aspects of developmental models. These pathways are a metaphor used to describe the relationship between manifestations of disturbance and various stages of the life span. When a child deviates from the normative developmental patterns associated

with successful environmental adaptation, there is an increased probability of adaptational failure. Adaptational failure at any point in time places the child on a pathway that has the potential to lead to the manifestation of severe psychopathology across the lifespan. Different pathways can lead to the manifestation of similar patterns of disturbance. For example, the manifestation of social withdrawal and depression share similar features in terms of their expression. However, these conditions may have their origin in divergent developmental pathways such as alienation, anxiety or helplessness (Sroufe, 1997). The process by which divergent conditions lead to similar expression of disturbance is known as equifinality (Mash & Dozois, 2003). Further, similar pathways can place the child at an increased risk for variation in the expression of severe psychopathology. Children who begin on a similar pathway of adaptational failure can manifest different patterns of disturbance across the life span (Sroufe, 1997). This process is referred to as multifinality within the developmental psychopathology framework (Mash & Dozois, 2003). Regardless of the pathway that leads to disturbance, severe psychopathology is the result of successive deviations in normative developmental patterns over the course of childhood development. Each deviation leads to a widening in the gap between the expectations of the environment and the skills necessary to achieve adaptation. Consequently, the risk of severe psychopathology increases across childhood when skills deficits go unaddressed (Sroufe, 1997).

Adaptational failure can be manifested across each stage of development, but its expression can vary based on contextual features of the environment. Developmental models have important implications for the design of systems that are intended to enhance environmental adaptation. Early identification and early intervention are



emphasized with developmental frameworks because contextual features of the environment can prevent or reverse negative developmental trajectories. Severe psychopathology may result when a child enters a negative developmental trajectory early in development, continues to experience successive deviations in normative patterns of development, and fails to receive environmental supports that facilitate adaptation. The duration of a maladaptive pathway is associated with the responsiveness to environmental manipulations across development, and therefore, interventions that interrupt negative pathways early in development have the greatest likelihood of success (Sroufe, 1997).

Traditional medical model explanations for severe childhood psychopathology are increasingly being integrated into developmental models. The Moffit (1993) study presented in the preceding paragraphs identifies neuropsychological deficits as a key variable affecting the emergence of antisocial behavior in childhood. However, the model is integrated into a development framework whereby neuropsychological deficits set the stage for dysfunctional patterns of interactions with caregivers early in development. Consequently, the risk of failure in response to adult mediated developmental tasks increases as early patterns of relationships become dysfunctional. Environmental variables have the potential to exacerbate the affects of neuropsychological deficits. The emergence of Conduct Disorders is believed to be an interaction between neuropsychological deficits and social environments that increase the risk of adaptation failure and exacerbate existing behavioral maladjustment (Moffit, 1993).

Patterson (1986) has proposed a model to explain the emergence of oppositional behavior in childhood based on a negative reinforcement paradigm. In this model, the reactions of caregivers to child noncompliance unintentionally increase the chances that

the child will engage in future noncompliance. Parents counter their child's initial noncompliant behavior with highly punitive, emotionally laden responses. The child then responds by escalating their behavior. Eventually, the parents withdraw the initial request and withdraw from the aversive interaction with their child. The culminating effect of such interactions is a tendency for the child to escalate their behavior in response to task demands perceived as aversive. Further, the noncompliant response precludes the development of prosocial responses to aversive situations. Coercive patterns of social interaction often generalize to other social environments and individuals, leading to a pattern of oppositional behavior that often impairs the child's ability to meet developmental expectations across a wide range of environments and developmental periods.

*Risk and resilience models.* The concepts of risk and resilience emerged in the literature along with development models. These models are similar, and together, help explain why some children develop social competencies despite the presence of aversive environments (Masten & Curtis, 2003). According to risk and resilience models, children encounter various developmental tasks as they progress across the life span. Adaptational failure is associated with problems in that attainment of competencies necessary for accomplishing a developmental task. Any factor that increases the probability of adaptational failure can be conceptualized as a risk factor. The accumulation of risk can interfere with the acquisition or performance of behaviors that facilitate attainment of developmental tasks of childhood. Despite the deleterious impact of risk factors, other variables can enhance a child's capacity to develop competencies that facilitate adaptation. These variables are known in the risk and resiliency literature as protective

factors because they increase the capacity for adaptation despite the presence of accumulated risk factors. The concept of resilience refers to “successfully coping with or overcoming risk and adversity or the development of competence in the face of severe stress and hardship” (Doll & Lyon, 1998, p. 348). Risk and protective factors interact across each stage of development and affect trajectories associated with negative adult outcomes (Sroufe, 1997).

In one of the most influential investigations of risk and protective factors, Werner (1989) identified several variables that impacted the developmental course of high risk and resilient children. The Kauai Longitudinal Study represents one of the largest interdisciplinary investigations of high risk individuals and protective factors. The original sample consisted of a multiracial cohort of individuals born in 1955 on the island of Kauai, Hawaii. The study monitored the impact of various biological and psychosocial risk factors, stressful life events, and protective factors across childhood and into adulthood. One third of the sample was considered “at risk” because they had experienced moderate to severe degrees of perinatal stress, poverty, and were raised by mothers with little formal education. The home environments of the at-risk portion of the sample also were characterized by discord, desertion, or divorce, and evidenced parental alcoholism or mental illness. The at-risk children who accumulated four or more of the risk factors by age two, developed severe learning or behavior problems by age ten, and had delinquency records, mental health problems, or teenage pregnancies by the age of 18 (Werner, 1989).

However, several individuals emerged from these high risk environments to live more successful lifestyles. Temperamental characteristics in infancy such as alertness and

autonomy, communication skills, locomotion and self help skills were identified as protective factors. The resilient portion of the high risk sample also developed healthy relationships with peers and had better reasoning and reading skills during elementary school. They had developed a positive self concept and internal locus of control by high school graduation, found emotional support beyond their families, and relied on informal social networks for support during times of crises (Werner, 1989). Distributional attributes of the individual, affectional ties within the family that provide emotional support in times of stress, and external support systems such as school, work, or church emerged as the three types of protective factors associated with positive adult outcomes.

*Risk and correlated constraints.* Farmer, Quinn, Hussey, and Holahan (2001) discuss the development of behavioral disorders in the context of correlated constraints. The issue can be integrated into developmental and risk models of psychopathology. Correlated constraints refer to the multiple factors that contribute to the development of disruptive behavioral disorders. Behavioral, biophysical, cognitive, contextual, emotional, and social interaction variables interact to influence behavioral development. The presence of multiple risk factors influences the emergence of disturbance. Various developmental factors constrain each other and promote stability across each developmental period. For example, the presence of a supportive family environment, the development of prosocial behavioral patterns, and the presence of a supportive social network can prevent early learning problems from escalating into severe emotional and behavioral maladjustment. In this example, the presence of these protective factors constrains the potentially negative affects of early learning problems.

Alternatively, negative outcomes can occur when correlated constraints interact to support the development of behavioral disturbance. The same child who experiences early learning problems will likely experience behavioral disturbance over the course of development if protective factors in the environment are limited. The development of oppositional behavioral patterns, inappropriate supervision and discipline at home, coercive interactions with parents and teachers, association with a deviant peer group, and the development of social roles that result in reinforcement of antisocial behavior can lead the development of behavioral disturbance (Farmer et al., 2001).

Developmental models have important implications for the design of effective service delivery systems. If contextual factors affect the development of severe psychopathology, then environments can be designed to facilitate the development of social competence (Sroufe, 1997). Early identification of negative developmental trajectories can lead to the delivery of early intervention services designed to increase social competence while preventing adaptational failure. These interventions services can address negative developmental trajectories before emotional and behavioral maladjustment escalates to a point where the most intensive services become necessary. Further, the presence of environmental support systems that increase protective factors and resiliency within at-risk children may greatly reduce the need for placement in settings separate from typical peers (Doll & Lyon, 1998). Efforts to address severe and emotional disturbance also must account for the presence of correlated constraints. Prevention and intervention efforts are likely to fail if only one risk factor is addressed. The presence of other risk factors will continue to constrain prosocial development and influence the development of emotional and behavioral disturbance (Farmer et al., 2001).

When support services are limited, deficits in social competence can lead to successive occurrences of adaptational failure. The risk of developing severe psychopathology increases with each experience of adaptational failure (Sroufe, 1997). Additional resources must be allocated if environments are unprepared to address the needs of children experiencing severe psychopathology. The alternative approach is to exclude students from their typical environment or to look beyond those environments to the community for expertise in dealing with children who experience severe psychopathology (Doll & Lyon, 1998).

### *Support Services*

Developmental models help explain exclusion in environments with fewer support services. Children with multiple risk factors often experience higher rates of adaptational failure early in childhood (Doll & Lyon, 1998). The development of severe psychopathology is more likely when negative developmental trajectories are unaddressed through competency based support systems. Successive occurrences of adaptational failure often culminate in emotional and behavioral disturbance that often prevents successful integration into environments in non-disabled peers (Sroufe, 1997). Educational environment often encounter children that manifest severe childhood psychopathology. In an effort to address the wide range of emotional and behavioral problems encountered in the school settings, various tiered level systems of behavior and emotional support have been proposed in the literature (Gresham 2004). A three tiered model of school based service delivery is described in this section.

*Tier models of service delivery.* Gresham (2004) provided a summary of school based behavioral intervention support systems based on a three tiered model. The

allocation of resources and time are directly proportional to the frequency and intensity of challenging behavior that is manifested within the environment. Additional resources and personnel who possess increasingly more expertise are available at each level of support. Therefore, within three tiered model of behavioral supports, resource allocation is directly proportional to the intensity of the presenting problem and the resources that are needed to effectively address emotional and behavioral disturbance. Tier of models behavior support are considered beneficial because resource allocation is associated with the severity of the emotional/behavioral problems manifested by children (Deno, 2002).

As the name implies, three levels of intervention support levels around implemented in a three tiered model of behavior supports. These levels are universal interventions, selected interventions, and targeted intensive interventions. Universal interventions are consistent with a primary prevention focus and target all students within a district, school building, or classroom. Each student receives a similar intensity of services at the universal level. It is estimated that between 80-90% of Tier I, universal interventions will be effective in preventing adaptational failure in academic and/or social domains (Gresham 2004, Walker & Shinn, 2002).

Approximately 5-10% of students who receive universal interventions will continue to manifest adaptational failure. Selected interventions, sometimes referred to as secondary prevention efforts (Walker & Shinn, 2002), are intended for students who require resources beyond what is offered at the universal level of intervention. These students often require interventions that are designed to target specific competency deficits. At tier II, the goal of interventions is to increase the likelihood that at-risk

students will respond to interventions delivered at the Tier I, universal level of prevention (Gresham, 2004; Walker & Shinn, 2002).

Despite the implementation of interventions at the universal and secondary levels, approximately one to five percent of students will continue to require intensive services to address adaptational failure that manifests as severe behavioral disturbance. These students may require resources and expertise typically unavailable in most school environments. Consequently, involvement of mental health, juvenile justice, and social services often is necessary to address emotional and behavioral problems that have failed to respond to less intensive systems of support. At tier III, the reduction of problem behaviors that threaten the safety and well being of the target student and his or her peers becomes the goal of intervention. Community based resources often are utilized to maximize the intensity and expertise of intervention that are implemented for the child. Consistent with universal and selected levels of intervention supports (Tier I & Tier II respectively), the goal remains the development of student academic and social competence that will facilitate adaptation to less restrictive environments (Gresham 2004). Interventions at Tier III or the targeted level may include wraparound services that involve collaboration between families, schools, and communities (Walker & Shinn, 2002).

Behavioral support systems based on levels of support have important implications from a developmental perspective. Consistent with developmental models, negative long term outcomes for children can be reduced by decreasing the duration of negative development trajectories. Risk increases as a child remains on a negative trajectory (Masten & Curtis, 2003). Tier level support systems facilitate the identification



of students on negative developmental trajectories. Early identification, coupled with interventions designed to enhance protective factors and competencies can significantly reduce the number of children who require intensive, specialized treatment corresponding to Tier II and Tier III levels of support (Gresham, 2004).

*Tier models and restrictive placement.* Behavioral support systems based on tiered models suggest that placement in the most restrictive settings may be associated with the failure to provide adequate resources in less restrictive environments. Tiered models of behavior support are associated with strength oriented approaches to mental health service delivery. A strength oriented approach shifts the focus of service delivery to the identification of protective factors within the child's environment, and resources are directed towards the implementation of competency based support systems. The three tiered model facilitates a proactive approach to service delivery, and resources are allocated according to the needs of children who receive services within each tier. Program development is based on the needs of a targeted population, and services are provided in environments consisting of healthy children (Power, 2002). Movement along the tiers is based on the child's response to interventions delivered within the context of each tier. Children will move into a higher level of services if the resources necessary to obtain an adequate response are unavailable (Gresham, 2002).

Strength oriented approaches can be compared to a deficit approach to service delivery. Services typically are delivered in response to a referral, which often occurs in the context of a crisis situation. Deficit oriented approaches are associated with reactive responses to crisis situations. Consequently, more intensive services are necessary and can lead to placement in the most restrictive settings. These settings typically consist of

children who demonstrate the most severe examples of adaptational failure and psychopathology. Systems without such methods for allocating resources in proportion to the needs may be more likely to develop deficit oriented approaches and adopt approaches which lead to placement in the most restrictive settings (Power, 2002).

#### *Availability of Support Services*

The literature reviewed thus far suggests that mental health and behavioral support services can facilitate the development of social competence among at-risk youth. Successive occurrences of adaptational failure can be prevented when support services are provided early in the course of a negative developmental trajectory (Masten & Curtis, 2003; Sroufe, 1997). Unfortunately, when it comes to mental health and behavior support services, children represent an underserved segment of the population. Many children with the most severe mental health problems fail to receive treatment that can potentially lead to improvements in their social functioning. According to the United States Department of Health and Human Services (1999) approximately 20% of children and adolescents have an identifiable mental disorder. Between five to nine percent of children have a serious emotional disturbance and extreme functional impairment, and 9-13% have a serious emotional disturbance and substantial functional impairment. However, only 21% of children and adolescents identified with mental health concerns receive treatment (United States Department of Health and Human Services [US DHHS], 1999).

Several barriers to treatment have been identified in the literatures. Parent reports indicate that schedule constraints, divorced status, and the presence of three or more psychosocial stressors limit access to treatment (Owens et al., 2002). Barriers also include a lack of transportation, unavailability of services, poor quality of services,

scheduling conflicts, the cost of obtaining services, ineligibility for services, location of services, transportation limitations, and language/communication conflicts (Wagner & Sumi, 2005). Schools often become a primary provider of mental health services because of these barriers that limit access to treatment.

*School based support services.* Adelman and Taylor (1999) reviewed several mental health projects implemented in schools across the United States. School based mental health programs vary according to the nature and scope of services provided within educational settings. These services may focus on psychosocial problems such as school adjustment and attendance problems, dropout prevention, physical and sexual abuse, substance abuse, relationship difficulties, emotional problems, teen pregnancy, and delinquency and violence. Programs focus on improving the capacity of schools to address emergency situations and enhance emotional and social well being, resiliency, self-esteem, intrinsic motivation, empathy, and prosocial skills among students. Services also involve efforts to promote mental health, minimize the impact of psychosocial problems, psychotropic medication management, and participating in a system of care. Larger school districts typically offer a wider continuum of preventative and intervention based approaches. The location and ownership of these services varies and often involves services operated solely by school districts, and may include collaboration efforts between schools and community based agencies. Mental health services may be provided to all students within a school, those in certain grades, or targeted towards at-risk populations. Interventions can be delivered in regular or special education programs, school-based health centers or family resource centers. These services may encompass efforts to collaborate with community based agencies in an

effort to address the needs of children with severe emotional and behavioral disorders. Consistent with tier models of service delivery (Gresham, 2004), the projects reviewed by these authors emphasized the importance of a continuum of coordinated and accessible services. These programs include preventative and early intervention programs and treatment programs for severe emotional and behavioral disturbance.

According to Adelman and Taylor (1999), several factors have hampered the development of school based mental health programs. Existing educational policies typically have assigned a low priority to school based mental health services. Consequently, the development of a comprehensive, integrated, and multifaceted approach has been limited. Piecemeal programs and services based on categorical funding formulas often limit the scope and range of the services provided to students. School based mental health programs often are restricted to children who manifest severe emotional and behavioral disturbance with limited emphasis on early intervention programs.

Foster et al. (2005) examined the types of services and supports delivered by public schools in the United States during the 2002-2003 school year. The national survey collected data from 83,000 public elementary, middle, and high schools and their associated school districts. Results indicated that student were eligible to receive mental health services in 87% of schools. Ten percent of schools reported that students must have an Individualized Education Plan (IEP) to qualify for services. Assessment for mental health problems, behavior management consultation, and crisis intervention were available in 87% of school. Referrals to specialized programs were available in 84% of schools. Individual counseling, case management, and group counseling were provided in

76%, 71%, and 68% of schools, respectively. Substance abuse counseling was provided in less than half of all schools, and medication/medication management was the least likely service to be provided. Seventy percent of schools reported that school counselors were available to provide mental health services, 69% reported the use of school nurses, 68% utilized school psychologists, and 44% utilized social workers as mental health service providers. Mental health counselors, substances abuse counselors, clinical psychologists, and psychiatrists were reported to be utilized in less than 20% of schools. Only 15% of school reported the use of school wide screening for emotional and behavioral problems. Prevention and pre-referral intervention programs were implemented in 63% of schools. Curriculum based programs were implemented in 59% of schools and school wide strategies to promote safe and drug free schools were provided by 78% of schools.

Slade (2003) also examined the availability of school based mental health services in the United States. Data were collected from the first wave of the ADDHealth study, which is a nationally representative survey of students in grades 7 through 12. Administrators from 132 schools were asked about the availability of health services either at school or at another school located within the district. Results indicated that approximately 50% of middle and high schools offer on site mental health counseling services and 11% have mental health counseling, physical examinations, and substance abuse counseling on site. Rural schools, schools in the Midwest and South regions, and smaller schools were least likely to offer mental health counseling. Access to Medicaid funding for financing health services was related to disparities between schools in the availability of mental health counseling.

Students who exhibit significant emotional and behavioral problems in school often qualify for special education services under the serious emotional disturbance category (SED). For many students, the special education system becomes the primary mechanism for accessing behavioral and mental health services. The Individuals with Disabilities Education Improvement Act (IDEIA, 2004) mandates a free and appropriate education for students who are identified as having one of thirteen disabling conditions, including SED. Students who are eligible for special education must receive services to address their individual needs. A child is eligible under the serious emotional disturbance category (SED) if they have a disorder in at least one of five criterion areas. The five areas are (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory relationships with peers or teachers; (c) inappropriate types of behaviors or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; and (e) a tendency to develop physical symptoms or fears associated with personal or school problems. Schizophrenia is included in these criteria. Eligibility criteria do not apply to children who are social maladjusted unless they also have an emotional handicap. The presence of one of these conditions must cause adverse effects on school performance.

The intention of IDEIA is to provide a free and appropriate education to students with disabilities in the least restrictive environment. The assumption underlying IDEIA is that children with disabilities require a specialized curriculum and related services tailored to the individual needs of students with disabilities. Thus, IDEIA serves as a mechanism by which access to mental health services is provided for students whose behavior impedes learning. However, the literature reviewed reveals several concerns

related to the implementation of mental health and behavioral support services for children in school. First, many students experience a protracted period of educational failure prior to receiving any services at all or may receive services limited to their area of eligibility. The current system of special education and related eligibility criteria may inadvertently contribute to a narrowed conceptualization of student needs and a restricted view of student functioning. These practices may preclude the implementation of support services for students with emotional and behavioral disorders until problems become so severe that they require the most intensive resources available. Further, students may first qualify for services under one category and fail to receive support services to address areas of concern that are considered secondary to the primary category. For example, students may have academic and behavioral problems which impact their adjustment at school. However, student may qualify for services under the SLD label and fail to receive mental health and behavioral support services.

Morrison and D’Incau (2000) utilized a qualitative study design, using a combination of ethnomethodology and case study analysis to examine the case histories of 41 students. The students involved in the analysis had received special education services and had been recommended for expulsion. Analysis of the service trajectories across childhood indicated that many students did not receive services despite evidence of pervasive problems in multiple domains of functioning. Eligibility criteria associated with these programs appears to have prevented access to these services. These students eventually were identified as SLD or SED, and two to three evaluations were conducted until services were rendered. Another group of students received minimally intensive services such as speech, followed by resource specialist programming, and eventually

were placed in special day classes. Analysis also indicated a “jagged” service trajectory, characterized by students who received services under different categories at various points in time.

Duncan, Forness, and Hartsough (1995) generated similar findings from a sample of students in a school based day treatment program. Archival records were used to examine the diagnostic and treatment histories of 85 children and adolescents served in two school based day treatment programs. Data suggested that very few systematic interventions occurred between identification of the problem and initial placement in day treatment. The implementation of interventions typically were initiated a little more than a year after problems were noticed, and placement in a school based day treatment occurred four to six years later. Consequently, students failed to receive any services until they had experienced several years of adaptational failure. The interventions that were implemented consisted primarily of medication treatment, infrequent outpatient therapy unrelated to other interventions, and resource room consultation for learning problems. Analysis of the case histories provided limited evidence of collaboration between school and mental health personnel prior to placement in the day treatment center.

Once students do qualify for special education, it is expected that they will receive a comprehensive array of behavioral and mental health services. Although national data indicate that a vast majority of public school report the implementation of mental health services (Foster et al., 2005), students with ED may not receive adequate services to address their social-emotional needs. Wagner and Sumi (2005) examined the services provided to students with Emotional Disturbance (ED) and found that very few school based services were implemented. Data from the National Longitudinal Transition Study-



2 (NLTS2) indicated that 38% of students with ED in general education classrooms received no curricular modifications. Fewer than 25% of students with ED received learning supports to address behavior and learning concerns, 23% had a behavior management plan, 21% received assistance with study skills and instruction in learning strategies, 15% have an adult tutor, and 15% have a peer tutor. Sixty-nine percent of children with ED received psychological/mental health services at school. Forty-four percent of students with ED received substance abuse prevention or substance abuse treatment at school, and 30% participated in conflict resolution, anger management, or violence prevention programs. Among these students, 36% received school based psychological/mental health services. These data suggest that even when students qualify for special education services under the ED category, they often fail to receive appropriate modifications to the curriculum and support services designed to enhance social competence.

In addition to providing support services for children who qualify under the ED category, IDEIA provides due process rights and procedures for students with disabilities who are suspended or expelled. Students with disabilities are protected from permanent expulsion because of regulations from IDEIA, 2004). According to IDEIA, schools are mandated to make a determination as to whether a violation of school disciplinary policy by a special education student is related to his or her disability if the disciplinary response results in a suspension of over ten days (or a suspension that would, with previous suspensions that year, total more than ten days) or expulsion, which would constitute a change of placement. However, special education students can be placed in an interim alternative educational setting for up to 45 days. These settings include: (1) a more

restrictive special education setting, such as a self contained program, (2) an alternative school, (3) an age-appropriate mental health facility, (4) a condition specific medical facility, (5) homebound instruction, or (6) a court mandated correctional facility (IDEIA, 2004). A substantial proportion of students whose behavior impedes their adaptation fail to receive support services because they have been labeled as socially maladjusted. These students then become subjected to disciplinary practices that exclude students from school and may not receive support services designed to enhance social competence. Thus, the social maladjustment clause may actually limit services to children who fail to meet the criteria for eligibility. One could reasonable conclude that many youth in the United States become subjected to punitive disciplinary practices and fail to receive behavioral and mental health services because they have been labeled socially maladjusted.

When students are expelled form school, regardless of whether or not they receive special education services, they often are placed in alternative education programs. A recent study conducted in the state of Florida suggests that very few alternative programs provide academic assistance, behavioral interventions, and counseling services for students placed in alternative school programs. Bergquist, Bigbie, Groves, & Richardson (2004) examined data relevant to alternatives to suspension collected from 50 of the 67 school districts in the state of Florida. Available funds and staffing resources were identified as the two most prevalent factors impacting decisions made about service delivery models. Very few instances of academic assistance were found across the districts. For example, a specific academic curriculum was used in only 32% of alternative schools/off-site locations, 24% of in-school suspension programs, and 18% of

prevention programs. Tutoring was provided in 24% prevention programs, 18% alternative schools/off-site locations, and 18% of in-school suspension programs. Counseling programs and behavioral interventions were offered in very few instances.

The research presented in this section suggests that children with EBD face substantial barriers in obtaining behavioral and mental health services (Owens et al., 2003). A large percentage of schools indicate that they have behavioral and mental health services available for students (Foster et al., 2005). However, a closer examination of the literature suggests that students with the most intensive needs often receive limited accommodations and support services (Wagner & Sumi, 2005). Further, students often experience several years of failure before they access these services. The services that are provided often are limited in scope and target what is believed to be the primary disability, while failing to address associated learning or emotional/behavioral concerns (Morrison & D’Incau, 2000).

#### *Factors Associated with Restrictive Placement*

Due to the relative scarcity of mental health services, children with EBD enter negative developmental trajectories and the stage is set for a chronic pattern of maladjustment that often requires intensive services only available in the most restrictive settings. Tier models predict that children will pass through Tier I and Tier II levels of support before their behavior problems escalate to a point where the most intensive resources are necessary at Tier III. The child’s response to less intensive interventions should predict the delivery of support services at higher levels along the continuum of supports (Gresham, 2004). However, there are cases in which a child may bypass Tiers I and II, and require the most intensive support services at Tier III. Thus, involvement at

Tier III can result from an aggregated accumulation of behavioral disturbance that is unresponsive to less intensive interventions. Involvement at Tier III also can occur after a single behavioral event prompts educators to look beyond the school setting for the most intensive support services available. The model presented here predicts that referrals for the most intensive support services available can be attributed to two factors. First, the most intensive and restrictive placement options should be reserved for children who exhibit the most severe emotional and behavioral disturbance. Second, less restrictive placement should be associated with the availability of support services within those settings. Referrals to the most intensive services will be seen as an appropriate response to severe emotional and behavioral disturbance when adequate support services are unavailable in less restrictive environments.

*Severity of behavior.* The severity of the students emotional and/or behavior problem, as perceived by adults in the child's environment, appears to be related to placement in the most restrictive educational and treatment settings. Hendrickson, Smith, Frank, and Merial (1998) examined records from 99 students with severe emotional and/or behavioral disorders (EBD) to investigate factors related to placement in more restrictive educational settings. Forty-nine students received educational services in regular schools and 50 students received services in a segregated school. Data collection methods included records review of demographic characteristics, educational achievement, data on the IEP decision making process, and information pertaining to the justification for current special education placement. Telephone interviews with one IEP team also served as a source of data. Results indicated that staffing team members perceived the students in segregated school settings to display more intense, severe, and a

longer duration of emotional and/or behaviors disorders, posed a greater threat to others, had poor self-control, more problems with noncompliance, parental support issues, and problems with large school environments.

Muscott (1997) examined the characteristics of students with emotional and behavioral disorders (EBD) across four sequential special education placements. Participants were 473 students served in resource rooms within regular schools, special classes, special schools, and residential schools. Aggression and disruptive behavior were the most common behavioral profile of students with EBD. Elementary school students in residential settings were perceived to be more maladaptive than peers in resource rooms and special classes. Teachers perceived younger elementary age students as exhibiting more adaptive behavior than older peers in resource rooms, but less adaptive behavior than peers in residential schools. In particular, elementary school students in resource rooms were rated as less aggressive and disruptive than peers in separate special schools and residential schools. There were no differences among secondary students across the range of available placements.

The severity of emotional and behavioral disorders also appears to be associated with the most restrictive placements in community settings. McDermott, Mckelvey, Roberts, and Davies (2002) found evidence to support this hypothesis. Intake data for 603 children ages 4 to 16 years of age who visited a mental health treatment facility located in a pediatric hospital were utilized in the analysis. Care options included an in-patient unit, a day treatment program, enrollment in outpatient treatment, or tertiary consultation services. Results indicated that the most costly and time intensive settings were reserved for children with more severe psychopathology and more severe family dysfunction.

Children who were admitted to the in-patient program were rated by parents as having more severe total psychopathology than children in outpatient treatment and tertiary consultation. Parent reports indicated that children in the most restrictive settings such as in patient and day treatment programs had lower competency ratings than children receiving outpatient and consultation based services. Adolescents receiving in-patient services had higher internalizing scores than children receiving day treatment, outpatient treatment, and tertiary consultation. Competency scores for adolescents receiving treatment through the in-patient program were lower than scores from adolescents attending outpatient and tertiary consultation patients. Additionally, adolescents receiving in-patient treatment were more likely to have an axis II diagnosis than adolescents receiving outpatient treatment and tertiary consultation.

*Availability and exclusion.* The Hendrickson et al. (1998) study cited above indicated that placement in the most restrictive educational settings was partly associated with the severity of emotional and behavioral disorders displayed by children. However, the decision to place students in the segregated schools also was based on the greater availability of resources in those settings. Staffing team members indicated that decisions to place students in more segregated settings were associated with the presence of smaller class sizes, more specially trained staff, psychological therapies, a more structured and supervised environment, increased family therapy/involvement, more flexible scheduling, access to crisis room/personnel, and reduced distractions within those settings. Students in the segregated settings were perceived to be more aggressive and in need of more intensive intervention available in more restrictive settings. The severity of the students' behavior seemed to be evaluated in terms of the support services necessary to

accommodate students in the classroom. Students were placed in less restrictive settings when the intensity of the services matched the perceived intensity of the students' mental health, behavioral, and educational needs.

Other studies have shown that placement in more restrictive settings often is based on the perception that students will receive the most appropriate services in those settings. Coutinho & Oswald (1996) examined national and state placement patterns of students with SED between 1988 and 1991. Data from a national data base of 5.3 million children who received special education services under the Individuals with Disabilities Education Act (IDEA) were used in the analysis. The data base contained child count, placement, and exiting information for children who received special education services under the SED category. State placement data were merged with a data base comprised of economic and demographic variables. Descriptive, correlational, and step wise regression analyses and analyses of variance (ANOVA) were conducted to address the research questions. Results indicated that states with the highest quartile for serving Caucasian students served more students in regular classes and fewer students in separate classes compared to states in the lower three quartiles. Further, states with higher per pupil revenues and per capita incomes served more students in restrictive settings. These results suggest that states with more financial resources offered a continuum of treatment options and placements to students, and offered more comprehensive services. States with less financial resources may have developed programs that provided services within less restrictive environments because more intensive services were unavailable in other settings. These results suggest that schools will utilize support services in more restrictive environments when those services and placements options are available. However, when

other options are unavailable, students tend to remain in school environments that are in close proximity to non-disabled peers.

In addition to the availability of appropriate support services in more restrictive environments, school personnel seem to choose settings where that have staff trained to address the needs of students with severe EBD. Rock, Rosenberg, and Carran (1994) examined program demographics, reintegration orientation, teacher reintegration training, and teacher attitude to identify factors associated with the reintegration of students with serious emotional disturbance (SED). Data were collected from 162 special education teachers and 31 administrators in restrictive educational settings in grades k-12. Hierarchical regression analysis was utilized to compare reintegration rates among students in the schools served by these educators. Results indicated that a positive reintegration orientation, certain demographic characteristics of the educational programs, and SED teacher experience and training accounted for a significant amount of variance in reintegration rates. Variables associated with a positive reintegration orientation included the availability of multiple reintegration options such as part day, trial, and transitional reintegration options, easy to implement reintegration procedures, and reintegration training for special teachers. Further, several schools serving the most severe student populations in separate public and nonpublic facilities had a more positive reintegration orientation and higher rates of reintegration. Demographic characteristics associated with higher reintegration rates included an SED program located in a wing of a comprehensive school building, the program was zero to 1 mile from the reintegration site, and the availability of multiple reintegration sites. The location of a SED program in the wing of a comprehensive school building was associated with reintegration rates



regardless of the severity of the student population. SED teacher training and experience variables associated with higher rates of reintegration included greater number of places a teacher received reintegration training, more years experience serving students with SED, advanced levels of teacher training and advanced certification in special education.

The relationship between the availability of a continuum of services and placement in the most restrictive settings has been addressed in community settings as well. The findings have implications for school based service delivery because they document the influence of a continuum of option on placement decisions on placement in the most restrictive settings. Bickman, Foster, and Lambert (1996) provide evidence to support this argument. They compared hospitalization rates for children receiving mental health services in two models of mental health service delivery. At one site, a continuum of services were available including home based counseling, after school group treatment services, day treatment services, therapeutic homes, specialized treatment homes, and a 24-hour crisis management team. Interdisciplinary treatment teams provided case management, and children received a comprehensive intake evaluation to determine the most appropriate level of service. The comparison site provided mental health services according to a traditional health insurance model. Results indicated that children who received treatment through the continuum of care model were less likely to be hospitalized than children in the traditional system. The most severe cases were admitted to hospitals. The results suggest that clinicians utilized the least restrictive alternatives to hospitalization when those alternatives were available. Clinicians at the comparison site had three treatment options available: outpatient visits, long term residential care, and

short-term hospital care. Consequently, fewer options were available in less restrictive settings.

Children with severe emotional and behavioral disturbance continue to experience substantial impairment after receiving intensive mental health services. Halliday-Boykins, Henggeler, Rowland, & DeLucia (2004) examined the symptom trajectories of children, psychosocial factors, and placement outcomes following psychiatric crises. The children in the study demonstrated symptoms of suicidal ideation, homicidal ideation, psychosis, or threat of harm to self or others due to mental illness that warranted psychiatric hospitalization. Evidence of symptom elevation in the high to borderline clinical range through 16 month post crises were identified for half of all children in the sample. These results suggest that a high percentage of youth continue to demonstrate severe emotional and behavioral disturbance following the most intensive psychiatric services and will continue to benefit from access to mental health services.

According to literature reviewed, the availability of mental health services should prevent additional referrals to more restrictive environments after children have been reintegrated into mainstream environments. Romansky, Lyons, Lehner, & West (2003) addressed this issue by examining data pertaining to 1,275 children ages 7 to 17 in custody of the Illinois Department of Child and Family Services. The final sample consisted of 500 randomly selected children who had been hospitalized in a psychiatric facility. The rate of hospital readmission was 21% for the sample. Post hospital service hours and living arrangement were associated with hospital readmission rates. Children who received more service hours from the Screening, Assessment, and Supportive Services (SASS) program were less likely to be readmitted. The SASS program provided

progress monitoring services for children who require psychiatric care, deflection of services for children who remain in the community, and support services following discharge from an inpatient setting.

The literature reviewed in this section suggests that placement in the most restrictive settings are reserved for children with more severe forms of psychopathology. Children who are judged to be less competent and more maladaptive tend to receive services in the most restrictive settings (Hendrickson et al., 1998; McDermott et al., 2002; Muscott, 1997). However, decisions to place students in the most restrictive settings also are associated with availability of support services within those settings. Educators and other clinicians choose placement in more restrictive settings when they perceive a greater availability of intensive services in those settings (Bickman et al., 1996; Hendrickson et al., 1998; Rock et al., 1994; Romansky et al., 2003). Thus, exclusion becomes a likely response among educators and community based clinicians who believe that the support services available in less restrictive setting are insufficient in terms of the intensity and expertise required to produce desired outcomes.

*Discipline and exclusion.* It is clear from the literature reviewed thus far that schools encounter many students who exhibit severe behavioral and mental health problems and require intensive support services that may be unavailable in the typical school setting. School personnel may choose to utilize behavioral support services to address behavioral maladjustment in school. Schools also may react to student behavior, regardless of whether a student receives special education services, through disciplinary exclusion such as suspension and expulsion. Disciplinary exclusion reflects a decision to bypass the system of support services available to children who demonstrate maladaptive

behavior. School personnel who favor reactive approaches to discipline often believe that removal of a student from the school environment is an appropriate response to maladaptive behavior. School personnel who utilize suspension and expulsion are concerned about how disruptive behavior interferes with the learning environment (Costenbader & Markson, 1994). They are more likely to endorse beliefs that focus on removing disruptive students to maintain order and increase the ability to teachers to provide effective instruction (Wu et al., 1982; Costenbader & Markson, 1994; Raffaele-Mendez et al., 2002).

The reactions and philosophies of school administrators and school boards influence the degree to which schools rely on exclusionary disciplinary practices. The implementation of intervention based support services in school settings is highly dependent on the guiding philosophy of the school. Based on state mandates, school boards determine district policies that govern the use of exclusionary practices. Districts often rely on codes of student conduct to determine appropriate responses to disciplinary infractions. Although these policies attempt to define standards that guide the use of exclusionary disciplinary practices, the idiosyncratic interpretation and implementation of these policies often affects differential rates of exclusion (Morrison & Skiba, 2001). Ultimately, these beliefs and philosophies influence the decision to address maladaptive behavior by providing intervention services designed to enhance academic and social competency. The alternative to competency based support services is to choose discipline methods that often culminate in the removal of a child from mainstream environments via suspension and expulsion.

Hyman and Perone (1998) argued that inaccurate perceptions regarding the extent of school violence in schools have led to the development of educational policy that favors punitive approaches to misbehavior. Intrusive procedures such as strip searches, under cover agents, and other law enforcement oriented procedures have been implemented to address disruptive behavior in school settings. Consequently, schools have been less willing to adopt educational models that emphasize prevention and developmentally appropriate remediation programs to address behavioral maladjustment. Exclusion often becomes the most likely response to maladaptive behavior in schools (Hyman & Perone, 1998).

Zero tolerance policies continue to be developed by schools across the United States in response to the general perception that school violence is rampant in schools (Skiba, 2000). According the Advancement Project/Civil Rights Project (2000), forty-one states currently have laws establishing grounds for suspension and 49 states have guidelines for expulsion. All of these states require a recommendation for expulsion due to possession of firearms or other deadly weapons. Eighteen states cite possession, use, or distribution of drugs on school campuses as grounds for expulsion. According to the National Center for Education Statistics (Heaviside, Rowand, Williams, & Farris, 1998) 90% of schools have zero tolerance policies for weapons or firearms, almost 90% for alcohol and drugs, and 79% for violence or tobacco.

Suspension and expulsion rates have increased along with the implementation of zero tolerance polices across the United States. Zero tolerance policies are intended to send a message that inappropriate behavior will not be tolerated by school personnel. Severe punishment is used following incidents of major and minor disciplinary incidents

to set a precedent regarding tolerance for behavior that interferes with learning. Schools relying on zero tolerance policies often address emotional and behavioral maladjustment with a reactive approach that excludes students from educational settings (Skiba, 2000). The use of punitive disciplinary practices precludes the large scale implementation of student support services designed to address emotional and behavioral maladjustment (Hyman & Perone, 1998).

Schools that endorse beliefs supportive of disciplinary exclusion may be less likely to provide support services for students demonstrating emotional and behavioral maladjustment. Raffaele-Mendez et al. (2002) utilized quantitative and qualitative methodology to examine variables associated with out-of-school suspension (OSS) in a large school district in Florida. Data collection proceeded in three stages, and included an analysis of the school districts' main database, survey data, and a comparison of schools with the highest and lowest suspension rates. Interviews with elementary school principals indicated that schools with low OSS were more likely than high OSS schools to incorporate positive reinforcement strategies into school wide discipline plans. Low OSS schools also were more likely to use social skills training to teach acceptable behavior to students. Further, low OSS schools were more likely to develop school wide discipline plans that involved the input of parents and/or the school psychologist or guidance counselor. Conversely, schools with high OSS relied more on punishment paradigms for inappropriate behavior and were less likely to report home-school collaboration to encourage prosocial behavior. At the middle school level, low OSS schools were more likely to emphasize staff development and training to improve classroom behavior management, and teachers reportedly received more support for

resolving discipline problems. High schools with low OSS rates also were more likely to rely on school staff to increase parent involvement, and to include parents in the development of school wide discipline plans.

Skiba et al. (2003) examined school disciplinary practices that influenced the degree to which principals rely on disciplinary exclusion to address challenging behavior. Principals completed an on-line survey intended to assess their perceptions about school discipline. Principals who reported negative perceptions about suspension and expulsion were more likely to report a greater prevalence of counseling and bullying prevention programs at their schools. Those who believed that discipline served as an opportunity to teach appropriate skills also were more likely to utilize counseling and teacher classroom management in-service activities. Schools with lower suspension rates had principals who believed that suspension interfered with learning time, schools had a responsibility to teach appropriate behavior, and disciplinary policies should be adapted to meet the needs of student's with disabilities. Lower suspension rates for the most serious and dangerous offenses were associated with the perception that students should receive incentives for appropriate behavior. Higher suspension rates were associated with principals who believed that suspension and zero tolerance policies were a necessary component of school discipline, special education disciplinary provision interfered with the principals authority, the home situations was responsible for behavior problems, and that resources were limited and violence was increasing.

In summary, placement in the most restrictive settings appears to be reserved for children with more severe forms of psychopathology. Children who are judged to be less competent and more maladaptive tend to receive services in the most restrictive settings

(Hendrickson et al., 1998; McDermott et al., 2002; Muscott, 1997). However, decisions to place students in the most restrictive settings also are associated with availability of support services within those settings. Educators and other clinicians choose placement in more restrictive settings when they perceive a greater availability of intensive services in those settings (Bickman et al., 1996; Hendrickson et al., 1998; Rock et al., 1994; Romansky et al., 2003). Thus, exclusion becomes a likely response among educators and community based clinicians who believe that the support services available in less restrictive setting are insufficient in terms of the intensity and expertise required to produce desired outcomes. Additionally, schools often choose to rely on punitive disciplinary approaches to address maladaptive behavior problems in schools. Zero tolerance policies have lead to the implementation of punitive disciplinary practices rather than prevention and remedial programs (Hyman & Perone, 1998; Skiba, 2000). Schools that embrace prevention and behavioral support services appear to have lower suspension rates (Raffaele-Mendez et al., 2002; Skiba et al., 2003). The literature reviewed suggests that an interaction may exist between the availability of behavioral support services, reliance on disciplinary approaches to behavioral maladjustment, and exclusion from schooling.

### *Conclusion*

An increasing number of children in the state of Florida are being referred to for involuntary examination under Baker Act statutes (Christy, Petrila, Hudacek, Haynes, Wedekind, & Pulley, 2005). It has been suggested that Baker Act ERs have been over utilized by schools and other community based agencies (Florida Senate, 2005). Baker Act examination referrals (ERs) are less common during the summer months when



students are home on summer vacation, suggesting that a meaningful percentage of Baker Act ERs are being initiated by school personnel (Christy et al., 2005; Florida Senate, 2005). Schools may be using Baker Act ERs to remove disruptive students from educational settings in an effort to address severe emotional and behavioral disturbance (Florida Senate, 2005).

Several variables may contribute to higher rates of Baker Act ERs. Research that has investigated factors associated with restrictive educational placements and disciplinary exclusion suggests several variables that may impact a schools decision to exclude students. Males, African American students, and students from low socioeconomic backgrounds are overrepresented in all types of disciplinary exclusion (Costenbader & Markson, 1994, 1998; Florida Department of Education, 2005; NCES, 2005; Raffaele-Mendez et al., 2002; Skiba et al., 1997). Students who qualify for special education services under the SED category are more likely than students in other disability categories to be excluded from school (Wagner et al., 2005). The literature reviewed suggests that a reciprocal interaction exists between the severity of emotional and behavior problems among students, philosophies supportive of exclusion, and the availability of behavioral and mental health services. Placement in the most restrictive educational and community based settings occurs when adequate resources are unavailable in less restrictive environments (Bickman et al., 1996; Blanz & Schmidt, 2000; Hendrickson et al., 1998; McDermott et al., 2002; Muscott, 1994; Rock et al., 1994). Further, the availability of adequate support services can prevent additional placement in the most restrictive environments (Romansky et al., 2003). The philosophical inclinations of school personnel can influence the degree to which

exclusion is embraced as an appropriate response to student misbehavior. Zero tolerance policies have contributed to an increasing reliance on punitive approaches such as suspension and expulsion (Hyman & Perone, 1998; Skiba, 2000). The implementation of punitive disciplinary practices precludes the use of preventative and positive mental health and behavior support services (Raffaele-Mendez et al., 2002; Skiba, 2003).

The research presented in this literature review may contribute to an explanation of Baker Act ER rates among geographic regions in the state of Florida. School districts with higher rates of suspensions and expulsions may utilize fewer preventative and remedial based behavioral support services. Developmental models of psychopathology (Sroufe, 1997; Masten & Curtis, 2003) predict that emotional and behavioral disturbance becomes more severe as children interact with aversive and unsupportive environments. School districts with limited support services will be more likely to have students whose behavior escalates to the point where access to more intensive support services becomes necessary. Further, Baker Act ERs may be seen as an appropriate response in schools with fewer support services and discipline policies that embrace exclusion.

## Chapter Three

### Method

The purpose of this study is to explore the relationship between school and student/school district related variables and Baker Act examination referrals (ERs) among school aged children and adolescents in the state of Florida. In this chapter, a description of the method that was used to answer the research questions is provided. First, a description of the participants is presented. The discussion includes information pertaining to the process by which children and adolescents are referred for involuntary examinations under the Baker Act. Second, the research design is described. Included in this section is a delineation of the independent and dependent variable(s). Next, the process used to select the participants for the study and data retrieval procedures are presented. The chapter concludes with a summary of the data analysis plan for each research question.

#### *Participants*

Participants for this study were the school districts in the state of Florida and students in those districts who received an involuntary examination under the Baker Act statutes. The Florida public school system consists of 67 school districts and 7 special schools for non-tradition students. These special school districts include the Florida School for the Deaf and Blind, Dozier, Florida Virtual School, Florida Atlantic University Laboratory School, Florida State University Laboratory School, Florida

Atlantic Metropolitan University Laboratory School, and the University of Florida Laboratory School. During the fall 2005 survey count, the pre-k to grade 12 student enrollment was 2,673,563 for the 67 school districts and the special schools. Ethnic affiliation of the student population for the total pre-k to grade 12 enrollment was as follows: White, Non-Hispanic = 49.89%, Black, Non Hispanic = 37.19, Hispanic = 5.22%, Multiracial 4.00%, Asian/Pacific Islander 3.50%, and American Indian/Alaskan Native 0.21% (Florida Department of Education, 2005).

The participants for this study also were children and adolescents ages 5-18 who received an involuntary examination under Baker Act statutes in the 2005 calendar year. Florida's mental health statute, or "Baker Act," (F.S. 394, Part I, 2005) stipulates that involuntary examination of an individual can be initiated if there is reason to believe that the individual has a severe mental illness as defined in the law, and because of his or her mental illness:

- "The person has refused voluntary examination or is unable to determine whether examination is necessary; and
- Without care or treatment, the person is likely to suffer from neglect resulting in real and present threat of substantial harm that can't be avoided through the help of others; or
- There is substantial likelihood that without care or treatment the person will cause serious bodily harm to self or others in the near future, as evidenced by recent behavior."

An involuntary examination may be initiated by any one of the following means:

- “A court may enter an ex parte order, based upon sworn testimony, directing a law enforcement officer to escort an individual to the nearest Baker Act receiving facility. A law enforcement officer may serve and execute an ex parte order on any day of the week, at any time of the day or night and may use such reasonable physical force as is necessary to gain entry to take custody of the person.
- A law enforcement officer shall take a person who appears to meet the above criteria into custody and deliver the person to the nearest receiving facility. The officer shall execute a written report detailing the circumstances under which the person was taken into custody, and the report shall be made part of the patient’s clinical record.
- A physician, clinical psychologist, psychiatric nurse, or clinical social worker, each as defined in the statute, may execute a certificate stating that he or she has examined a person within the preceding 48 hours and finds that the person appears to meet the criteria for involuntary examination and stating the observations upon which that conclusion is based. A law enforcement officer shall take the person into custody and deliver him or her to the nearest receiving facility and shall execute a written report detailing the circumstances under which the person was taken into custody.”

During the 2005 calendar year, there were a total of 125,571 Baker Act ER initiation forms received by the Agency for Health Care Administration (AHCA), which maintains a repository of all data related to Baker Act ERs in the state of Florida. Age

was reported for 123,273 or 98.17% of the total forms that were received by AHCA. A total of 22,547 or 18% of the total referrals were for children and adolescents between the ages of 5-18 years of age. There were 582 or 2.58% duplicate forms (two forms were generated for the same referral). Therefore, a total of 21,956 Baker Act ERs were initiated during the 2005 calendar year for children and adolescents between the ages of 5-18.

### *Research Design*

The study utilized a correlational and causal comparative design to investigate the relationship between the independent and dependent variable(s). The independent variables were entered into a regression model in an attempt to account for variance in the dependent variable, and to identify the variables that contributed most to the prediction of the dependent variable. Archival records from the Florida Department of Education, the Baker Act Reporting Center, and data obtained via a survey completed by district personnel in each of the 67 school districts served as the sources of data for the independent and dependent variable(s).

*Independent variables.* The independent variables for the study were: (a) size of the school district (b) the ethnic makeup of the students in the district, (c) the percent of the student population within a school district that received free and reduced priced lunch, (d) the percent of the student population within a school district that received any special education services under the Individuals with Disabilities Education Improvement Act (IDEIA) (U.S. Department of Education, 2004), (e) the percent of the student population within a school district that received special education services specifically under the Emotionally Handicapped (EH)/ Serious Emotional Disturbance

(SED) category, (f) the percent of students in a district that received a suspension, (g) the percent of the student population within a school district that received an expulsion, (h) the percent of the student population within a district that graduated with a standard diploma, (i) the percent of the student population within a school district that were retained, (j) the percent of students in a school district who obtained a Level 3 or higher on the reading and math sections of the Florida comprehensive Achievement Test (FCAT), (k) the ratio of mental health workers (social workers, guidance counselors, school psychologists) to students in a school district, (l) the types of mental health services provided to students in a school district, and (m) the methods used to monitor students who returned to school following a Baker Act examination referral.

*Dependent variables.* The dependent variables for the study were an estimate of the per capita Baker Act ER rate and the repeat Baker Act ER rate for each of the 67 counties in the state of Florida.

*Archival databases.* Two archival databases were utilized to obtain data for the independent and dependent variable(s). First, the Florida Department of Education located in Tallahassee, Florida, served as one source of data for the independent variables associated with salient student and district level variables. The Florida Department of Education maintains a comprehensive management information system. Each school district is required to implement an automated student and staff information system that reports and maintains data on student, staff, school, and district level variables. Schools districts transmit data electronically to the Florida Department of Education three times per year. These data are maintained by the Florida Department of Education in an automated data base. The data was retrieved from the Florida Department of Education

website: <http://www.fldoe.org>. These data are reported in html web page and Microsoft excel spreadsheet. It was not necessary to obtain a password or special permission to access these data because they are available to the public by accessing the Florida Department of Education website.

Second, the Baker Act Reporting Center database at the Louis de la Parte Mental Health Institute (FMHI) at the University of South Florida in Tampa Florida was used to identify the number of Baker Act ERs initiated in each county during the 2005 calendar year. Statutory language in F.S. section 394.463 requires Baker Act receiving facilities to document each involuntary examination to the Agency for Health Care Administration (AHCA) within one business day of the examination. Copies of each involuntary examination initiation form (e.g., reports of law enforcement officers, certificates of mental health professionals, and court issued ex-parte orders) (Appendix A) are sent to the Baker Act Reporting Center at FMHI by way of an agreement with the AHCA. A cover sheet which includes demographic information and the name of the provider of services is attached to the involuntary examination initiation form (Appendix B). The Policy and Services Research Data Center at FMHI serves as a repository for the initiation forms. Data from the involuntary examination initiation forms are entered into a database that maintains information pertaining to each examination at a Baker Act receiving facility.

#### *Data Retrieval Procedures*

Approval was obtained from the University of South Florida Institutional Review Board to conduct the study. Confidentiality was maintained as follows: Baker Act data are stored on a secured server that is protected by a firewall. User IDs and passwords are



necessary to log onto the server. Baker Act data are contained in a folder on the server to which only those who are given permissions may access. Baker Act data on paper forms are stored in a secured room that can be accessed with a master key and to whom only those involved in the use of these data are given keys. Data from the Baker Act Reporting Center were tabulated as aggregate numbers. There were no personal identifiers used in the tabulation and transmission of these data. Data from the Florida Department of Education for individual students are stored in a data base in Tallahassee, Florida. The data that was used for this study are accessible to the general public through the Florida Department of Education website (<http://www.fldoe.org>). These data are reported as aggregate numbers and there are no personal identifiers associated with the data. Paper copies of the survey were stored in a locked file cabinet in the school psychology program at the Department of Psychological and Social Foundations, College of Education, University of South Florida, to which only those involved in the study had access.

*Steps in data retrieval.* Data retrieval occurred through the following stepwise procedure.

Step One: Personnel who had access to the Baker Act Reporting Center Data based at the Florida Mental Health Institute tabulated aggregate numbers for the relevant demographic categories and exam counts by county. These data were stored and displayed in Microsoft excel spreadsheets. Personnel at the Baker Act Reporting Center provided the Microsoft excel spreadsheets to the primary investigator upon completion of the relevant data tabulations. The data were displayed as aggregate numbers with no personal identifiers displayed.

Step Two: A separate data base for salient district level variables was developed for the 67 school districts. The following data was obtained from Florida Department of Education District website ([www.fldoe.org](http://www.fldoe.org)): (a) total student enrollment, (b) percent of students who belong to an ethnic minority category, (c) percent of African American students, (d) percent of students who received free/reduced lunch, (e) percent of students who received special education services, (f) percent of student who received special education services under the Emotionally Handicapped (EH) / Severe Emotional Disturbance (SED) category, (g) percent of student who were suspended, (h) percent of students who were expelled, (i) percent of students who were retained, (j) percent of students who graduated from high school with a standard diploma, (k) the percent of students who obtained a Level 3 or higher on the reading and math sections of the Florida Comprehensive Achievement Test (FCAT), and (l) the combined number of school social workers, guidance counselors, and school psychologists in the district. These variables were coded according to the criteria specified in Appendix C.

Step Four: An estimate of the per capita Baker Act ER rate (PerBA) for each district was calculated by dividing the total number of Baker Act ER's within each school district by the total student enrollment within each district. An estimate of the per capita repeat Baker Act ER rate (exams representing the 2<sup>nd</sup> or more exams for a child) (PerRep) was calculated by dividing the number of repeat Baker Act ER's by the total student enrollment within each district. These data were calculated in this manner to provide an estimate of the use of the Baker Act among school age children in each county.

Step Five: District level data from the Florida Department of Education were transferred to an electronic database for storage and data analysis. These data were initially stored in a Microsoft Excel spreadsheet and were later transferred to SPSS Version 15.0 spreadsheet for storage and data analysis. A data coder from the University of South Florida, School Psychology Program was trained in the data transfer and entry process by the primary investigator and was used to assist in integrity checks. The accuracy of calculations and transfers for each of the independent and dependent variables was measured for 20% of the transfers. A data sheet for data transfer and procedural integrity checks was used for this process (Appendix D). The procedural integrity checks were conducted according to the following steps. First, the random numbers function in SPSS-15.0 was used to generate 13 numbers between 1 and 67. The numbers that were selected corresponded to one of the 67 districts. These districts were selected for data transfer and data integrity checks. Procedural integrity checks also occurred for the calculation and transfer of data that was used to generate demographic comparisons.

#### *Data analysis*

The procedures that were used to analyze the data are presented in this section. Chi-Square analyses, odds ratios, and multiple regression analyses procedures were used to answer the research questions.

To answer research question 1, data analyses for demographic categories included two levels of comparison. First, the total number of Baker Act ERs that were initiated for grade level, gender, and race/ethnicity were examined. These calculations included initial and repeat Baker Act ERs. Second, the distribution of children who received a Baker Act

ER in 2005 was reported for each salient demographic category. These data were reported as the number and percentage of children who received a Baker Act ER for each demographic category. These analyses included only the number children and adolescents who received one Baker Act ER during 2005, and excluded repeat Baker Act ER. Odds ratios were calculated for each demographic category. Chi-Square analyses were conducted to determine if there was a significant difference between the proportion of children and adolescents in each demographic category who received a Baker Act ER and statewide membership in each demographic category. Odds ratios also were calculated to compare the odds of receiving a Baker Act ER among children and adolescents who received a Baker Act ER. The *SAS* statistical software package was utilized when performing Chi-square analyses, the calculation of odds ratios, and the calculation of odds ratio confidence intervals.

For purposes of grade level analyses, elementary school children and adolescents were considered to be in the age range of 5-11.99 years old, middle school children and adolescents were 12-14.99 years old, and high school children were 15-18.99 years old. These age ranges were entered into a database formula that generated the total number of Baker Act ERs that were initiated during 2005, and the number of children and adolescents who received at least one Baker Act ER during the 2005 school year for the three grade levels. Baker Act ER counts were disaggregated according to these age ranges. For grade level comparisons of total Baker Act ERs, 21,965 Baker Act ERs were used in these analyses. Total exam counts included repeat Baker Act ER referrals. The total number of children and adolescents who received a Baker Act ER was tabulated for purposes of odds calculations. There were a total of 14,039 children and adolescents who

received a Baker Act ER during the 2005 calendar year. A total of 14,201 Baker Act ERs were used for the grade level analyses because 162 or 1.1% of the actual number of children who received a Baker Act ER had their exams counted in more than one grade level. Duplicate/repeat Baker Act ER were excluded from these analyses. To calculate odds for each grade level, enrollment calculations were based on Fall 2005 K-12 membership in Florida Public Schools. These figures included Pre-K and laboratory school enrollment. The total Fall 2005 enrollment was 2,673,563 for elementary, middle, and high school age students.

A total of 20,406 or 92.9% of the total 21,965 Baker Act ERs initiated during 2005 were used for gender comparisons. Gender was unknown for 1,559 Baker Act ERs. These figures included repeat Baker Act ERs. The total number of male and female children and adolescents who received one Baker Act ER was used to calculate odds ratios. These numbers did not include duplicate or repeat Baker Act ERs among these children and adolescents. A total of 13,558 Baker Act ERs were used for gender comparisons. This figure represented 96.5% of the total number of children and adolescents who received a Baker Act ER during 2005. There were 481 Baker Act ERs that were excluded from these analyses because the reporting form did not report a social security number or gender for the child. To calculate odds among males and females, enrollment calculations were based on Fall 2005 membership in Florida Public Schools including laboratory schools and excluding pre-k membership. The total male and female enrollment that was used for these comparisons was 2,626,535. Pre-k enrollment that was excluded from these comparisons was 47,028, which represented 1.8% of the total Florida public school enrollment.

A total of 19,818 or 90.23% of the total 21,965 Baker Act ERs were used for race/ethnicity comparisons. These figures included repeat Baker Act ERs. Race/ethnicity was not reported for 2,147 Baker Act ERs. The total number of children and adolescents in each race/ethnicity category who received at least one Baker Act ER was used to calculate odds ratios. These figures did not include duplicate or repeat Baker Act ERs among these children. A total of 13,452 Baker Act ERs were used for race/ethnicity comparisons. This figure represented 95.8% of the total number of children and adolescents who received a Baker Act ER during 2005. There were 587 Baker Act ERs that were excluded from these analyses because the reporting form was missing a county of residence and/or race of the child. To calculate odds for each grade level, enrollment calculations were based on Fall 2005 K-12 membership in Florida Public Schools. These figures included Pre-K and laboratory school enrollment. The total Fall 2005 enrollment was 2,673,563 students.

The distribution of the population of children and adolescents who were African American and received a Baker Act ER in 2005 was calculated to answer research question 2. These were reported as percentages of African American children and adolescents who received a Baker Act ER. Chi-Square analyses were conducted to determine if there was statistically significant difference between the proportion of African American children and adolescents who received a Baker Act ER and total student enrollment of African American children and adolescents.

To answer research question 3, the number of Baker Act ERs during 2005 that represented a child's second (or greater) referral was calculated. These data were reported

as the number and percentage of the total Baker Act examination referrals that were repeat Baker Act examination referrals during 2005.

To answer research question 4, the number of children and adolescents who received more than one Baker Act ER during 2005 was calculated. These data were reported as the percentage of children and adolescents that received more than one Baker Act ER.

Multiple regression analyses were utilized to answer research question 5. The multiple regression analyses allowed for the prediction of the dependent variable (an estimate of the percent of students in a district who received a Baker Act ER) from the set of predictor variables. The following independent variables were excluded from all analyses: (a) the types of mental health services provided to students within a school district, and (b) the methods used to monitor the progress of students who return to school following a Baker Act ER. An estimate of the per capita Baker Act ER and per capita repeat Baker Act ER rate for each district was regressed on the remaining set of independent variables. In addition to calculating the regression equation for each research question, the percent of explained variance was obtained for each research question. The *Statistical Package for the Social Sciences-Version 15.0 (SPSS-15.0)* computer software program was utilized to conduct the necessary statistical analyses for question 5. The assumptions for a valid multiple regression analysis were examined before proceeding with development of the regression models associated with the research questions.

## Chapter Four

### Results

The purpose of this chapter is to provide the results of data analyses that were conducted to answer the research questions. First, the results of data analyses for comparisons of Baker Act examination referrals (ER) among age/grade level, gender, and race/ethnicity are presented. Second, data from multiple regression analyses are discussed. To prevent redundancy and maximize cohesiveness, a summary of the descriptive statistics and assumptions of multiple regression analyses are provided separate from the discussion of findings from individual multiple regression analyses. The chapter concludes by providing the statistics for each of the multiple regression equations. Table 1 displays the acronyms used to identify the relevant terms that are discussed throughout the chapter.



Table 1

*Abbreviations for Relevant Terminology*

Acronym	Definition
Baker Act ER	Baker Act Examination Referral
PerBA	an estimate of the Baker Act ER rate for each county
PerRep	an estimate of the repeat Baker Act ER rate for each county
enroll	total student enrollment within a district
PerMinority	percent of the student population that belongs to a racial/ethnic minority
PerAfricanAM	percent of the student population that is African American
PerFree	percent of the student population that receives free and/or reduced lunch
PerSPED	percent of the student population that received special education services
PerEHSED	percent of the student population that received special education services under the Emotionally Handicapped (EH) and Severe Emotional Disturbance (SED) categories
PerRet	percent of the student population that was retained one grade level
PerGrad	percent of the student population that received a 4-year standard diploma
Per3read	percent of the student population that received a level 3 or higher on the reading section of the Florida Comprehensive Achievement Test (FCAT)

Table 1 (continued)

*Abbreviations for Relevant Terminology*

Acronyms	Definition
Per3math	percent of the student population that received a level 3 or higher on the math section of the Florida Comprehensive Achievement Test (FCAT)
Per3comp	percent of the student population that received a level 3 or higher on the read and math section of the Florida Comprehensive Achievement Test (FCAT)-composite variable
PerISS	percent of the student population that received an In-school suspension
PerOSS	percent of the student population the received an Out-of-school suspension
PerExp	percent of the student population that received an expulsion
RatioMHStud	ratio of mental health professionals (guidance counselors, social workers, school psychologists) to students within the district

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*Note.* See Appendix C for descriptions of the formulas that were used to calculate each variable.

*Data transfer and procedural integrity*

Data transfer and integrity checks were performed on 20% of all district level database transfers and 100% of transfers related to the calculation of demographic data (i.e., age/grade level, gender, and race/ethnicity). For the district level analysis, initial integrity checks revealed that 218 of the 221 (98.6%) district level calculations and

transfers were accurate. The three inaccurate data points were corrected before proceeding with final data analyses procedures. For the calculation of demographic variables, 20 of the 20 (100%) transfers were accurate. It was appropriate to proceed with final data analyses procedures because these data indicated adequate procedural integrity.

*Research Question 1: What is the distribution of demographic variables (e.g., age, gender, and race/ethnicity) for children who received Baker Act examination referrals during 2005?*

*Age.* Age/grade level was related to the use of the Baker Act among children and adolescents. Baker Act ERs were more prevalent among the high school population. Table 2 displays the distribution of total Baker Act ERs for each grade level. Analysis of these data indicates that the greatest number of Baker Act ERs occurred at the high school grade level.

High School students had the greatest odds of receiving a Baker Act ER, followed by middle school students, and elementary school students. The data suggest that the odds of receiving a Baker Act ER increase as students become older and progress to higher grade levels. Odds were calculated by dividing the probability of an event occurring by the probability of an event not occurring. Odds ratios also were calculated to compare the odds of receiving a Baker Act ER between the grade levels. Table 3 displays the odds of receiving a Baker Act ER for each grade. Table 4 displays the odds ratios for comparisons between grade levels. Figure 1 displays a histogram of the odds among children in each grade level.

Table 2

*Distribution of Baker Act Examination Referrals (ER) By Grade Level*

	Elementary <sup>a</sup>	Middle <sup>b</sup>	High School <sup>c</sup>	Total
<i>N</i> <sup>d</sup>	2,990	6,672	12,303	21,965
Percentage of Total Exams	13.6	30.4	56.0	100.0

*Note.* <sup>a</sup>Elementary school children were 5-11.99 years old. <sup>b</sup>Middle school children were 12-14.99 year old. <sup>c</sup>High school children were 15-18.99 years old. <sup>d</sup>These figures include initial and repeat Baker Act ERs.

Table 3

*Odds among Grade Levels for Children and Adolescents Who Received Baker Act Examination Referrals (ERs)*

	Received BA	Total Enroll <sup>d</sup>	Odds
Elementary <sup>a</sup>	1,925	1,260,528	0.00153
Middle <sup>b</sup>	3,994	611,749	0.00653
High <sup>c</sup>	8,282	801,286	0.01034

*Note.* <sup>a</sup>Elementary school children were 5-11.99 years old. <sup>b</sup>Middle school children were 12-14.99 years old. <sup>c</sup>High school children were 15-18.99 years old. <sup>d</sup>Enrollment calculations based on Fall 2005 PreK-12 membership in Florida Public Schools, including enrollment in laboratory schools.

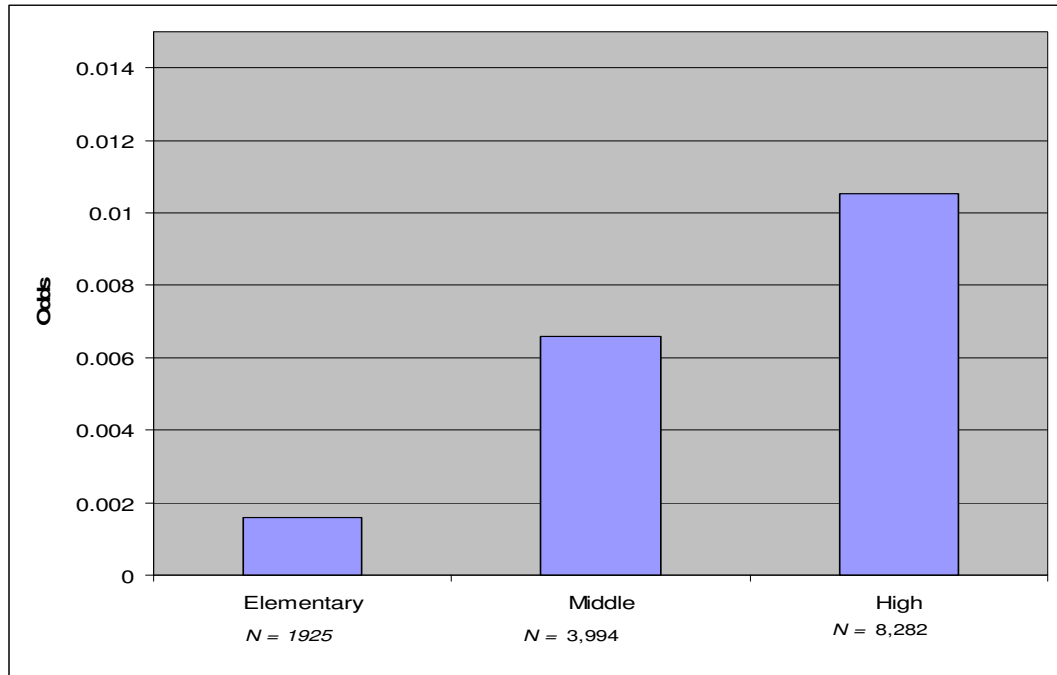
Table 4

*Odds Ratios Comparisons between Grade Levels for Children and adolescents Who Received Baker Act Examination Referrals (ERs)*

Comparison	Odds Ratio	95% Confidence Interval
High vs. Elementary	6.768	6.440 – 7.113
High vs. Middle	1.583	1.524 – 1.644
Middle vs. Elementary	4.275	4.048 – 4.514

Figure 1

*Odds of Receiving a Baker Act Examination Referrals (ERs) among Age/Grade Level*



*Note.* <sup>a</sup>Elementary school children were 5-11.99 years old. <sup>b</sup>Middle school children were 12-14.99 years old. <sup>c</sup>High school children were 15-18.99 years old. <sup>d</sup>Enrollment calculations based on Fall 2005 K-12 membership in Florida Public Schools, excluding membership in lab schools, virtual schools, and pre-k enrollment.

A Chi-square analysis was conducted to compare the proportion of Baker Act ERs that were initiated within each grade level to grade level enrollment proportions in Florida public schools. Results indicate that Baker Act ER rates differed among children and adolescents in each grade level ( $\chi^2(2, N = 2,673,563) = 7416.9836, p < .0001$ ).

Table 5

*Chi-Square Statistics for Comparison of Baker Act Examination Referral (ER) Proportions between Grade Levels*

Statistic	DF	Value	Probability
Chi-square	2	7416.9836	<0.0001
Phi Coefficient		0.0527	

*Note.* N = 2,673,563 Prek-12 Enrollment.

The value of the Phi Coefficient suggests a weak positive relationship between age/grade level and Baker Act ERs. Examination of the expected and actual frequencies of Baker Act ERs within these populations suggests that Baker Act ER proportions were greater than expected among the high school population in comparison to the proportion of enrolled high school students. Baker Act ER proportions were less than expected among elementary school students. Baker Act ER proportions among middle school students were consistent with the proportion of middle school student enrollment in Florida’s public schools. Table 5 displays the Chi-Square statistics associated with the chi-square analysis.

*Gender.* A greater number of Baker Act ERs were initiated among females than males. Table 6 displays the proportion of total Baker Act ERs that were initiated for males and females. The odds of receiving a Baker Act ER were greater among females than males. Tables 7 and 8 display the odds and odds ratios for the comparison of Baker

Act ER proportions among males and females. Figure 2 displays a histogram of the odds of receiving a Baker Act ER among males and females.

Table 6

*Distribution of Baker Act Examination Referrals (ERs) among Males and Females*

	Males	Females	Total
$N^a$	10, 139	10,267	20,406
Percentage of Total Exams	49.6	50.3	

$N^a$  = Gender was known for 20,406 (92.9%) of the total 21,965 exams. Total exam counts include repeat Baker Act exams.



Table 7

*Odds among Males and Female Children and Adolescents Who Received Baker Act Examination Referrals (ERs)*

	Received BA <sup>a</sup>	Total Enroll <sup>b</sup>	Odds
Male	6,721	1,346,704	.00501
Female	6,837	1,279,831	.00537

*Note.* <sup>a</sup>Baker Act ER numbers do not include 481 referrals because a social security number was not listed on receiving forms. <sup>b</sup>Enrollment calculations based on Fall 2005 membership in Florida Public Schools, excluding pre-k membership.

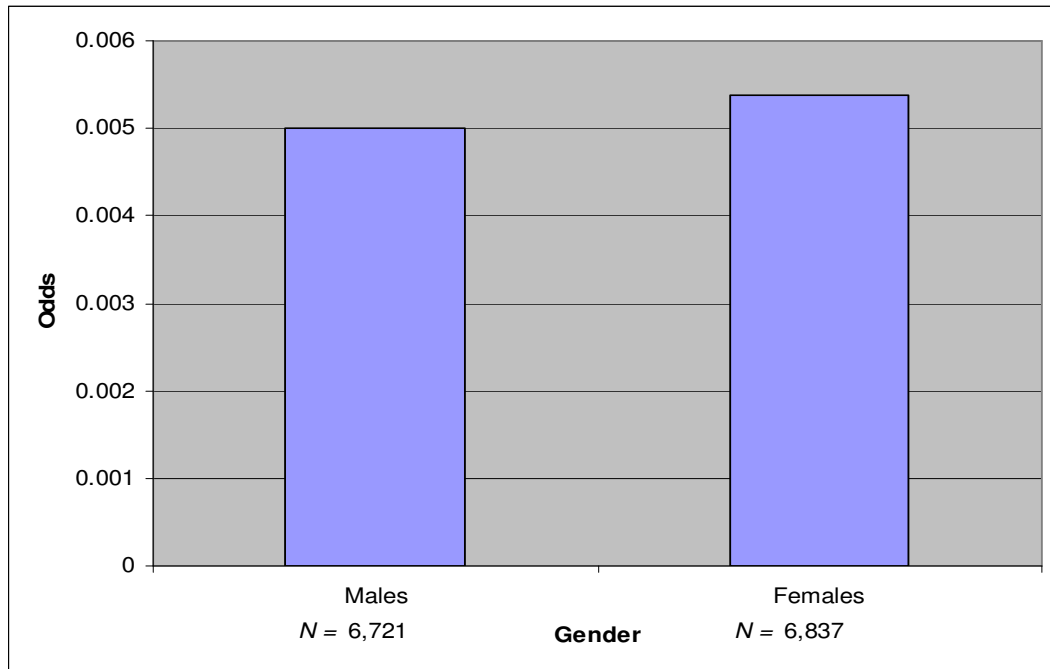
Table 8

*Odds Ratio Comparison for Males and Female Children and Adolescents Who Received Baker Act Examination Referrals (ERs)*

Comparison	Odds Ratio	95% Confidence Interval
Females vs. Male	1.071	1.035 – 1.108

Figure 2

*Odds of Receiving a Baker Act Examination Referral (ER) Among Males and Females Children and Adolescents*



*Note.* Baker Act ER numbers do not include 481 referrals that did not include a social security number. Enrollment calculations based on Fall 2005 membership in Florida Public Schools, excluding pre-k membership.

A Chi-square analysis was conducted to compare Baker Act ER proportions among males and females to enrollment proportions in Florida public schools. The proportion of males and females who received a Baker Act ER differed from enrollment proportions ( $\chi^2(1, N = 2,626,535) = 15.7798, p < .0001$ ). The value for the Phi Coefficient suggests a weak positive association between gender and Baker Act ERs.

Table 9

*Chi-Square Statistics for Comparison of Baker Act Examination Referral (ER) Proportions between Males and Female*

Statistic	DF	Value	Probability
Chi-square	1	15.7798	<0.0001
Phi Coefficient		0.0025	

*Note.*  $N = 2,626,535$  K-12 population. Excludes pre-k membership of 47,028.

Examination of the expected and actual frequencies of Baker Act ERs between males and females suggests that Baker Act ER proportions were greater than expected among females in comparison to their enrollment proportions. Table 9 displays the Chi-Square statistics associated with the comparison of proportions.

*Race/Ethnicity.* Race/ethnicity was associated with the use of the Baker Act among children and adolescents. The greatest number of Baker Act ERs was initiated for White children and adolescents. Table 10 displays the total number of Baker Act ERs that were initiated for each race/ethnicity category. However, children and adolescents who belonged to the Other/Mixed category had the greatest odds of receiving a Baker Act ER. Children and adolescents with membership in the Other/Mixed category had a 9.071 greater odds of receiving a Baker Act ER than Hispanic children and adolescents, 8.32 greater odds of receiving a Baker Act ER than Asian children and adolescents, 1.52 greater odds of receiving a Baker Act ER than African American children and

Table 10

*Distribution of Baker Act Examination Referrals (ERs) for Race/Ethnicity*

	<i>N<sup>a</sup></i>	Percentage of Total Exams
White	13,279	67.0%
African American	4,789	24.2%
Hispanic	751	3.8%
Asian/Pacific Islander	74	0.4%
Other/Multiracial	925	4.7%
Total Exams	19,818	100.0%
Total Minority	6,539	33.0%

*Note.* <sup>a</sup>Race/ethnicity was known for 19,818 (90.23%) of the total 21,956 Baker Act ERs that were initiated during the 2005 calendar year.

adolescents and a 1.07 greater odds of receiving a Baker Act ER than White children and adolescents. White children and adolescents had the second highest odds of receiving a Baker Act ER. White children and adolescents had a 1.41 greater odds of receiving a Baker Act ER than African American children and adolescents, 8.44 greater odds of receiving a Baker Act ER than Hispanic children and adolescents, and a 7.751 greater odds of receiving a Baker Act ER than Asian children and adolescents. White children and adolescents also had a 2.26 greater odds of receiving a Baker Act ER than all

children and adolescents with membership in a Minority demographic category. African American children and adolescents had the third highest odds of receiving a Baker Act ER. Tables 11 and 12, and Figure 3 display the odds of receiving a Baker Act ER for each race/ethnicity category and odds comparisons between these categories.

Table 11

*Odds among Race/Ethnicity Categories for Children and Adolescents Who Received Baker Examination Referrals (ERs)*

Demographic Category	Received BA <sup>a</sup>	Total Enroll <sup>b</sup>	Odds
Other/Multiracial <sup>c</sup>	667	86,090	.00775
White	9,089	1,267,489	.00717
African American	3,114	621,506	.00501
Hispanic	527	624,372	.00084
Asian/Pacific Islander	55	59,367	.00093
Total Minority	4,363	1,391,335	.00314

*Note.* <sup>a</sup>Calculations do not include 587 Baker Act ERs or 4.2% of the total count because the referrals were missing a county of residence and/or race was not reported on the receiving form. <sup>b</sup>Enrollment calculations based on PreK-12 Fall 2005 membership in Florida Public Schools. <sup>c</sup>Includes children who are described as belonging to Native American/Alaskan Native and the Multiracial categories.

Table 12

*Odds Ratio Comparisons between Children and Adolescents from Different Race/Ethnicity Backgrounds*

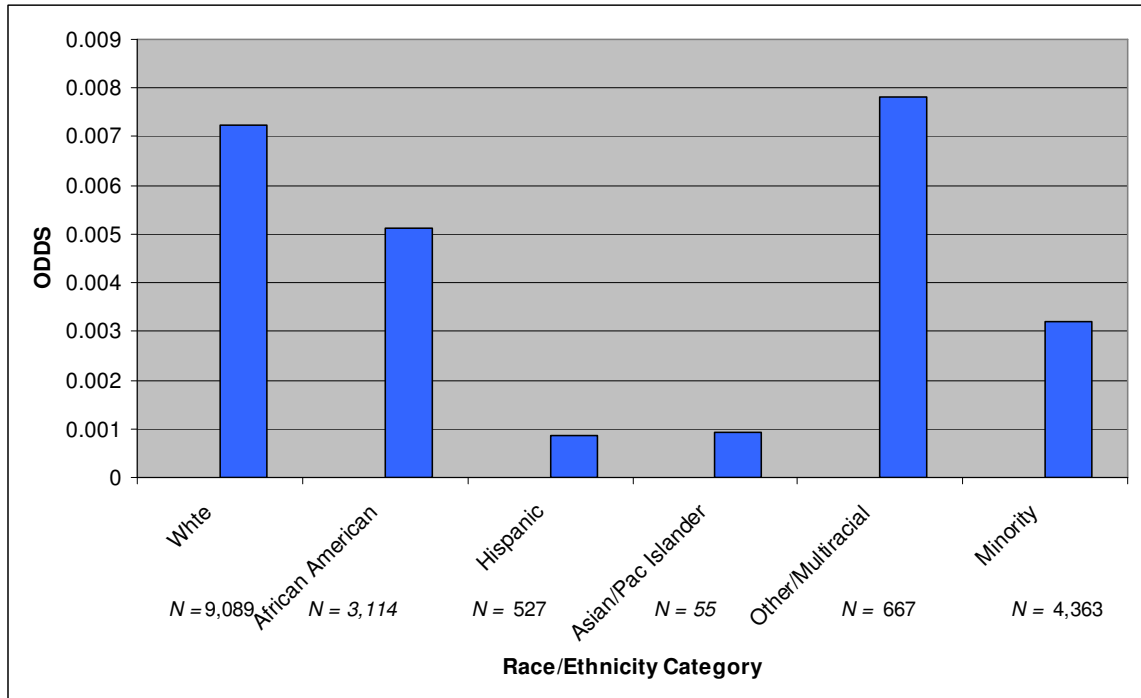
Comparison	Odds Ratio	95% Confidence Interval
Other vs. White	1.065	0.984 – 1.152
Other vs. African American	1.524	1.401 – 1.657
Other vs. Asian	8.240	6.258 – 10.850
Other vs. Hispanic	9.044	8.066 – 10.141
White vs. African American	1.431	1.374 – 1.491
White vs. Asian	7.740	5.937 – 10.091
White vs. Hispanic	8.496	7.781 – 9.276
African American vs. Asian	5.408	4.142 – 7.062
African American vs. Hispanic	5.936	5.412 – 6.511
Asian vs. Hispanic	1.089	0.825 – 1.438
White vs. Minority	2.289	2.208 – 2.373

*Note.* <sup>a</sup>Calculations do not include 587 Baker Act ERs or 4.2% of the total count because the referrals were missing a county of residence and/or race was not indicated.

<sup>b</sup>Enrollment calculations based on PreK-12 Fall 2005 membership in Florida Public Schools. <sup>c</sup>Includes children who are described as belonging to Native American/Alaskan Native and the Multiracial categories.

Figure 3

*Odds of Receiving a Baker Act Examination Referral (ER) Among Race/ethnicity categories*



*Note.* Calculations do not include 587 Baker Act ERs or 4.2% of the total count because the referrals were missing a county of residence and/or race was not indicated on the referral. Enrollment calculations based on Fall 2005 membership in Florida Public Schools, excluding pre-k membership. Includes children who are described as belonging to Native American/Alaskan Native and the Multiracial categories.

A chi-square analysis was conducted to compare the proportions of Baker Act ER initiated for children and adolescents who belonged to each race/ethnicity demographic

Table 13

*Chi-Square Statistics for Comparison of Baker Act Examination Referral (ER) Proportions between Race/ethnicity Demographic Categories*

Statistic	DF	Value	Probability
Chi-square	4	3615.8239	<0.0001
Phi Coefficient		0.0368	

*Note.*  $N = 2,673,563$  in Prek-12 population.

category to the proportion of enrolled students for each race/ethnicity demographic category. Baker Act ERs proportions among race/ethnicity demographics differed from the proportions of enrolled students ( $\chi^2(4, N = 2,673,563) = 3615.8239, p < .0001$ ). Examination of the expected and actual frequencies of Baker Act ER proportions suggests that Baker Act ERs were greater than expected among White children and adolescents in comparison to their enrollment proportions. Table 13 displays the Chi-Square statistics associated with the comparison of proportions.

*Research Question 2:* Do African American students receive Baker Act examination referrals at rates that are disproportionate to their total enrollment within the Florida public schools?

African American students were not overrepresented in the population of children and adolescents who received a Baker Act ER compared to their enrollment in Florida public schools. African American children and adolescents accounted for 23.15% of all children and adolescents who received a Baker Act ER. African American children and



adolescents accounted for 23.36% of enrolled PreK-12 students in Florida Public schools.

Table 14 displays the proportion comparisons between African American children and adolescents who received a Baker Act ER to enrollment proportions.

Table 14

*Comparison of Proportion of African American Children and Adolescents Who Received a Baker Act Examination Referrals to Proportion of Enrollment Within Florida Public Schools*

	# of Children Who Received B.A	% of Total Children Who Received B.A	#Enrolled <sup>a</sup>	%Enrolled
<i>N</i>	3,114	23%	609,152	23%

*Note.* <sup>a</sup>Enrollment calculations based on Fall 2005 membership in Florida Public Schools, excluding pre-k membership.

Table 15

*Summary of Relevant Findings for Demographic Comparisons*

---

- **Age/Grade Level**

- The odds of receiving a Baker Act ER increases among older children and adolescents in higher grades.
- The odds of receiving a Baker Act ER are greatest among the high school population.
- Middle school students have greater odds of receiving a Baker Act ER compared to elementary school children.
- Baker Act ER rates were greater than expected among the high school population and less than expected among the elementary school population when taking into account the proportion of enrolled students in these grades.

- **Gender**

- The odds of receiving a Baker Act ER are greater among females than males.

- **Race/Ethnicity**

- The odds of receiving a Baker Act ER are greatest among children and adolescents who belong to the Other/Mixed category and White Children and adolescents.
  - The odds of receiving a Baker Act ER are lowest among Hispanic children and adolescents.
  - The odds are greater among White children and adolescents than all minority children and adolescents.
  - Baker Act ER rates among Black children are proportional to the rates of enrollment among Black children in the Florida public schools.
-

*Research Question 3 and 4: What percentage of total Baker Act examination referrals are repeat Baker Act examination referrals? What percentage of children and adolescents received more than one Baker Act examination referral?*

A total of 18.3% of the children and adolescents who received a Baker Act referral accounted received more than one referral. A total of 37.91% of the total Baker Act ERs were repeat Baker Act ERs.

During the calendar year of 2005, there were 14,200 children and adolescents who received a Baker Act ER. Of those, 2,578 children and adolescents were repeat referrals in 2005. There were a total of 161 children and adolescents who had exams that were counted in more than one county. Consequently, 14,039 were used for this analysis. For the repeating Baker Act ER analysis, 18,459 were used in the analysis. Of those, 6,998 were repeat Baker Act ERs. Table 16 displays the total number of Baker Act ERs, the total number of repeat Baker Act ERs, the total number of children and adolescents who received a Baker Act ER, and the percentage of children and adolescents who received more than one Baker Act ER.

Table 16

*Baker Act Examination Referrals (ERs)*

	Total B.A. <sup>a</sup>	Total Repeat	% Repeat	Total Children <sup>b</sup>	Repeat Children	% Repeat
<i>N</i>	18,459	6,998	37.91%	14,039	2,578	18.36

*Note.* <sup>a</sup>There were a total of 21, 965 Baker Act ER's during 2005. The number used in the repeating analysis is lower because of missing county of residence or Social Security numbers. <sup>b</sup>There were 14,043 children who were documented as receiving at least on Baker Act ER during 2005. The number used in the repeating analysis is lower because of children who had exams counted in more than one county.

*Research Questions 5: What is the relationship between the district level variables and Baker Act ERs and repeat Baker Act ERs?*

District level variables accounted for a statistically significant proportion of the variance for three of the four multiple regression analyses that were examined. Further, there were several district variables (e.g., graduation rates, minority enrollment, out-of-school suspension) that accounted for a unique proportion of the variance in Baker Act ERs and repeat Baker Act ERs after controlling for the variance attributed to other district variables. The remainder of this chapter will discuss the results of multiple regression analyses that were utilized to examine these relationships.

*Descriptive Statistics.* Examination of the skewness values for the dependent and independent variables indicates extreme positive skewness for enrollment and percent of the student population who received special education service under the EHSED category, and moderate positive skewness for Baker Act ERs, percent of students who received special education services, percent retained, and percent expelled. The remaining skewness values range from slight skewness to normal. Examination of the kurtosis values suggests a leptokurtic distribution for enrollment, Baker Act ERs, percent EHSED, percent retained, percent out-of-school suspension, and percent expelled. The kurtosis values indicate normal kurtosis values for the remaining variables. Table 17 displays the descriptive statistics for each of the variables associated with research questions 5 and 6.

Table 17

*Descriptive Statistics for the Dependent and Independent Variables*

	<i>N</i>	Mean	Median	SD	Skewness	Kurtosis
PerBA	67	0.007	0.006	0.003	1.123	2.158
PerRep	67	0.001	0.001	0.001	0.844	0.080
enrollment	67	39,741	12,274	65,352	3.040	10.552
PerMinority	67	0.365	0.332	0.197	0.836	0.416
PerFree/reduced	67	0.491	0.496	0.112	-0.051	-0.419
PerSPED	67	0.172	0.165	0.035	1.071	1.520
PerEH/SED	67	0.016	0.014	0.009	2.536	10.416
PerRetained	67	0.075	0.073	0.027	1.034	2.421
PerGrad	67	0.750	0.751	0.086	-0.316	0.880
Per3read	67	0.525	0.530	0.078	-0.382	0.597
Per3math	67	0.571	0.580	0.089	-0.517	0.672
Per3Comp	67	0.548	0.560	0.083	-0.444	0.641
PerOSS	67	0.105	0.102	0.049	0.888	2.539
PerISS	67	0.125	0.131	0.077	0.403	-0.601
PerExp	67	0.0008	0.0001	0.001	1.972	3.050
ratioMH/Stud	67	0.002	0.002	0.001	-0.693	1.503

Table 18 displays the correlation matrix for the data set. The matrix displays the dependent variables and each of the independent variables that were entered into the regression equations for research questions 5. Examination of the zero order correlations between percent of students who received a Baker Act ER and the independent variables indicates that the highest zero order correlation was between percent of students who received a Baker Act ER and percent free and reduced lunch ( $r = -.234$ ). The lowest zero order correlation was between Baker Act ERs and the percent of students in a district who were expelled ( $r = -.018$ ). Further, analysis of the zero order correlations indicates that the only significant correlation was between Baker Act ERs and percent free and reduced lunch ( $r = -.234, p = .028$ ). Examination of the zero order correlations between repeat Baker Act ERs indicates that the highest zero order correlation was between repeat Baker Act ERs and enrollment ( $r = .294$ ). Additional analysis indicates significant zero order correlations between repeat Baker Act ERs and enroll ( $r = .294, p = 0.008$ ), percent free and reduced lunch ( $r = -.233, p = 0.029$ ), percent graduation ( $r = -.244, p = .023$ ), and the ratio of mental health professional to students ( $r = .221, p = .036$ ).

Table 18

Correlation Matrix for Dependent and Independent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. PerBA	1.00																
2. PerRep	.748	1.00															
3. enroll <sup>b</sup>	.140	.296	1.00														
4. PerMinority	-.126	.058	.491	1.00													
5. PerAfricanAm	-.085	-.091	.161	.704	1.00												
6. PerFree <sup>ab</sup>	-.234*	-.233**	-.131	.406	.443	1.00											
7. PerSPED	-.112	-.187	-.390	-.121	.190	.261	1.00										
8. PerEHSED	-.150	-.168	-.195	.021	.265	.210	.650	1.00									
9. PerRet	-.022	-.020	.045	.494	.697	.522	.323	.304	1.00								
10. PerGrad <sup>b</sup>	-.157	-.244*	-.208	-.636	-.503	-.540	.119	.009	-.497	1.00							
11. Per3read	.132	.058	.026	-.597	-.574	-.824	-.188	-.213	-.650	.722	1.00						
12. Per3math	.096	.075	.099	-.518	-.589	-.809	-.251	-.278	-.684	.650	.722	1.00					
13. Per3comp	.114	.068	.065	-.561	-.588	-.825	-.224	-.250	-.675	.691	.988	.991	1.00				
14. PerOSS	.068	.120	-.165	.354	.574	.354	.429	.249	.327	.539	.384	-.551	-.615	1.00			
15. PerISS	.044	.027	-.174	-.044	.088	.127	.060	.079	.147	-.119	-.241	-.276	.263	.307	1.00		
16. PerExp	-.018	.006	-.197	.230	.365	.337	.155	.238	.451	-.349	-.426	-.421	-.428	.459	.085	1.00	
17. RatioMHStud <sup>b</sup>	.188	.221*	.094	.061	.110	-.020	-.073	.073	.068	-.173	-.060	-.044	-.052	.126	.036	.121	1.00

Note. <sup>a</sup>Statistically significant correlation with PerBA, <sup>b</sup>Statistically significant correlation with PerRep; \* $p < .05$ ; \*\* $p < .01$



*Collinearity.* Analysis of the zero order correlations indicates significant collinearity between the following independent variables: (a) percent of students who received a level 3 or higher on the reading FCAT and (b) percent of students who received a level 3 or higher on the math section of the FCAT ( $r = 0.957$ ). Stevens (2002) suggest that variables with a Variance Inflation Factor (VIF) of greater than 10 have a significant influence on the  $R^2$  value for regression equations that include these variables. The VIF for percent 3 or higher on the reading FCAT and percent 3 or higher on the math FCAT were greater than 10 for each multiple regression analysis that included these variables, indicating that these variables had a significant influence on the  $R^2$  value when entered into the regression equation. An achievement composite variable was calculated to address the collinearity between two variables.

The achievement composite variable was calculated by adding the values for the percent of children and adolescents who obtained a level 3 or higher on the reading FCAT and the percent of children and adolescents who obtained a level 3 or higher on the math FCAT, and then dividing by 2. For purposes of this study, the achievement composite variable is labeled as the percent of students in a district who achieved level 3 or higher on the reading and math sections of the FCAT (Per3comp). The achievement composite variable was calculated for each district and entered into the regression equation to replace the Per3read and Per3math variables. The equation to calculate this composite variable is presented below:

$$\text{Per 3 Comp} = \frac{\text{Per3read} + \text{Per3math}}{2}$$

*Assumptions of multiple regression.* An appropriate analysis of multiple regression equations is dependent primarily on two assumptions. First, a valid and reliable analysis of data from multiple regression is dependent on a linear relationship between the dependent and independent variables. Scatterplots with the predicted value plotted on the x-axis and the standardized residuals plotted on the y-axis were examined for each regression equation that was conducted. The scatterplots indicated a linear relationship for each of the regression equations. Thus, the assumption of linearity was confirmed.

Multiple regression analysis also is dependent on the homoscedasticity of errors assumption. Homoscedasticity refers to the equal variance of prediction errors (residuals) around the regression line. A homoscedastic distribution of errors indicates that the regression equation predicts equally well at each point on the y and x-axis. Scatterplots with the residuals plotted on the y-axis and the predicted values plotted on the x-axis were examined for each regression equation. Analysis of the scatterplots indicated a homoscedastic distribution of errors around the regression line for each equation. Thus, the homoscedasticity of errors assumptions was confirmed. An example of a scatterplot displaying homoscedasticity for one multiple regression is displayed in Appendix E.

*Outliers.* Outliers in the data set were examined for each regression equation. Studentized residuals were examined to identify extreme values that could have a disproportionate affect on the predicted values for each regression equation. Studentized residuals with absolute values greater than 2.0 were considered significant. There were several variables that had studentized residual values of greater than 2.0. Cook's D value was examined to determine the influence that the outliers exerted on the

predicted values for each regression equation. A Cook's D value of greater than 1.0 is considered to be indicative of a high degree of leverage on the regression equation. The largest Cook's D value was .511, indicating that the identified outliers exerted a minimal effect on the predicted values obtained in each of the regression equations. Therefore, it was appropriate to proceed with the multiple regression analysis with these variables included in the analyses.

*Multiple regression analyses.* Multiple regression analyses were conducted for several sets of independent variables to examine the proportion of explained variance for Baker Act ER rates and repeat Baker Act ER rates. First, Baker Act ER rates were regressed on the following set of independent variables: enrollment, percent minority enrollment, percent free and reduced lunch, percent of students who received special education services, percent EHSED, percent retained, percent graduation, percent 3 or higher on the FCAT, percent out-of-school suspension, percent , percent expelled, and the ratio of mental health professionals to student. Analysis of the  $R^2$  value indicated that the independent variables entered into the equation accounted for a significant proportion of the variance in Baker Act ERs ( $R^2 = .337$ ,  $F(12, 54) = 2.288$ ,  $p = .019$ ; Adjusted  $R^2 = .190$ ). The  $R^2$  value indicates that approximately 34% of the variance in Baker Act ERs was attributed to the combination of independent variables in the regression equation. The adjusted  $R^2$  value indicates some shrinkage due to the sample size and the number of independent variables in the equation. The adjusted  $R^2$  indicates that approximately 19% of the variance in Baker Act ERs within the population can be attributed to the independent variables in the data set. Table 19 displays the regression statistics associated with the multiple regression equation for this data set.

Table 19

*Summary of Multiple Regression Analysis for Selected Variables Predicting PerBA (N = 67)*

	$\beta$	$t$	Correlations	
			Zero Order	Semi-partial
enrollment	0.303	1.890	0.140	0.209
PerMinority	-0.561**	-2.944	-0.126	-0.326
PerFree	-0.385	-1.871	-0.234	-0.207
PerSPED	-0.164	0.964	-0.112	0.107
PerEHSED	-0.200	-1.304	-0.150	-0.145
PerRetained	0.038	0.221	-0.022	0.025
PerGrad	-0.554**	-3.043	-0.157	-0.337
Per3comp	0.016	0.057	0.114	0.006
PerOSS	0.291	1.864	0.068	0.207
PerISS	-0.030	-0.242	0.044	-0.027
PerExp	-0.023	-0.165	-0.018	-0.018
RatioMHStud	0.082	0.709	0.188	0.079

*Note.*  $R^2 = 0.337$ ;  $p = 0.019$ . Adjusted  $R^2 = 0.190$ . \* $p < .05$ ; \*\* $p < .01$

Analysis of the t-tests for the standardized regression coefficients of the independent variables indicates that percent graduation ( $\beta = -.554$ ,  $p = .004$ ) and percent minority ( $\beta = -.561$ ,  $p = .005$ ) accounted for a significant unique proportion of the variance in Baker

Act ERs after controlling for the variance accounted for by the other variables in the regression equation. The semi-partial correlation between percent graduation, percent minority, and Baker Act ERs was negative.

A second regression equation was run with percent African American enrollment substituted for percent minority. Analysis of the  $R^2$  valued indicated that the independent variables accounted for a insignificant percentage of the variance Baker Act ERs ( $R^2 = 0.265$ ,  $F ( 12,54) = 1.622$ ,  $p = 0.113$ ; Adjusted  $R^2 = .102$ ). Table 20 displays a summary of the multiple regression analysis for this equation.

Table 20

*Summary of Multiple Regression Analysis for Selected Variables Predicting PerBA (N = 67)*

	$\beta$	t	Correlations	
			Zero Order	Semi-partial
enrollment	0.105	0.714	0.140	0.083
PerAfricAm	-0.291	-1.587	-0.365	-0.185
PerFree	-0.359	-1.660	-0.234	-0.194
PerSPED	0.201	1.124	-0.112	0.131
PerEHSED	-0.184	-1.138	-0.150	-0.133
PerRetained	0.106	0.544	-0.022	0.063
PerGrad	-0.457	-2.440	-0.157	-0.285
Per3comp	0.198	0.681	0.114	0.079
PerOSS	0.291	1.708	0.068	0.199
PerISS	0.028	0.214	0.044	0.025
PerExp	-0.031	-0.213	-0.018	-0.025
RatioMHStud	0.121	0.997	0.188	0.116

*Note.*  $R^2 = 0.265$ ;  $p = 0.113$ . Adjusted  $R^2 = 0.102$ .

A third multiple regression equation was run with repeat Baker Act ERs as the dependent variable. The following set of independent variables were included in this analysis: enrollment, percent minority, percent free and reduced lunch, percent of

students who received special education services, percent EHSED, percent retained, percent graduation, percent level 3 or higher on the FCAT, percent out-of-school suspension, percent in-school suspension, percent expelled, and the ratio of mental health professionals to students. Analysis of the  $R^2$  indicated that the independent variables accounted for a significant percentage of the variance in repeat Baker Act ERs ( $R^2 = 0.390$ ,  $F(12,54) = 2.878$ ,  $p = 0.004$ ; Adjusted  $R^2 = .255$ ). Approximately 39% of the variance in repeat Baker Act ERs could be attributed to the independent variables in the regression equation. The adjusted  $R^2$  indicates some shrinkage, suggesting that 25% of variance in repeat Baker Act ERs within the population can be attributed to the independent variables. Examination of the t-tests of the standardized regression coefficients for the variables in the equation indicated that percent graduation ( $\beta = -0.532$ ;  $p = 0.004$ ), percent free and reduced lunch, ( $\beta = -0.450$ ;  $p = 0.27$ ), enrollment ( $\beta = 0.390$ ;  $p = 0.014$ ), percent minority ( $\beta = -0.368$ ;  $p = 0.049$ ), and percent out-of-school suspension ( $\beta = 0.347$ ;  $p = 0.024$ ) accounted for a significant unique proportion of the variance in repeat Baker Act ERs after controlling for the variance attributed to other variables in the equation. The semi-partial correlations between percent graduation, percent free and reduced lunch, percent minority, and repeat Baker Act ERs were negative. The semi partial correlations between percent out-of-school suspension, enrollment, and repeat Baker Act ERs were positive. Table 21 displays the statistics for this multiple regression.

Table 21

*Summary of Multiple Regression Analysis for Selected Variables Predicting PerRep (N = 67)*

	$\beta$	$t$	Correlations	
			Zero Order	Semi-partial
enrollment	0.390**	2.538	0.296	0.270
PerMinority	-0.368*	-2.014	0.058	-0.214
PerFree	-0.450*	-2.281	-0.233	-0.242
PerSPED	0.174	1.068	-0.187	0.114
PerEHSED	-0.198	-1.346	-0.168	-0.143
PerRetained	-0.103	0.627	-0.020	0.067
PerGrad	-0.532**	-3.045	-0.244	-0.324
Per3comp	-0.039	-0.142	0.068	0.015
PerOSS	0.347*	2.315	0.120	0.246
PerISS	-0.028	-0.238	0.027	-0.025
PerExp	0.016	0.119	0.006	0.013
RatioMHStud	0.093	0.837	0.221	0.089

*Note.*  $R^2 = 0.390$ ;  $p = 0.004$ ; Adjusted  $R^2 = 0.255$ . \* $p < .05$ ; \*\* $p < .01$

A final multiple regression equation was run with repeat Baker Act ERs as the dependent variable and the following set of independent variables included in this analysis: enrollment, percent African American enrollment, percent free and reduced



lunch, percent of students who received special education services, percent EHSED, percent retained, percent graduation, percent level 3 or higher on the FCAT, percent out-of-school suspension, percent in-school suspension, percent expelled, and the ratio of mental health professionals to students. Table 22 displays the statistics for this multiple regression. Analysis of the  $R^2$  indicated that the independent variables accounted for a significant percentage of the variance in repeat Baker Act ERs ( $R^2 = 0.424$ ,  $F(12,54) = 3.308$ ,  $p = 0.001$ ; Adjusted  $R^2 = .296$ ). Approximately 42% of the variance in repeat Baker Act ERs could be attributed to the independent variables in the regression equation. The adjusted  $R^2$  indicates some shrinkage, suggesting that 29% of variance of repeat Baker Act ERs within the population can be attributed to the independent variables.

Examination of the t-tests of the standardized regression coefficients for the variables in the equation indicated that percent graduation ( $\beta = -0.494$ ;  $p = 0.004$ ), percent African American enrollment ( $\beta = -0.443$ ;  $p = 0.009$ ), percent free and reduced lunch ( $\beta = -0.434$ ;  $p = 0.028$ ), percent out-of-school suspension ( $\beta = 0.421$ ;  $p = 0.007$ ), and enrollment ( $\beta = 0.305$ ;  $p = 0.023$ ) accounted for a significant unique proportion of the variance in repeat Baker Act ERs after controlling for the variance attributed to other variables in the equation. The semi-partial correlations between percent graduation, percent African American enrollment, percent free and reduced lunch, and repeat Baker Act ERs were negative. The semi-partial correlations between percent out-of-school suspension, enrollment, and repeat Baker Act ERs were positive.

Table 22

*Summary of Multiple Regression Analysis for Selected Variables Predicting PerRep (N = 67)*

	$\beta$	$t$	Correlations	
			Zero Order	Semi-partial
enrollment	0.305*	2.345	0.294	0.236
PerAfricAm	-0.443**	-2.729	0.058	-0.277
PerFree	-0.434*	-2.265	-0.233	-0.193
PerSPED	0.203	1.282	-0.186	0.130
PerEHSED	-0.174	-1.216	-0.168	-0.116
PerRetained	0.047	0.273	-0.020	0.062
PerGrad	-0.494**	-2.984	-0.244	-0.362
Per3comp	0.062	0.294	0.068	0.155
PerOSS	0.421**	2.790	0.120	0.305
PerISS	-0.008	-0.072	0.027	0.019
PerExp	0.010	0.078	0.006	0.010
RatioMHStud	0.120	1.116	0.221	0.097

*Note.*  $R^2 = 0.424$ ;  $p = .001$ . Adjusted  $R^2 = 0.296$ . \* $p < .05$ ; \*\* $p < .01$ .

Table 23

*Summary of Relevant Findings for Multiple Regression Analysis*

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- Enrollment, percent minority enrollment, percent free and reduced lunch, percent of students who received special education services, percent EHSED, percent retained, percent graduation, percent level 3 or higher on the FCAT, percent in-school suspension, percent out-of-school suspension, percent expelled, and the ratio of mental health professionals to students accounted for a statistically significant proportion of the variance in Baker Act ERs and repeat Baker Act ERs. These variables predicted a greater proportion of the variance in repeat Baker Act ERs ( $R^2 = 0.424$ ;  $R^2 = 0.390$ ) than Baker Act ERs ( $R^2 = 0.337$ ;  $R^2 = 0.265$ ).
- When African American enrollment was substituted for minority enrollment in regression analyses, the variables did not account for a statistically significant proportion of the variance in Baker Act ERs ( $R^2 = 0.265$ ). However, regression equations that included African American enrollment accounted for a statistically significant proportion of the variance in repeat Baker Act ERs ( $R^2 = 0.424$ ).
- Percent free and reduced lunch accounted for a unique proportion of the variance in repeat Baker Act ERs. This relationship was not found for Baker Act ERs.

Table 23 (continued)

*Summary of Relevant Findings for Multiple Regression Analysis*

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- Percent graduation was the variable that most consistently contributed to a unique proportion of the variance in Baker Act ERs and repeat Baker Act ERs after controlling for the variance attribute to other variables in multiple regression analyses. The relationship between these percent graduation, Baker Act ERs, and repeat Baker Act ERs was negative.
  - Percent out-of-school suspension accounted for a unique proportion of the variance in repeat Baker Act ERs. The relationship between these variables was positive. Percent out-of-school suspension did not account for a significant proportion of the variance in Baker Act ERs. Other measures of disciplinary exclusion (i.e., percent in-school suspension and percent expelled) did not contribute to a unique proportion of the variance in Baker Act ERs or repeat Baker Act ERs.
  - Enrollment accounted for a unique proportion of the variance in repeat Baker Act ERs. The relationship between these variables was positive. It did not account for a unique proportion of the variance in Baker Act ERs.
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## Chapter Five

### Discussion

The purpose of this chapter is to provide a summary of the findings for this study, explanations for the findings, limitations, and to describe the practice and research implications. The chapter is organized by first presenting responses to each research question. A summary of the findings for each research questions is presented. Current findings are compared to literature that has examined the relationship between demographic variables, school district variables, availability of mental health services, and responses to child and adolescent psychopathology that are similar to the Baker Act. Explanations for the research findings also are discussed in the first section. The second section highlights the major design and methodological limitations. The chapter concludes with a discussion about the implications for practice and future directions associated with the findings from this study.

#### *Research Questions One and Two*

The findings from the present study suggest that Baker Act ERs are more prevalent among certain demographic groups (e.g., age/grade level, gender, race/ethnicity). The odds of receiving a Baker Act ER were greatest among the high school population, females, White children and adolescents, and children and adolescents from the other/mixed demographic. Furthermore, the proportion of children who

received a Baker Act ER were greater than expected among these demographics in comparison to their enrollment proportions within the Florida public school system.

These findings are consistent with other research findings that have examined the relationship between demographics and responses to psychopathology among the child and adolescent population. Other studies have found that practices resulting in the removal of children and adolescents from mainstream settings (e.g., suspension, expulsion) are used more frequently among older children and adolescents who are enrolled in secondary education (Florida Department of Education, 2005; Raffaele-Mendez, 2000). Furthermore, research (Wu et al., 2001) suggests that females are more likely than boys to seek mental health treatment for depression, and depression represents a condition that is under treated among African American children and adolescents. Evidence also suggests that African American children and adolescents and children from other minority backgrounds are less likely than White children to utilize mental health services (Taylor, 2005; United States Department of Health and Human Services [USDHHS], 2003). However, minority children and adolescents in a large city were found to be more likely than White children and adolescents to receive emergency mental health services (Chow, Jafee, & Snowden, 2003).

A number of factors could explain the relationship between demographics and the use of the Baker Act. The most parsimonious explanation is that the incidence of severe psychopathology and impairment is greatest among children from these demographic groups and may be more likely to display behaviors that warrant a Baker Act ER. For example, research indicates that the prevalence of psychopathology is greater among older children and adolescents (Moffit, 1993; Roberts, Attkisson, & Rosenblatt, 1998).

Developmental models suggest that more severe forms of psychopathology are related to the time spent on a negative developmental pathway that begins in early childhood (Sroufe, 1997). Minor behavioral problems that emerge during early childhood can escalate into more severe forms of maladjustment as children experience chronic adaptational failure. The environmental demands associated with middle childhood and adolescence may be more complex and require greater levels of competence to navigate successfully than the demands placed on elementary age children. Adolescence is a developmental period in which the gap between biological and social maturity can have a profound negative impact on social-emotional and behavioral functioning. The behavior of adolescents also can be motivated by attempts to establish independence and autonomy from parents and other adults. Consequently, adolescents may engage in high risk behaviors (e.g., alcohol use) that further predispose them to severe psychopathology that culminates in the use of the Baker Act (Moffit, 1993).

Another explanation of the relationship between age and the use of the Baker Act relates to the responses used by adults to address severe psychopathology among older children. School based professionals, family members, and law enforcement personnel may prefer an approach for younger children that utilize resources within less restrictive settings. The Baker Act is most commonly used in response to behaviors that threaten the physical safety of the individual or others within the individual's environment (Christy, 2003). When adolescents display these behaviors and fail to respond to less intrusive crisis intervention procedure, their size and strength may require the involvement of professionals with training in physical restraint and seclusion techniques. Baker Act ERs may represent the final response in a chain that begins when an adolescent fails to

respond to less intrusive crisis intervention procedures. Assistance from law enforcement personnel may be requested because they are perceived as individuals who have appropriate training in techniques that can decrease the threat of an older child or adolescent who displays severe psychopathology. Another possible explanation for the relationship between age and use of the Baker Act is related to language development. Children develop a greater capacity to express negative views of themselves, others, and the world as they progress from early childhood to adolescents (Burke, 1998). Older children may have a greater capacity to communicate the intent of future behavior. Consequently, there is a greater likelihood that adults will become aware of an older child's intentions to do harm, and therefore, more likely to initiate a Baker Act ER.

#### *Research Questions Three and Four*

Eighteen percent of children and adolescents received more than one Baker Act ER during the 2005 calendar year. Additionally, 37% of all Baker Act ERs that were initiated during this time period were repeat referrals. These findings suggest that a high percentage of children and adolescents continue to demonstrate severe psychopathology after receiving access to emergency mental health services. This would call into question long term outcomes associated with the use of the Baker Act among children and adolescents. Significant risk factors associated with severe psychopathology appear to negatively influence the adjustment of children and adolescents after receiving Baker Act ERs. These findings are consistent with research that has examined the experiences of children and adolescents after receiving intensive mental health services. Many children and adolescents continue to demonstrate a significant level of psychopathology after receiving these services (Halliday-Boykins, 2004). Readmission to psychiatric hospitals



is a relatively common outcome for some children and adolescents who display severe psychopathology (Romansky et al., 2003). Furthermore, a high percentage of children and adolescents receive several in-school and out-of-school suspensions while in school (Skiba et al., 1997).

#### *Research Question Five*

District level analysis indicated that the variables selected for inclusion in multiple regression analysis accounted for a significant proportion of the variance in Baker Act ER rates and repeat Baker Act ER rates among the 67 school districts in Florida. These findings suggest that the combination of district level demographics (e.g., minority enrollment, socioeconomic status), special education placement rates, academic competence (e.g., reading and math achievement, grade retention, graduation rates), and responses to severe psychopathology (e.g., suspension, expulsion, availability of mental health professional) contributed to the use of the Baker Act among children and adolescents.

Certain district level variables contributed to a unique proportion of the variance in Baker Act ERs and repeat Baker Act ERs. The percent of students in a school district that graduated with a standard diploma was the variable that most consistently contributed to a unique proportion of the variance in Baker Act ER. There was a negative relationship between graduation rates and the use of the Baker Act, suggesting that there is a greater use of the Baker Act among school districts that have lower graduation rates. These findings are consistent with other research that has identified a relationship between rates of disciplinary referrals and high school drop out rates (Christle, Jolivet, and Nelson, 2005), and high school drop among students with emotional and behavioral

disorders (United States Department of Education, 2001). Further, these findings also are consistent with research that has identified a relationship between academic competence and child psychopathology (Hinshaw, 1992; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005; Willcutt & Pennington, 2000).

The negative relationship between academic competence (e.g., graduation rates) and the use of the Baker Act can be explained by developmental models of psychopathology. Competence refers to the ability to successfully meet age appropriate development tasks (Masten & Coatsworth, 1998). Developmental models of psychopathology suggest that failure in one area of competence often leads to failure in another area of competence (Sroufe, 1997). Two developmental pathways have been proposed to explain the inverse relationship between academic competence and psychopathology (Masten & Curtis, 2000). First, the behavioral expression of severe childhood psychopathology can reduce academic engagement and the acquisition of academic skills (Hinshaw, 1992; McClelland, Morrison, & Holmes, 2000). Consequently, children and adolescents with severe psychopathology fail to attain academic skills that facilitate success in school, and are therefore at a greater risk of dropping out of school. A second explanation is that early academic failure represents one example of adaptational failure. In these cases, academic failure increases the risk of psychopathology among children and adolescent. As children and adolescents struggle to attain academic competence they also may develop problems with social-emotional and behavioral functioning (Kellam, Mayer, Rebok, & Hawkins, 1992; Kellam, Rebok, Mayer, Iaolongo, & Kalodner, 1994; Maughan et al., 2003). Another possible explanation is that academic problems may be associated with other risk factors that are associated with severe

psychopathology. The inverse relationship between academic competence in adolescence and Baker Act ERs may be an artifact of other risk factors (e.g., socioeconomic status; familial factors) common to both outcomes (Masten & Coatsworth, 1998; Masten & Curtis, 2000; Werner, 1989; Willcutt & Pennington, 2000).

Another possible explanation for the negative relationship between graduation rates and the use of the Baker Act relates to the social competence of adolescents who graduate from high school. Social skills such as maintaining relationships with adults (e.g., teachers, administrators, support personnel) may facilitate graduation from high school even for students who struggle academically, and therefore, may be an important protective factor for children and adolescents who are at risk for high school drop out. Many children and adolescents with severe psychopathology may have impaired relationships with adults (Wagner & Sumi, 2005). Consequently, they may be less likely than socially competent students to receive the academic and social support that is important for persisting through high school until graduation. Similarly, school districts with higher graduation rates may provide more academic and behavioral supports that are important for facilitating graduation among children and adolescents than districts with lower graduation rates. School districts with higher graduation rates also may provide a more positive climate that encourages student engagement in school. For children and adolescents who display severe psychopathology, the availability of academic and behavioral support services coupled with a positive school climate may facilitate adaptation to the school environment while encouraging high school graduation. Further, the availability of supports services and a more positive school climate may be important factors in preventing Baker Act ERs among many children and adolescents.

The percentage of children and adolescents that met proficiency standards on the reading and math sections of the Florida Comprehensive Achievement Test (FCAT) was not associated with Baker Act ER rates among school districts. Furthermore, grade retention rates were not associated with Baker Act ER rates. These findings are somewhat unexpected given the inverse relationship between graduation rates and Baker Act ER rates. One explanation for these contradictory findings is related to the data sources used for these variables. District proficiency levels in reading and math were calculated as the aggregate percentage of all students in a district who achieved a level 3 or higher on the FCAT for grades three to ten. The aggregate percentage of students in grades three through ten who achieved proficiency standards may not accurately reflect the academic outcomes of older students in grades 11 and 12 who may be at a greater risk of receiving a Baker Act ER. Retention rates also may not reflect the academic proficiency of students at higher grade levels. Graduation rates are based on the number of high school seniors who graduate with a standard diploma and may be a more accurate reflection of the achievement outcomes among older students in the high school population. An analysis of FCAT distributions between grade levels may have identified an inverse relationship between middle and high school FCAT scores and the use of the Baker Act.

Analysis of district level variables indicated that race/ethnicity and socioeconomic status contributed uniquely to the variance in Baker Act ERs and repeat Baker Act ERs. The negative relationship between the use of the Baker Act and minority enrollment suggests that the use of the Baker Act was less common in districts with a greater proportion of minority students. African American enrollment was not significantly correlated with Baker Act ER rates after accounting for other variables in the regression

equations. However, there was a significant negative correlation between repeat Baker Act ERs and African American students after controlling for the influence of other variables, suggesting that districts with a greater proportion of African American students were less likely to have students who received more than one Baker Act ER.

The inverse relationship between minority enrollment, African American enrollment, and the use of the Baker Act is consistent with findings from demographic comparisons that were analyzed as part of this study. White children and adolescents had greater odds of receiving a Baker Act than minority and African American children and adolescents. In addition to these findings, there also was an inverse relationship between socioeconomic status and the use of the Baker Act, suggesting that districts with a greater proportion of students who received free and reduced lunch were less likely to use Baker Act ERs. Furthermore, children and adolescents from minority backgrounds, and children and adolescents of lower socioeconomic backgrounds historically have been less likely to receive community based mental health and behavioral support services (Hough et al., 2002; McMiller & Weisz, 1996; Snowden, 1999; Taylor, 2005; United States Department of Health and Human Services [USDHHS], 2003).

Cultural variables may account for the negative relationship between race/ethnicity, socioeconomic status, and use of the Baker Act. Cultural factors associated with race/ethnicity and socioeconomic status may influence the decisions of parents, school personnel, law enforcement personnel, and mental health professionals to utilize the Baker Act among children and adolescents. The cultural background of an individual has historically been a factor in determining mental health diagnosis, assessment, and treatment (Taylor, 2005;USDHHS (2003). For example, African American and Latinos

seek help from mental health service providers less often than White families (McMiller & Weisz, 1996). Incidents that culminate in a Baker Act ER begin when child and adolescents display symptoms and/or behaviors associated with severe psychopathology. Influential adults such as school personnel, parents, relatives, community based mental health professionals, and law enforcement personnel can choose to utilize the Baker Act as one response to children and adolescents who engage in maladaptive behavior. The decision to utilize the Baker Act could be mediated by adult attributions regarding the etiology of psychopathology, knowledge of available mental health and behavioral services. Additionally, beliefs that support the utilization of mental health services can influence service utilization (Wu et al., 2001).

It has been argued that current mental health systems have failed to incorporate the traditions, values, beliefs, and languages of diverse groups of individuals living in the United States (United States Department of Health and Human Services [USDHHS], 1999). Furthermore, variables such as adequate transportation and funding limit access to quality mental health treatment for many children and their families. Cultural factors also influence mental health and behavioral support service providers and their beliefs about the appropriate response to severe psychopathology. These systemic factors have unintentionally created barriers to mental health services that discourage service utilization among families from minority and lower socioeconomic backgrounds (Wagner & Sumi, 2005). Factors that affect access to quality mental health treatment seem to account for the disparity in service utilization. One consequence of these barriers is that minorities may choose other approaches to address severe psychopathology among children and adolescents (USDHHS, 2003).

The juvenile justice system seems to be utilized more often among African American children and adolescent (Miller, 2005; UHHS, 2001). Furthermore, the use of school based discipline practices (e.g, suspension) also is more common among African American children and adolescents, and children from lower socioeconomic backgrounds (Skiba et al., 1997; Raffaele-Mendez, et al., 2002). Although the use of school based disciplinary referrals is not necessarily synonymous with the use of the Baker Act, suspension and expulsion represent one option for responding to the behavioral expression of severe psychopathology in school settings. Minority children and adolescents, and children and adolescents from lower socioeconomic backgrounds may be less likely to receive Baker Act ERs because other approaches are more commonly utilized to address severe psychopathology among these populations (Florida Department of Education, 2005; Raffaele-Mendez, 2000; Raffaele-Mendez, et al., 2002)..

District use of out-of-school suspension did not account for a unique proportion of the variance in overall Baker Act ER rates, although the values associated with these analyses did approach significance. Out-of-school suspension (OSS) rates were a unique contributor to the variance in repeat Baker Act ER rates. The positive relationship between OSS and repeat Baker Act ERs, suggests that districts that used OSS more frequently among students also had greater rates of repeat Baker Act ERs. The positive relationship between OSS and repeat Baker Act ER is consistent with previous studies that have found a higher risk of receiving an exclusionary disciplinary referral (e.g., suspension) among children and adolescents who have severe emotional and behavioral disorders (Wagner et al., 2005; Skiba et al., 1997).

It is plausible that the most severe types of psychopathology also are expressed as disruptive behavior in the school environment. Consequently, OSS may be utilized as a strategy for addressing disruptive behavior displayed by child and adolescents who received more than one Baker Act ER. The presence of zero tolerance policies utilize OSS for children and adolescents who display behavior that is considered threatening to school environments. School administrators may believe that there is no other option other than the use OSS when district policies mandate this response following an incident that violates the student code of conduct (Skiba, 2000). School districts located in counties with a greater use of repeat Baker Act ERs among the school age population may less likely to offer intensive mental health and behavioral support services for children with severe EBD. These counties also may have less community mental health services that can address the needs of children and adolescents with severe psychopathology. The use of disciplinary strategies that remove children from mainstream settings can preclude the implementation of services that are designed to enhance social competence.

Other methods of disciplinary exclusion such as in-school suspension and expulsion were not unique contributors to Baker Act ER rates. One explanation for the apparent contradiction in these findings is that school personnel utilize OSS on a more frequent basis for children and adolescents who display more severe and intense behavioral disruption (Costenbader & Markson, 1998; DeVoe et al., 2005). In comparison to children and adolescents who received just one Baker Act ER, multiple Baker Act ERs may be an expression of the most severe types of psychopathology among children and adolescents.



The alternative to the use of exclusionary disciplinary practices is to provide mental health and behavioral support services for children with severe EBD. The present study attempted to examine the relationship between the availability of mental health service providers in a school district and the use of the Baker Act. Findings from the study indicated that the ratio of student mental health service providers (i.e., guidance counselors, school psychologists, social workers) to students did not contribute to a unique proportion of the variance in Baker Act ERs. The inclusion of this variable was based on research that has identified an association between the availability of mental health and behavioral support services and placement in more restrictive educational and treatment settings (Bickman et al., 1996; Blanz & Schmidt, 2000; Hendrickson et al., 1998; McDermott et al., 2002; Muscott, 1994; Rock et al., 1994; Romansky et al., 2003). Furthermore, school personnel are less likely to utilize exclusionary discipline practices if they have beliefs that support the use of behavioral support services for children who display disruptive behavior (Hyman & Perone, 1998; Raffaele-Mendez et al., 2002; Skiba et al., 2003). Although the method used to calculate this variable identified the number of school personnel who could potentially provide these services, the variable did not necessary reflect the types of mental health services available to students within a school district. The roles and responsibilities of many school based practitioners often involve activities that are unrelated to the provision of behavioral and mental health services, and often there is a great deal of variability between the services provided by these individuals across districts (Curtis, Lopez, Batsche, & Smith, 2006). Furthermore, ratios that incorporate school psychologists, guidance counselors, and social workers failed to account for other mental health practitioners that might provide services within the

district. For example, many school districts may provide mental health services through contractual agreements with community based providers.

### *Limitations*

Several characteristics associated with the design of the study and data collection methodology limit the interpretability of the result obtained from this study. The primary limitation is its use of a correlational and causal comparative methodology. Data from correlational and causal comparative studies provides an estimate of the association between selected independent and dependent variables of interest.

Second, archival records and survey data served as the independent and dependent variables for the study. Experimental manipulation of the independent variables would have been unethical and unfeasible given the nature of referrals for evaluation under Baker Act statutes. The current design and data analysis procedures allowed for the generation of statements related to the association between the selected district level variables and rates of Baker Act ERs. Regression equations facilitated the development of statements related to the proportion of variance accounted for by the selected district level variables. Additionally, data analysis procedures identified variables that were most associated with Baker Act ER rates after controlling for other variables entered into multiple regression equations. However, it is not possible to confirm any directional hypothesis related to the influence of the district level variables on Baker Act ER rates. Therefore, statements of causality are inappropriate given the design of the study. It is not impossible to fully attribute any variation in Baker Act ERs among school aged children to the selected independent variables. The statistical analyses procedures utilized in this study also represent another design limitation. Multiple regression analyses did not allow

for an examination of possible interactions between the independent variables that were included in these analyses.

A third limitation is related to the variables identified for inclusion in the analyses. To date there is a limited literature base that has identified variables associated with Baker Act ERs. The majority of the literature related to Baker Act ERs has identified information related to rates and demographic characteristics of children who are referred under Baker Act statutes. Little is known about other variables that operate to influence the use and non-use of Baker Act ERs. Therefore, literature related to actions conceptualized as being similar to Baker Act ERs was utilized to select independent variables for the analyses. The district level variables selected as independent variables for the study were based on a thorough review of the research literature related to other forms of school based exclusion, utilization of mental health services in community settings, and barriers to mental health services. Other variables that contribute to the explanation of prediction of Baker Act ER rates may have been unintentionally omitted from the analyses. The current study focused on the analyses of demographic and district level variables that contribute to Baker Act ER rates. The design of the present study did not allow for the examination of other variables (e.g., school based factors, familial characteristics, characteristics of the community) that operate at a more micro, level to influence Baker Act ER. For example, previous research has identified a relationship between individual school level variables (e.g., beliefs of school personnel) that contribute to the use of other forms of referrals for intensive mental health services and exclusionary disciplinary practices (i.e., Raffaele-Mendez et al., 2002). Therefore, it is possible that Baker Act ER rates vary more as a function of variables that operate at the

school building level as opposed to the district level processes that were examined for the present study. Additionally, the present study omitted variables related to community based factors, familial influences, and individual personality variables that might play a role in Baker Act ER rates. For example, there is research to suggest that Baker Act ER rates are higher in regions that are closer in proximity to children's crisis centers (Christy, 2005). Schools and other community based practitioners may be more likely to utilize the Baker Act if receiving facilities are available and in close proximity to the location where the referral is initiated.

Fourth, the process in which Baker Act ER rates were calculated for each county may be a limitation to this study. The total number of Baker Act ERs within each of the 67 counties in Florida was divided by the number of students enrolled in the school district located in those counties. Thus, the number used as the dependent variable for the regression analyses should be more accurately identified as an index of Baker Act ER events as opposed to the rate among the population of children in each county. For purposes of this study, Baker Act ERs were conceptualized as an event that led to removal of children from mainstream settings and the intent was to identify a metric that closely approximated the frequency with which the event occurs among the population of children between the ages of 5-18 years of age. Closely related to this limitation is the fact that the denominator used to calculate odds and risk ratios and in the calculation of Baker Act ER rates was based on enrolled students within a district. The calculation of Baker Act ER rates may have excluded children who dropped out of school prior to age 18 or graduated high before the age of 18 years. These variations in the calculation of Baker Act ER rates may have exerted a minimal impact on the calculation of odds and

risk ratios, proportionality, and regression analysis given the large sample size used in these analyses and the small number of children that were omitted from calculation of Baker Act ER rate. However, it is appropriate to mention any data collection and/or analyses procedures that have impacted the accuracy of the data used in the analyses.

A final limitation of this study is related to the manner in which Baker Act ERs were identified. Odds ratios and Baker Act ER rates were calculated using Baker Act ERs that were initiated in both school and community settings. The present study did not account for the source of the Baker Act ER. An examination of data from Baker Act ERs initiated in school and community settings could delineate any differences between variables that are common to those settings. The source of Baker Act ERs (e.g., parents vs. law enforcement, mental health profession, educational or community settings) may moderate the relationship certain variables and the use of the Baker Act.

#### *Implications and future directions*

The current study examined the relationship between demographic characteristics, school district variables, the availability of mental health services, and use of the Baker Act. Additional research should continue to examine this relationship by identifying mediating and moderating variables that affect the decision to use the Baker Act with children and adolescents. Research designs that incorporate quantitative and qualitative methodology can be useful in clarifying factors that contribute to the greater use of the Baker Act among the adolescent population. Case studies can provide information that contributes to a better understanding of developmental trajectories that culminate in a Baker Act ER. These studies should include longitudinal designs in an attempt to understand the case history of children and adolescents who receive Baker Act ERs.

Additional research is needed to better understand the experiences of children and adolescents after receiving a Baker Act ER. Future research should continue to examine risk factors associated with multiple Baker Act ERs among children and adolescents. Potential risk factors that could be explored include experiences upon re-entry into school and the community, and mental health services provided after Baker Act ERs. Additionally, the interaction between child and familial risk factors should be explored to examine the contribution of personality and cultural factors that influence repeat Baker Act ERs. A better understanding of these risk factors can facilitate the development of after care services and procedures that reduce the likelihood of repeat Baker Act ERs.

Academic underachievement may contribute to or exacerbate severe psychopathology by widening the gap between competencies among children and adolescents and environmental expectations (Masten & Curtis, 2000). School reform initiatives have emphasized the importance of academic achievement among all students, including those who display severe psychopathology (NCLB, 2001). Consequently, academic intervention and curriculum modifications should be considered an essential component of mental health and behavioral support systems (Ialongo, Werthamer, Kellam, Brown, Wang, & Yin, 1999; Kellam, Mayer, Rebok, & Hawkins, 1996; Kellam, Rebok, Mayer, Ialongo, & Kalodner, 1994). The development of academic competence may be an important protective factor for children who are at risk for Baker Act ERs (Masten & Coatsworth, 1998). Behavioral support and mental health systems should be designed with an appreciation for the interaction between academic competence and behavioral/emotional problems. Academic interventions can enhance the competency of children and adolescents at risk for severe psychopathology and create important

protective factors for many children and adolescents who are at risk for severe psychopathology. Future research may use data disaggregated by grade level may help to clarify the impact of academic achievement on the incidence of severe psychopathology and the use of the Baker Act among children and adolescents. Future studies also should include an examination of the relationship between various outcome measures of academic achievement and the use of the Baker Act. It also may be beneficial to examine the relationship between types and number of academic supports available to students and Baker Act ERs.

The identification of early risk factors associated with the use of the Baker Act can contribute to early detection methods for children and adolescents most at risk for emergency mental health services like Baker Act ERs. Effective systems of early identification and intervention can reduce the risk of severe psychopathology that emerges across childhood and into adolescence, thereby reducing the need to access the most intensive mental services as children grow older (Doll & Lyon, 1998; USDHHS, 2003). The creation of behavioral and mental health services delivery systems based on tiered models can facilitate service delivery that is responsive to the needs of children who display a wide range of emotional/behavioral disorders across childhood and adolescence. These systems include universal prevention strategies, secondary intervention for children at risk for severe psychopathology, and tertiary supports for children and adolescents who have developed emotional and behavioral disorders that significantly impair daily functioning (Gresham, 2004; Walker & Shinn, 2002). Additional resources can be allocated in a manner that is responsive to the local population when children fail to respond to prevention and secondary intervention efforts

(Deno, 2004; Power, 2002). These services should be delivered early to facilitate the social competence of children and adolescents, and prevent negative developmental trajectories from escalating into severe psychopathology as children grow older (Sroufe, 1997).

Future research should examine the relationship between systemic factors that influence the process by which children and adolescents are identified for behavioral support and mental health services and the use of the Baker Act. It would be beneficial to more closely examine the impact of various service delivery models (e.g., systems based on tiered models of support) on Baker Act ER rates. The location of these services (e.g., school setting vs. community based) also could be a factor that influences the use of the Baker Act. Case studies and other qualitative methods could be used among a sample of children and adolescents to determine developmental trajectories associated with Baker Act ERs. Longitudinal designs also could be used to investigate the experiences of children and adolescents who receive Baker Act ERs.

Mental health and behavioral support systems should be designed with close attention to cultural factors that influence service utilization. Service delivery systems should be designed to minimize the impact of factors that limit access to quality of mental health services for children and families from minority and lower socioeconomic backgrounds. Furthermore, an emphasis on culturally competent service delivery can increase the quality of services that are provided to children from diverse backgrounds. The implementation of culturally competent mental health services can increase service utilization among underserved children and adolescents, and prevent involvement in school disciplinary and juvenile justice systems (USDHHS, 2003). It may be beneficial to



examine more closely the responses that are chosen by adults when children and adolescents display disruptive behavior, and whether cultural variables influence the decision to utilize intensive mental health services like involuntary psychiatric examination (i.e., the Baker Act.). Furthermore, research into adult responses should identify the procedures that are used when responding to children in crisis and the events leading up to the decision to use the Baker Act. Many adults may harbor attitudes and beliefs that lead to disciplinary approaches for children and adolescents who display severe psychopathology. These variables may vary according to the cultural background of the child and the adults who interact with children. A greater understanding of the relationship between cultural variables, service utilization, and the use of the Baker Act can facilitate the development of culturally competent service delivery models that reduce barriers to quality mental health services for traditionally underserved populations.

Schools often become the sole provider of behavioral and mental health services for children and adolescents with severe psychopathology. Consequently, school based mental health services can serve as a valuable resource for children and adolescents who have been underserved by traditional mental health models. Behavioral and mental health programs can vary across districts in terms of the types and intensity of services that are provided to students (Foster et al., 2005; Slade, 2003). The decision to rely more heavily on punishment based strategies like OSS may limit opportunities to provide interventions designed to enhance the academic and social competence of students with severe emotional and behavioral disorders (Raffale-Mendez, et al., 2003). Alternatively, the implementation of evidenced based behavioral and mental health services can enhance

protective factors, reduce risk, and lessen the impact of developmental trajectories associated with negative outcomes for children with emotional and behavioral disorders (Masten & Curtis, 2003; Sroufe, 1997). Additional research is necessary to further investigate the relationship between the availability of behavioral and mental health services, disciplinary reactions to severe psychopathology, and the use of the Baker Act.

### *Conclusion*

The use of the Baker Act facilitates access to the most intensive mental health services available in the community. The present study sought to identify demographic variables and school district level variables that are related to the use of the Baker Act among children and adolescents. The odds of receiving a Baker Act among children and adolescents varied according to age, gender, and race/ethnicity. District level variables are associated with Baker Act ER rates among children and adolescents. Research related to the use of the Baker Act should continue to identify factors associated with the use and non-use of the Baker Act with children and adolescents. These efforts should focus on the identification of mediating and moderating variables that influence the use of the Baker Act for children and adolescents who display severe psychopathology. Furthermore, attention should be given to the interaction between systemic level variables and individual child variables. Developmental models of psychopathology and risk/resilience models can serve as useful frameworks for guiding research related to the use of the Baker Act. The identification of risk and protective factors can more clearly delineate the characteristics of children and adolescents most at risk for receiving a Baker Act ER.

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## Appendices

Appendix A: Baker Act Initiation Form

**Report of Law Enforcement Officer Initiating Involuntary Examination  
State of Florida, County of \_\_\_\_\_, Florida**

I, \_\_\_\_\_, am a law enforcement officer certified by the State of Florida. In my opinion  
\_\_\_\_\_ appears to meet the following criteria for involuntary examination:

1. I have reason to believe said person has a mental illness pursuant to Section 394.455 (18), F.S., and because of the mental illness (check a or b):

- a. Person has refused voluntary examination after conscientious explanation and disclosure of the purpose of the examination; OR
- b. Person is unable to determine for himself/herself whether examination is necessary, AND

2. Either (check all that apply)

- a. Without care or treatment said person is likely to suffer from neglect or refuse to care for himself/herself, and such neglect or refusal poses a real and present threat of substantial harm to his/her well-being and it is not apparent that such harm may be avoided through the help of willing family members or friends or the provision of other services; AND/OR,
- b There is substantial likelihood that without care or treatment the person will cause serious bodily harm to (check one or both)  self  others in the near future, as evidenced by recent behavior.

Circumstances supporting this opinion, including specific information about the person's behavior, threats and actions and information offered by others:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature of Law Enforcement Officer \_\_\_\_\_ / \_\_\_\_\_ / 20\_\_\_\_ am pm  
Time

Printed Name of Law Enforcement Officer \_\_\_\_\_

Full Name of Law Enforcement Agency (printed) \_\_\_\_\_

Badge or ID Number \_\_\_\_\_

Law Enforcement Case Number \_\_\_\_\_

a. Has the law enforcement officer initiating this examination completed a 40-hour Crisis Intervention Training program?	<input type="checkbox"/> yes	<input type="checkbox"/> no
b. Has the law enforcement officer initiating this examination completed the Baker Act training offered through FMHI?	<input type="checkbox"/> yes	<input type="checkbox"/> no
c. Was the examination initiated in the officer's capacity as a school resource officer?	<input type="checkbox"/> yes	<input type="checkbox"/> no
d. Does the person have a drug or alcohol involvement in addition to a mental illness (does not disqualify for Baker Act admission)	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> unknown	

By Authority of s. 394.463(2)(a) 2, Florida Statutes  
CF-MH 3052a, Feb 05 (obsoletes previous editions) (Mandatory Form)

**BAKER ACT**

Appendix B: Baker Act Cover Form

**Cover Sheet to Agency for Health Care Administration**

This form must be completed, attached to each of the forms listed below and sent by the receiving/treatment facility or service provider within one working day of the person's arrival at the facility/provider or upon the facility/provider's receipt of a court order for involuntary inpatient placement or involuntary outpatient placement to:

**BA Reporting Center**  
 FMHI - MHC 2637  
 13301 Bruce B. Downs Blvd.  
 Tampa, FL 33612-3807

Questions about form completion and receipt may be addressed to  
 bareporting@fmhi.usf.edu or by calling 813-974-9665.  
 Additional information about form completion can be found at  
<http://bakeract.fmhi.usf.edu>.

**Check the box to indicate the type of form attached:**

- Ex-Parte Order for Involuntary Examination
- Report of Law Enforcement Officer Initiating Involuntary Examination
- Certificate of Professional Initiating Involuntary Examination
- Involuntary Inpatient Placement Order
- Involuntary Outpatient Placement Order
- Continued Involuntary Outpatient Placement Order

Identifying Information about the person (if known)																					
Person's Name (Please Print): _____																					
Florida County of Residence: _____	or State (if not FL) _____																				
Florida Zip Code of Residence: _____	<input type="checkbox"/> Homeless (no zip code)																				
Social Security Number: _____																					
Date of Birth	<table style="display: inline-table; border: none;"> <tr> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">M</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">D</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">D</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">Y</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">Y</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">Y</td> <td style="border: none; padding: 0 10px;">-</td> <td style="border: 1px solid black; width: 30px; height: 20px;"></td> <td style="border: none; text-align: center;">Y</td> </tr> </table>		M	-		D	-		D	-		Y	-		Y	-		Y	-		Y
	M	-		D	-		D	-		Y	-		Y	-		Y	-		Y		

<b>Gender</b>	<b>Race</b>	<b>Hispanic Origin?</b>	<b>Immediately prior to this exam and/or placement, was the person in:</b>	
<input type="checkbox"/> Female	<input type="checkbox"/> Caucasian/White	<input type="checkbox"/> Yes	<b>Yes</b>	<b>No</b>
<input type="checkbox"/> Male	<input type="checkbox"/> African-American/Black	<input type="checkbox"/> No	<b>Answer for Adults ONLY (18 and over)</b>	
	<input type="checkbox"/> Asian		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Other		<input type="checkbox"/>	<input type="checkbox"/>
			<b>Answer for Children Only (under 18)</b>	
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

<b>Name of Provider:</b> _____	OR	<b>FMHI Assigned Provider #</b>
<b>Address:</b> _____		
<b>Provider Phone Number</b> (____) _____ - _____ ext _____		
<b>Name of Person Completing Form (Please Print):</b> _____		
<b>Date Completed:</b> _____	<b>Date Mailed:</b> _____	

By Authority of s. 394.463, Florida Statutes  
 CF-MH 3118, Feb 05 (obsoletes previous editions) (Mandatory Form but name/address/phone number/FMHI number for provider may be preprinted.)

## Appendix C: Coding of District Level Variables

### District Demographic Variables:

1. Total student enrollment within a district (Fall 2005). These data were entered as a continuous variable: 0-300,000.
2. The percent of minority students within a district (Fall 2005). These data were entered as a continuous variable: 0-100.
3. The percent of students in the district who received free and reduced lunch. These data were entered as a continuous variable: 0-100.
4. The percent of students within the district who are African American. These data were entered as a continuous variable: 0-100.
4. The percent of student in the district who received special education services under the Individuals with Disabilities Education Act. These data were entered as a continuous variable: 0-100.
5. The percent of students in the district who received special education services under the EH/SED category. These data were entered as a continuous variable: 0-100.
6. The percent of students in a district who were suspended. These data were entered as a continuous variable: 0-100.
7. The percent of students in a district who were expelled. These data were entered as a continuous variable: 0-100.

Appendix C: *(continued)*

8. The percent of students in a district who were retained. These data were entered as a continuous variable: 0-100.
9. The percent of students in a district who graduated high school with a standard diploma. These data were entered as a continuous variable: 0-100.
10. The percent of the students in a district who obtained a Level 3 or higher on the reading and math sections of the Florida Comprehensive Achievement Test (FCAT). These data were entered as a continuous variable: 0-100.
11. The number of mental health workers in each school district. For purposes of this study, school social workers, guidance counselors, and school psychologists were considered providers of mental health services. The ratio of mental health workers to enrolled student was calculated by utilizing these data. These data were entered as a continuous variable: 0-2,000.

Appendix D: Data Transfer and Procedural Integrity Form

Baker Act Study Data Transfer Integrity Form

**Directions:** For each randomly selected district, first calculate the appropriate statistic using data sheets from the Florida Department of Education, and Microsoft excel sheets. Second, use the SPSS data sheet to check for accuracy in the data transfer. Third, place a (+) or (-) symbol in the corresponding cell to indicate if the data was calculated and transferred accurately. Fourth, calculate the percentage of total transfers that were transferred accurately and put this number in the box below the table. Use the following formula to calculate percent accurate transfers.

District	Enroll	PerBA	PerRep	PerMin	PerFree	PerSped	PerEH SED	PerRet	PerGrad	Per3read	Per3math	Per3 comp	PerOSS	PerISS	PerExp	Ratio MHStud	Per Afr
4																	
5																	
6																	
13																	
20																	
24																	
27																	
40																	
43																	
45																	
50																	
58																	
64																	

Total Accurate Transfers =            /221  
 Total % Accurate Transfers =        %

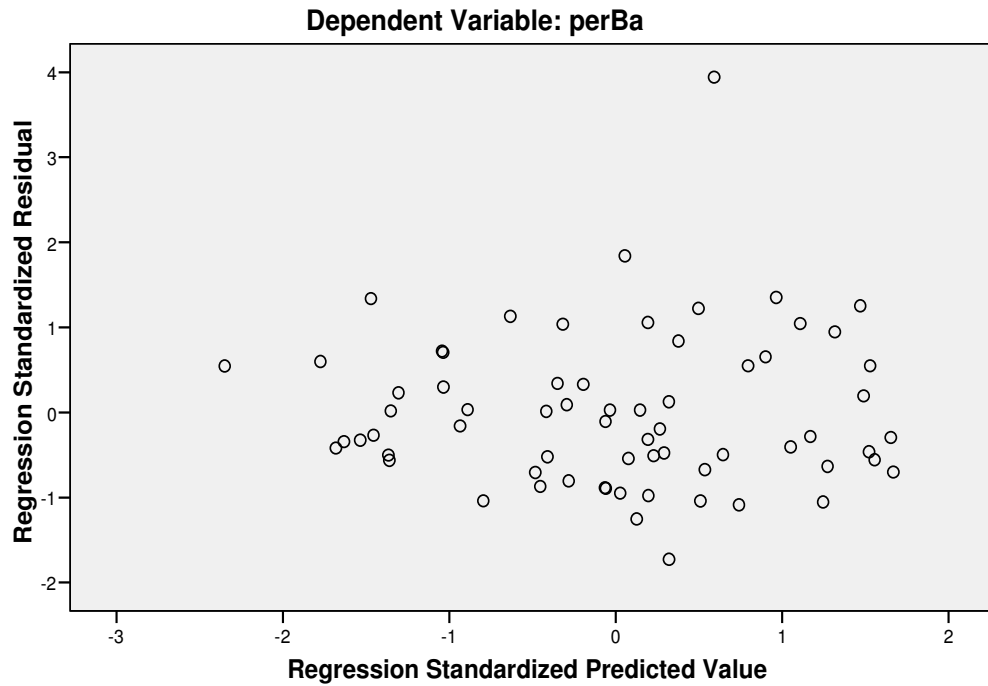
Appendix D: (continued)

**Demographic Data:**

**Directions:** For each demographic category, use the Microsoft excel spreadsheet printouts to calculate the percentage of accurate transfers to the SAS data sheets. Put a (+) on the line if the data was transferred correctly and place a (-) on the line if the transfer was inaccurate.

Age/Grade:	BA Children	Total BA Exams
Elementary:	___	___
Middle:	___	___
High:	___	___
Gender:		
Male:	___	___
Female:	___	___
Race/ethnicity:		
White:	___	___
Black:	___	___
Hispanic:	___	___
Asian:	___	___
Multiracial/Other:	___	___
Total:	<u>   /10</u>	<u>   /10</u>

Appendix E: Scatterplot Displaying Homoscedasticity for Selected Multiple Regression



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*Note.* This scatter plot shows homoscedasticity for one multiple regression equation involving the following variables. Dependent variable = percent Baker Act; Independent variables included: enrollment, percent minority enrollment, percent free and reduced lunch, percent received special education services, percent received EHSED services, percent graduation, percent retained, percent level 3 or higher on the FCAT, percent out of school suspension, percent in-school suspension, percent expelled, and ratio of mental health service providers to students.



### About the Author

Bradley S. Beam was born on August 12, 1978 in Mechanicsburg, Pennsylvania. He received a B.A. in psychology from Millersville University in 2001. In August of 2001, Brad entered the Ph.D. program in school psychology at the University of South Florida, earning a M.A. (2002) and an Ed.S. (2006) in school psychology. While attending the school psychology program at the University of South Florida, he specialized in the design and implementation of behavioral support and mental health services for children with emotional and/or behavioral disorders. Brad also developed an interest for pediatric health issues, systemic factors that influence service delivery, and organizational development. He has experience working with children and adolescents in both school and clinic settings.

In his free time, Brad enjoys exercising, eating out, going to the movies, relaxing with friends, watching football, learning about historic events that have shaped the world, and reading. He currently resides in Tampa, FL.