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# Educational outcomes for children with early-onset behavior problems

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Educational Outcomes For  
Children With Early-Onset Behavior Problems

by

Allison Gibson

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Education Specialist  
Department of Psychological and Social Foundations  
College of Education  
University of South Florida

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## Educational Outcomes For Children With Early-Onset Behavior Problems

Allison Gibson

### ABSTRACT

Research has consistently shown a greater likelihood of negative outcomes later in life for children with early-onset behavior problems. Understanding the educational outcomes for these children is essential information that can help educators and families to provide targeted interventions in an effort to positively impact these at-risk children's school experiences. The current study used archival data and a causal comparative research design to examine the educational outcomes (academic achievement, suspension rates, retention rates, and dropout rates/failure to complete high school) for children identified as at-risk for early-onset behavior problems in grades 1 through 3 for a cohort of children in a large suburban Florida school district. Educational outcomes for students with early-onset behavior problems were compared to those of a comparison group of students not identified as having behavior problems in early elementary school. Additionally, the outcomes for students with early-onset behavior problems who received special education services and those who did not receive ESE services were compared. Results indicated that children with early-onset behavior problems were more likely to have been retained, suspended, and fail to complete high school when compared to their peers without early-onset behavior problems. They also had a lower high school grade point average. Among these students with early-onset behavior problems, those who

received special education and those who did not were equally at risk for these negative educational outcomes.

## Chapter I

### Introduction

Our educational system is faced with an increasingly difficult task – to provide a free and appropriate education for all students, regardless of race, culture, socioeconomic status, gender, religion, or disability. The challenge to educate all children with disabilities began when states started to enact compulsory school attendance laws, first in Massachusetts in 1852 and finally in Mississippi in 1918 (Fagan & Wise, 2000). Since that time, educators have become increasingly proficient at adapting and modifying the curriculum to address the special needs of children with learning disabilities or limited intellectual capacity. Children with emotional or behavioral disabilities also are entitled to a free and appropriate public education under the law. This population is especially difficult for educators to manage, and many teachers believe that they lack the appropriate training to use effective behavior management strategies to teach children with behavioral disorders in their classrooms (Shapiro, Miller, Sawka, Gardill, & Handler, 1999). Despite these concerns, the trajectory for a child displaying behavior problems at a young age is so poor and the cost to society so great (Cohen, 1998) that the educational system must rise to the challenge and make every effort to prevent negative outcomes for these children.

About 5 to 10% of the population displays significant behavior problems as early as preschool and early elementary (Jones, Dodge, Foster, & Nix, 2002; Nagin &

Tremblay, 1999; Shaw, Gilliom, Ingoldsby, & Nagin, 2003). Research has indicated that children showing this early-onset of behavior problems (e.g., aggression, disruptiveness, oppositional-related behaviors) are at a significantly greater risk for later negative educational and social outcomes that persist well into adulthood (Aminger, Pape, Rock, Roberts, Squires-Wheeler, Kestenbaum, & Erlenmeyer-Kimling, 2000; Hofstra, van der Ende, & Verhulst, 2002; Moffitt, 1993, 1999; Nagin & Tremblay, 1999; Shaw et al., 2003). Studies on the outcomes for children with severe behavior disorders have shown that these children are at-risk for increased criminal behavior, substance use and abuse, antisocial personality disorder, higher rates of high school dropout, a diagnosis of other Axis I disorders (e.g., internalizing disorders), early and violent death, and poor physical health (Aminger et al., 2000; Bardone, Moffitt, Caspi, Dickson, Stanton, & Silva, 1998; Hofstra et al., 2002; McGee, Feehan, Willimas, & Anderson, 1992; Pajer, 1998; Zoccolillo & Rogers, 1991).

Research has supported that one of the best predictors of clinical levels of antisocial behavior in adulthood is the display of disruptive and antisocial behavior patterns in childhood (Loeber, Wung, Keenan et al., 1993; Moffitt, 1990, 1993; Nagin & Tremblay, 1999). This stable pattern of increased risk for poor outcomes into later life for those with early behavior problems appears to hold true for females (Cote, Zoccolillo, Tremblay, Nagin, & Vitaro, 2001) as well as males (Moffitt, 1990, 1993; Olweus, 1979; Shaw et al., 2003). Although the trajectory for later-onset conduct disordered behaviors seems to indicate a lesser degree of problems into adulthood (e.g., commit fewer crimes, display less pathology), children with early-onset oppositional and conduct disordered

behavioral patterns are responsible for 50-60% of all known criminal activity (Blumstein & Cohen, 1987).

### *Rationale for the Study*

Outcomes for children with early-onset behavior disorders can be bleak (Amminger et al., 2000; Hofstra et al., 2002; Moffitt, 1993, 1999; Nagin & Tremblay, 1999; Olweus, 1979), as later clinical levels of Conduct Disorder and Antisocial Personality Disorder can be well predicted from early behavior patterns (Cote et al., 2001; Loeber et al., 1993; Moffitt, 1990, 1993; Nagin & Tremblay, 1999; Olweus, 1979; Shaw et al., 2003). Therefore, it seems critical to provide remediation and preventative services for these at-risk children at a young age (Aber, Brown, & Jones, 2003; Jones et al., 2002), before the persistent patterns of antisocial behavior have negatively impacted the children's educational experiences. Without intensive, early intervention and prevention efforts, a young child displaying disruptive behaviors may be on a course toward educational failure. But, if children with behavioral disorders are identified as at-risk from an early age and provided with necessary school-based, mental health, community, and family supports, their trajectory may be altered and success in and out of school can not only be possible but probable (Lawrence et al., 2003).

To help behaviorally at-risk students to achieve in school, it is necessary to understand the educational outcomes for these children at present and the system of intervention that is available to them within the schools (i.e., special education). A substantial amount of research has examined the educational outcomes for children identified as having early-onset behavior problems (e.g., Bardone et al., 1996; Jones et al., 2002; McGee et al., 1992; Moffitt, 1993; Pajer, 1998; Viatro et al., 1999).

Additionally, a large body of literature is accumulating on the educational results and outcomes for students served in special education as a whole (e.g., Mithaug, Horiuchi, & Fanning, 1985; Wagner et al., 1992) and by disability category (e.g., Neel, Meadows, Levine, & Edgar, 1988; Wagner, 1993). At this time, however, there is little research investigating the differential educational outcomes for children identified as having early-onset behavior disorders who are served in special education and those who do not receive these services through the schools.

### *Purpose of the Study*

This study used archival data and a causal comparative research design to examine the educational outcomes (i.e., achievement scores, suspension rates, retention rates, and dropout rates) for children identified as at-risk for early-onset behavior problems in grades 1 through 3 for a cohort of children in a large suburban Florida school district. Teacher surveys were completed for each child for every year in which the students were enrolled in the school district, as were parent surveys and student surveys (beginning in grade 2). The teacher survey (in grades 1 through 3) and parent survey (in grades 1 and 2) contained questions assessing acceptability of a target student's behavior in addition to other data that will not be used in the current study. The district-wide student information system contained other variables of interest for this study, including cumulative grade point average, disciplinary actions (i.e., suspension data), grades retained, and if a student was enrolled or had graduated (i.e., dropout data) as of Summer 2004. Data were analyzed to determine if educational outcomes differed significantly for children identified as at-risk for early-onset behavior problems compared to their peers not identified as at-risk. Additionally, data were analyzed to determine if significant

differences existed on the educational outcome variables for at-risk children who received and did not receive special education services.

### *Definitions*

*Students with early-onset behavior problems.* Students identified with early-onset behavior problems comprised the “early-onset” group. These students (and the comparison sample identified below) were defined based on a single question addressing the child’s behavior answered by teachers on the surveys over three years: 1990-1991, 1991-1992, and 1992-1993. These are the years in which most of the students were in first through third grade, with the exception of those children who had been retained for one or more of these years. Only students for whom teacher surveys were returned from all three of these years were included in the sample. Students for whom 1 or more dependent variables or outcome variables were not available in the database also were excluded from the sample. Thus, most students who moved out of the district before the 1997-1998 school year were excluded from the study, as attendance through middle school and some portion of high school was necessary to analyze the dependent or outcome variables of the study (i.e., suspension rates, high school GPA, and dropout/failure to complete high school rates). Students labeled as Mentally Handicapped (e.g., Educable Mentally Handicapped, Trainable Mentally Handicapped, etc.) also were excluded from the sample. All exclusions occurred prior to calculating the Composite Teacher Behavior Rating explained below.

The three responses from the student’s teachers from 1990-1991 through 1992-1993 were averaged to form a single Composite Teacher Behavior Rating. These composite scores were then rank ordered. Students scoring at the 90<sup>th</sup> percentile or above



and having a Composite Teacher Behavior Rating of 3.0 or above were defined as the early-onset group of “students with early-onset behavior problems.”

*Students not identified with early-onset behavior problems.* Students in the comparison group were included or excluded according to the same procedures defined for the early-onset group above. Students not identified with early-onset behavior problems were defined as those having a Composite Teacher Behavior Rating at the 1<sup>st</sup> through 79<sup>th</sup> percentile and having a composite rating that is equal to or less than 2.0. This group of participants is referred to as the comparison group.

*Suspension rates.* Data from the school district’s Omnibus Project coded suspension rates as number of suspensions per year. The suspension rate for each participant was calculated by averaging the number of suspensions per year from the 1995-1996 school year through the 1997-1998 school year, the years in which most of the students (e.g., those not retained) were in 6<sup>th</sup> through 8<sup>th</sup> grades.

*Retention rates.* Retention rates were defined as the number of years a given student has been retained between the 1989-90 and 1997-98 school years. In addition, the grade(s) in which students were retained was collected and the number of participants experiencing retention over the course of their educational experience was documented.

*Dropout rates.* A student was identified as having dropped out of school if he or she was not enrolled in a high school setting or had not yet graduated, either with a special diploma, regular diploma, certificate, or GED. Students who were enrolled in adult education courses according to the student information system were considered dropouts unless they had graduated. This distinction was made due to the propensity of

high schools to enroll students who do not attend high school regularly into adult education courses despite their nonattendance to these programs.

*Average high school grade point average (GPA).* High school grade point average was reported as a continuous figure on a 4.0 scale in which 4.0 represents all As, 3.0 all Bs, and so on as given by the students' teachers. An average or mean GPA value was calculated using of all available annual GPA data for each student while enrolled in high school.

*Receipt of special education services.* Participants were coded as either qualifying for or receiving special education services if they were noted on the student information system as an "Exceptional Student" before the ninth grade (i.e., by or before the end of the 1997-1998 school year). This means that students determined by the Eligibility Determination team to be eligible for special education services for any disability category (e.g., EH, SED, SLD, SI, LI, etc.) and having an Individualized Education Plan (IEP) before the first day of school in the ninth grade were classified as receiving special education services. Those found eligible for special education services after the first day of ninth grade or later were coded as not receiving special education services for the purpose of this study. Students who had an IEP before the ninth grade but were dismissed from special education services at any time were considered as having received special education services.

*Gender.* Gender was coded as a dichotomous variable of either male or female and was used as a control variable in the data analyses.

*Race.* Race was collected as reported in the student information system. It was broken down into Caucasian (non-Hispanic), African-American/Black, and Other. The

“Other” category included Hispanic, Native American, Asian/Pacific Islander, and multi-racial students. This breakdown into 3 categories was selected due to the large number of participants in the Caucasian and African-American categories and the small number of participants identified under the other racial categories noted. Race also was used as a control variable in the statistical analyses.

*Socioeconomic status (SES).* Socioeconomic status, or SES, of each participant was coded as a dichotomous variable. Students were identified as lower SES if they received free or reduced price lunch in one or more grades during the years 1990-91, 1991-92, and 1992-93, the years in which most participants were in 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> grade. Again, this variable was used as a control measure.

### *Hypotheses*

The primary research question for the current study was as follows: Do outcomes for students identified as having early-onset behavior problems differ significantly from outcomes for students not identified as having early-onset behavior problems? Several hypotheses were formulated in an effort to answer this research question.

Hypothesis 1. Suspension rates for students identified as having a behavior problem in early elementary school will be significantly higher than suspension rates of students without early behavior problems.

Hypothesis 2. Retention rates for students identified as having a behavior problem in early elementary school will be significantly higher than retention rates of students without early behavior problems.

Hypothesis 3. Dropout rates for students identified as having a behavior problem in early elementary school will be significantly higher than dropout rates of students without early behavior problems.

Hypothesis 4. High school cumulative grade point averages (GPAs) of students identified as having a behavior problem in early elementary school will be significantly lower than high school cumulative GPAs of students without early behavior problems.

Hypotheses 1 through 4 were phrased as directional hypotheses. The researcher predicted poorer outcomes for students with early-onset behavior problems, consistent with the literature.

The early-onset group and comparison group were subdivided by a second independent variable – receipt of special education intervention services. Outcomes for these four groups were compared in an effort to answer the research question: Does the receipt of special education services significantly affect the outcomes for children identified as having early-onset behavior problems?

Null Hypothesis 5. Suspension rates for students receiving special education services through the schools will not be significantly different than suspension rates for students with early-onset behavior problems not receiving special education intervention.

Null Hypothesis 6. Retention rates for students receiving special education services through the schools will not be significantly different from retention rates for students with early-onset behavior problems not receiving special education intervention.

Null Hypothesis 7. Dropout rates for students receiving special education services through the schools will not differ significantly from dropout rates for students with early-onset behavior problems not receiving special education intervention.

Null Hypothesis 8. High school cumulative GPAs for students receiving special education services through the schools will not differ significantly from high school cumulative GPAs for students with early-onset behavior problems not receiving special education intervention.

These hypotheses were written as null hypotheses because directional differences were not predicted by the researcher.

### *Importance of the Study*

To effect change for students with early-onset behavioral problems, the educational outcomes for these students must be explored and understood by educators. The current system of intervention for many children with or at-risk for early-onset behavioral problems involves the provision of services through Exceptional Student Education (ESE) programs. It is necessary to examine this system as an intervention for these children and determine its effectiveness in altering the educational outcomes for behaviorally-disordered students. If the early-onset of behavior problems is an indicator for later school failure, then a strong argument can be made for early preventative services for this population. This study is intended to provide parents, educators, and policy makers with information that can lead to the funding and implementation of effective interventions and preventative programming that is focused on increasing prosocial behavior patterns in young children at-risk for behavior disorders and thus improving the educational outcomes for these children.

## Chapter II

### Review of Literature

The role of the school psychologist involves several functions, including assessment, consultation, report writing, developing interventions, progress monitoring, and decision-making. All of these responsibilities can be characterized by one consistent theme: acting as an advocate for children. Therefore, the primary role of the school psychologist is to help children (Fagan & Wise, 2000).

School psychologists, together with other professionals, help children by working as problem solvers for students within the school setting and beyond (Deno, 1995). A problem-solving approach to serving children involves a divergence from the traditional manner of assisting children in the schools. In the past, children with problems have been viewed through a medical-type model, which looks at the child as an object or being that needed to be “fixed.” The problem was perceived as within the child. The problem-solving approach, on the other hand, takes a more ecological stance, considering not only the child but also the environment in which the child must perform. This approach defines a problem as a discrepancy between a child’s performance in a certain situation and the expectations for performance that must be met in order for that child to be successful in the given situation (Deno, 1995).

### *Children with Behavioral Disorders*

Many educators today are faced with children in their classroom with behavioral disorders. The behavior of these children is significantly discrepant from the types of behavior that are expected from teachers and are necessary for the children to succeed in the classroom academically. Consequently, these children meet the definition of a problem as defined by Deno (1995) using the problem-solving approach. Often, teachers in general education do not feel that they have the training or the resources to handle these children within their classrooms while still ensuring a quality education for their other students. For this reason, the child who exhibits excessive problem behaviors in the classroom is frequently referred to a problem-solving team member (e.g., the school psychologist). Because children with behavioral disorders present a problem (i.e., behavioral performance is discrepant from expectations for behavior), it becomes the role of the school psychologist, in combination with other problem-solving team members, to help these children.

For most individuals, some level of aggressive behavior is typical and peaks by about age 2 and then steadily decreases over time (Nagin & Tremblay, 1999; Shaw et al., 2003). This pattern toward acceptable behavior shows that most young children learn to employ more prosocial problem-solving strategies as they age. However, this descending trajectory does not occur for all individuals, and about 5% to 7% of individuals will continue to display aggressive, oppositional, antisocial, or conduct-disordered behaviors beyond what is typical during early childhood that persist into later childhood and beyond (Nagin & Tremblay, 1999; Shaw et al., 2003).

The stability of behavior problems for children exhibiting significant emotional or behavioral problems at an early age has been established in longitudinal research since the early to mid-1900s (Olweus, 1979). Olweus (1979) conducted a review of several studies analyzing the stability of aggression over time from early childhood (i.e., by age 3) into school age, adolescence, and beyond. Despite the different definitions of aggressive behavior and the variety of settings, data collection methods employed (e.g., direct observation, teacher behavior ratings, etc.), and theoretical orientations of the researchers, the stability of aggressive tendencies and behaviors over time fell only slightly below the data on stability of intelligence (Olweus, 1979). Campbell (1995) found that about 50% of children identified as disruptive in preschool continued to show behavioral difficulties through school-age and early adolescence.

Children with high levels of early conduct problems are more likely to have a trajectory showing a chronic course toward continued behavioral and emotional disorders in adolescence and even antisocial behavior as an adult (Amminger et al., 2000; Cote et al., 2001; Hofstra et al., 2002; Moffitt, 1993; Nagin & Tremblay, 1999; Shaw et al., 2003). Nagin and Tremblay (1999) identified that about 1 of every 8 boys displaying antisocial behaviors in childhood will continue to display these behaviors in adolescence and adulthood. Early-onset of behavior problems is one of the best predictors of later disruptive behavior in males (Moffitt, 1993; Nagin & Tremblay, 1999). Theories for this pattern of conduct problems over time for early-onset behavior problems include an emphasis on within-child factors such as deficits in executive functioning (Moffitt, 1993) that interact with parenting practices which can become coercive in nature (Patterson, Reid, & Dishion, 1992; cited in Shaw et al., 2003). Still other theories continue to be



tested, refuted, and supported in the trajectory studies using newer statistical procedures for testing curvilinear growth trends (e.g., Nagin & Tremblay, 1999).

Although antisocial behavioral patterns are more common in males, females displaying high levels of disruptive behavior in early elementary also are at greater risk for continued behavior problems in adolescence (Cote et al., 2001). A study of White, French-speaking females from public school in Quebec collected teacher ratings of oppositional and aggressive behaviors from kindergarten through sixth grade. The presence of Conduct Disorder was assessed by a diagnostic interview at age 15 or 16. Results indicated that higher levels of oppositional or aggressive behavior in elementary school were positively correlated with later diagnosis of Conduct Disorder (Cote et al., 2001). The girls represented by the highest 11% of disruptive behavior trajectories in the study were almost 4 ½ times more likely to develop Conduct Disorder than were the lowest 60% of the sample (Cote et al., 2001).

A study conducted with both males and females related behavioral problems from the Child Behavior Checklist during elementary school to oppositional, antisocial, and attention-deficit/hyperactive behaviors (assessed by a diagnostic interview) 14 years later (Hofstra et al., 2002). Findings indicated that individuals with early childhood problems were 2 to 6 times more likely to meet criteria for a DSM-IV diagnosis in adulthood compared to those not showing high levels of childhood problems. The behavior problems most predictive of later disorder differed by gender. For females, social problems in elementary school were related to meeting criteria for a DSM-V disorder in adulthood; on the other hand, rule-breaking behavior was predictive of later disruptive and mood disorders for males (Hofstra et al., 2002).

## *Educational Outcomes for Children with Behavior Problems*

*Achievement.* Academic achievement is the primary target and goal of the educational system. For children with early-onset behavioral problems, learning can be seriously impacted by the student's behavior in many cases. Edgar and Siegel (1995) stated, "Some youth with emotional and behavioral disorders evidence good academic skills, but others experience serious academic difficulties. In either case, their schooling is seriously jeopardized by their behavior patterns" (p.254).

Research has indicated a well-established and strong correlation or comorbidity between early aggression or disruptive behavior and academic problems, such as reading disabilities (Ferguson & Horwood, 1995; Tomblin, Zhang, Buckwater, & Catts, 2000). Therefore, it is likely that children exhibiting early-onset behavioral disorders are at significant risk for academic difficulties and school failure.

Fergusson and Horwood (1995) sought to examine if the correlation between delinquency in the teenage years was directly related to decreased academic competence; they wanted to test the hypothesis that this relationship was not causal in nature but rather the result of a set of characteristics expressed earlier in life that are correlated with and common to both later delinquency and poor academic skills. The researchers examined the presence of early conduct problems and IQ in children at age 8 and then assessed later delinquency from ages 12 through 15 and academic skills at age 13 in a sample of New Zealand children followed through a 15-year longitudinal study. Results supported previous research indicating a strong correlation between delinquency and academic functioning; however, nearly all of the relationship was explained by the strong correlations between early onset conduct problems and IQ measures at age 8 (Fergusson

& Horwood, 1995). Especially relevant to the current study is the casual relationship between early conduct problems and later academic difficulty supported by the model in this research.

One study examined the post-school outcomes for two cohorts of graduates identified as having behavioral disorders one year after graduation in 1985 and 1993 (Frank & Sitlington, 1999) for the purpose of comparing student outcomes both before and after the passing of IDEA in 1990. Although post-school outcomes (e.g., employment, benefits, continued education, etc.) were the primary reason for the study, the data on these students' achievement in reading and math point to the academic difficulties experienced by students with behavioral disorders. When assessed following high school graduation, both samples' reading grade equivalents averaged from early seventh grade to mid-eighth grade skills, and the participants' skills in mathematics averaged from late sixth grade to early eighth grade. The below grade-level skills indicated in this study may actually represent a skewed figure for children with behavior disorders, as it included only those students who had completed high school. A large percentage of children with early-onset behavior problems never graduate from high school (Parker & Asher, 1987; Vitaro, Larocque, Janosz, & Tremblay, 1997, cited in Vitaro et al., 1999), often as a result of academic difficulty (Ensminger, Lamkin, & Jacobson, 1996; Ensminger & Slusarcick, 1992). Therefore, this study may represent a high estimate of this population's academic skills at the time of graduation, demonstrating the significant discrepancy between the academic performance of students with behavior problems and grade-level expectations.

*Suspension.* Suspension is the removal of a child from the educational setting for a specified period of time as a “disciplinary consequence for inappropriate behavior” (p.51, Bock, Tapscott, & Savner, 1998). Short-term suspension refers to a suspension lasting 1 to 10 days in duration, whereas extended-term suspension is the term applied to suspension of more than 10 cumulative days (Bock et al., 1998; Hartwig & Ruesch, 2000). Students with behavioral problems in school are at an increased risk for suspension, as suspension is one of several punitive consequences available to administrators when a child behaves inappropriately at school (Skiba, Peterson, & Williams, 1997).

Rates of suspension vary widely across settings and can range from about 4% to 42% of students being suspended within a school year depending on grade level (i.e., elementary, middle, and high school), district policies, and administrator beliefs (Skiba et al., 1997). Regardless of a given school’s suspension rate, the research consistently supports the finding that students from lower socioeconomic backgrounds, minority students, and students with disabilities are significantly more likely to be given suspension as a disciplinary action (Raffaele Mendez, Knoff, & Ferron, 2002; Skiba et al., 1997).

Skiba and colleagues (1997) analyzed the disciplinary records of the entire middle school population of an urban public school district located in the Midwest. They found that over 40% of students were referred to the office at least once during the school year, mostly for minor infractions not considered as threatening to others (e.g., disobedience, disrespect, etc.). Of the total office referrals, 43.4% resulted in either in-school or out-of-school suspension (33.3% and 10.1% respectively) (Skiba et al., 1997). Results were

consistent with the research and indicated significantly greater office referrals and suspensions for minorities, low SES students (defined by receipt of free or reduced price lunch), and special education students. A second study by the same researchers found significantly lower rates of suspension (15% of office referrals) in another school district but similar patterns in which suspended students were more likely to be minorities, lower SES, and identified as receiving special education services (Skiba et al., 1997).

Suspension has been criticized as a disciplinary measure for several reasons. In many cases, it stigmatizes the student being disciplined as a “troublemaker” and takes the student out of the school setting and places him or her into the community without proper supervision (Bock et al., 1998; Skiba et al., 1997). Suspension is associated with an increased likelihood of recidivism and has detrimental effects on educational outcomes (Bock et al., 1998). The Commission for Positive Change in the Oakland Public Schools (CPCOPS, 1992; cited in Bock et al., 1998) stated that suspension reduces the amount of instructional time and results in a disruption in the learning process, often times for students who are already struggling academically.

The effect of suspension on academics is compounded when one considers that many children who are suspended once also will be suspended again in the same year; at one elementary school in the CPCOPS analysis, the figure for suspended students serving more than one suspension in the same year was 43% (1992; cited in Bock et al., 1998). This high figure highlights another criticism of suspension as a punitive disciplinary action used in the schools – its ineffectiveness. In behavioral theory, a behavioral consequence is considered punishment if and only if it decreases the likelihood of the behavior’s occurrence in the future (Cooper, Heron, & Heward, 1987). If suspension

does not reduce the occurrence of similar behaviors in the future, then it cannot be considered a punishment, according to a precise definition of the word. In fact, suspension actually acts within a negative reinforcement paradigm for school personnel and administrators, providing “relief for school personnel rather than [dealing] with the needs of the student involved” (p.51, Bock et al., 1998). A study surveying middle and high school students from 2 different school districts (one rural and one inner city) reported that many of the students reported being negatively reinforced by suspension (Costenbader & Markson, 1998), stating that they were happy to get out of the school setting.

Atkins and colleagues (2002) analyzed disciplinary records for 3<sup>rd</sup> through 8<sup>th</sup> grade students in an inner-city public school to determine if suspension operates as a punishment or if it serves to reinforce the inappropriate behavior. Their research revealed that suspension in fact does act within a punishing paradigm for some students. For these students, suspension occurred in the fall and then office referrals decreased during the winter and spring. However, some students were suspended at least one or more times in both the fall and spring. For these students, office referrals increased over the course of the year, and the disciplinary action of suspension appeared to function as a reinforcer. The primary differences between these two groups of students included teacher and peer ratings of the “suspension as a reinforcer group” as highly aggressive, hyperactive, and lacking social skills whereas the “suspension as a punisher group” was rated similarly to those students who had never been suspended during the school year. The characteristics distinguishing these two groups are those characteristics frequently demonstrated by children with early-onset behavior problems. Therefore, it could be concluded that

suspension is especially likely to reinforce (not punish) inappropriate behavior for children with early-onset behavior problems.

Another detrimental effect of exclusion from school is that it establishes a pattern of non-attendance at school that ultimately increases a child's likelihood of dropping out of school (DeRidder, 1990; Skiba et al., 1997). Suspension and expulsion were cited by participants in one study as being among the top 3 school-based reasons for failing to finish school (i.e., dropping out) (DeRidder, 1990).

*Retention.* Many students who do not meet academic, and sometimes social, expectations for their grade level are retained. Retention decisions often are made by the classroom teacher, parent, and/or administrators. Some states (e.g., Florida) have recently enacted laws requiring mandatory retention for students not meeting a specified level of academic competency.

Research on retention consistently shows that it is not an effective practice for remediation of academic or social skills (e.g., Anderson, Kutash, & Duchnowski, 2001). A position paper published by the Florida Association of School Psychologists (FASP) on the appropriate use of high-stakes testing reviewed research on retention and concluded that retention significantly increases a student's risk for dropping out of school (FASP, 2002; Vitaro, Brendgen, & Tremblay, 1999). The paper also pointed out that academic gains may be seen in the first few years following the retention but are lost when long-term outcomes are examined. In fact, retained students actually show poorer academic outcomes after several years compared to matched samples of promoted peers (Anderson et al., 2001; FASP, 2002).

Research indicates that children displaying behavioral disorders in early elementary or before are at an increased risk for repeating one or more grades (Anderson et al., 2001; Jones et al., 2002; Vitaro et al., 1999; Wood & Cronin, 1999). One study (Jones et al., 2002) identified children at high risk for conduct problems using a 10-item screening instrument completed by the students' kindergarten teacher based on a series of behaviors observed by the teacher. Students scoring in the top 10% of the sample on the screening measure constituted the experimental group, with those scoring below this threshold making up the control group. Outcomes measured at the end of sixth grade revealed that significantly more children identified as high risk for conduct problems had repeated a grade compared to the non-high risk group (31.9% and 22.7% respectively). In another study, the top 30% of students exhibiting disruptive behavior in kindergarten were significantly more likely to be retained than control students by age 12 (Vitaro et al., 1999).

*Dropout.* Dropping out of school is a large problem in the United States and in many other countries. Statistics from 1992 indicated that eleven percent of all young adults aged 16 to 24 were not enrolled in school and had not graduated (McMillen, Kaufman, Hausken, & Bradby, 1993). A second study confirming this figure reported a national dropout rate of 12% (Kaufman, Kwon, Klein, & Chapman, 1999; cited in Scanlon & Mellard, 2002). Failure to complete high school is a costly problem for society. Cohen (1998) reported that a student who drops out of high school costs society between \$243,000 and \$388,000, primarily as a result of decreased productivity, foregone earnings, and receipt of possible social service assistance. The unemployment rate for those who drop out of school is two or more times that of students graduating from high



school (Weidman & Freedman, 1984). Societal advances have reduced the number of labor jobs or other types of employment not requiring at least a high school diploma or more advanced education. Additionally, suicide, mental health problems, and delinquency are more prevalent in dropouts (Rumberger, 1987).

Children displaying early-onset of behavior problems are at an increased risk for dropping out of school (Blackorby, Edgar, & Kortering, 1991; Parker & Asher, 1987; Scanlon & Mellard, 2002; Wood & Cronin, 1999), even when controlling for socioeconomic, demographic, and intellectual variables (Vitaro et al., 1997; cited in Vitaro et al., 1999). The correlation of early disruptive or aggressive behavior and later school dropout is compounded by academic difficulties in the early elementary years (Ensminger et al., 1996; Ensminger & Slusarcick, 1992; Scanlon & Mellard, 2002). Additionally, research has demonstrated that students retained in elementary school (Anderson et al., 2001; FASP, 2002; Scanlon & Mellard, 2002; Vitaro et al., 1999) and those in special education classroom or school placements (Blackorby et al., 1991; Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997; Wood & Cronin, 1999) are at an increased risk for dropping out of school. Skiba and colleagues (1997) noted that the increased suspension rates of children with behavior problems are correlated with an increased risk of dropping out of school. For example, the High School and Beyond study (Ekstrom, Goertz, Pollack, & Rock, 1986; cited in Skiba et al., 1997) found that 31% of students who dropped out of school had been suspended. Therefore, these other risk factors (e.g., retention, academic difficulties, suspension, etc.) can be mediating variables in the link between early behavior problems and later school dropout.

*Special education placement.* Significantly more children displaying behavioral problems in early childhood are identified as eligible for and receive services through Exceptional Student Education (ESE) compared to the general population (Jones et al., 2002; Vitaro et al., 1999). For example, 56.3% of children identified by kindergarten teachers as displaying behaviors related to conduct disorder had an Individualized Education Plan (IEP) and received special education services by grade 6, whereas only 33.2% of the control group received special education services (Jones et al., 2002). Another study used the disruptiveness scale of the Social Behavior Questionnaire, which contains 13 items tapping hyperactivity, aggressiveness, and oppositional-type behaviors, to identify kindergarten children as at-risk for behavior problems (Vitaro et al. 1999). Children scoring at the 70<sup>th</sup> percentile or higher were significantly more likely to be in a special education placement by age 12, even when IQ was statistically controlled in the analysis.

Some research has indicated that a higher proportion of children with learning disabilities also display behavior disorders compared to a non-learning disabled sample (Tomblin et al., 2000; Kazdin, 1997; American Academy of Child and Adolescent Psychiatry, 1997), either comorbidly or as a result of school failure and learning difficulties (Beitchman, Brownlie, & Wilson, 1996; cited in Tomblin et al., 2000). Tomblin and his colleagues examined the relationship of behavior disorders in a sample of children with language impairments. The presence and level of behavioral disorders was based on the Child Behavior Checklist (CBCL) and Social Skills Rating Scale (SSRS), both teacher-completed measures. Teachers rated participants in the 2<sup>nd</sup> grade. Results of the study revealed that 29% of children with language impairments also

displayed clinically significant levels of behavior disorders; however, the correlation between these two variables was directly mediated by the presence of a comorbid reading disorder, as 52% of children with a language impairment also had a reading disorder. In other words, the presence of a clinically significant score on the CBCL and/or SSRS was directly related to the presence of a reading disorder. This study indicates that many children with early-onset behavior problems may receive special education services for academic problems exclusively or in addition to their behavioral difficulties.

#### *Eligibility for Special Education Services and the “Social Maladjustment” Debate*

When children with behavior problems are referred to the school psychologist or another problem-solving team member, they are often evaluated to determine eligibility for services within the special education system. These evaluations generally serve the purpose of distinguishing between two types of behavioral problems: those stemming from an underlying emotional disorder and those extending from social maladjustment. This distinction raises the question, “Is this child emotionally disturbed or simply choosing to misbehave?” There is great debate centering around this distinction between children with emotional and behavioral disorders and children who are socially maladjusted. Some experts believe that this division exists and can be differentiated clearly in most circumstances, whereas other researchers believe this to be an artificial dichotomy.

According to Clarizio (1992), there are several factors that differentiate students with a serious emotional disturbance (SED) from those who are socially maladjusted. Conscience development is quite different, with SED students demonstrating a strict conscience and socially-maladjusted students showing minimal conscience development.

Second, children with emotionally-related behavioral problems have a tendency to be intrapunitive; socially-maladjusted children are more likely to blame others for their actions and the consequences of their actions. Clarizio also indicated differing levels of anxiety over norm-violating behaviors, with socially-maladjusted children displaying little or no anxiety and children with SED exhibiting moderate to high anxiety over problem behaviors. Pupils with serious emotional disturbance are likely to have few friends their own age, whereas students who are socially maladjusted tend to be accepted by their peers, particularly other norm-violating peers. Finally, Clarizio noted that SED children display a level of social naivety inappropriate for their age. On the other hand, socially-maladjusted children generally demonstrate survival skills or “street smarts” beyond what may be expected for their age.

Since children with SED and social maladjustment may present quite differently, many believe that the distinction between emotionally-related behavior problems and problems originating out of social maladjustment is a true dichotomy (Clarizio, 1992; Clarizio & Higgins, 1989). Clarizio (1992) also has argued that this distinction is important for services, as the types of classroom management that work best with socially-maladjusted students tend to be counterproductive for students who are seriously emotionally disturbed. Additionally, research has shown that 73% of school psychologists believe that SED and social maladjustment are noticeably different and can be reliably differentiated (Clarizio & Higgins, 1989). However, other research has conflicted with this conclusion.

Contradicting research has indicated that although students with social maladjustment and SED can be reliably distinguished from other children served in a

regular education setting, they have not been reliably discriminated from each other (Ruehl, 1998). Some experts hold that there is no real dichotomy between the SED and socially maladjusted classifications (Skiba & Grizzle, 1992). According to these researchers, both SED and social maladjustment are “emotional” in nature, and one should not be made more important than the other. This argument is most applicable with regard to services covered under the recent reauthorization of the Individuals with Disabilities Education Act of 1997, because a distinction is made between SED and social maladjustment, with social maladjustment as a disqualifier under this legislation.

*Individuals with Disabilities Education Act.* The Individuals with Disabilities Education Act (IDEA, 1997) identifies several classes of children who need special services and requires that these children be identified and served, often under the special education services of a school or district. The law is federally funded, meaning that the additional cost of providing services to these children is supplemented by federal government funds. Behavioral disorders are addressed within the IDEA legislation. The law covers children ages 3 to 9 years old who are experiencing a developmental delay in at least one of several areas, including social or emotional development (Jacob-Timm & Hartshorne, 1998). According to IDEA, youngsters delayed in social or emotional development deemed in need of special education or related services for this delay are to be identified and served. These children’s special education or other services are funded under this legislative law.

For older children (e.g., ages 6 through the 22<sup>nd</sup> birthday), the law is much more specific. Serious emotional disturbance, or SED, is considered to be a disability under the recent reauthorization of IDEA (1997). SED is defined as follows:

(i) The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects educational performance:

- (A) An inability to learn that cannot be explained by intellectual, sensory, or health factors;
- (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
- (C) Inappropriate types of behavior or feelings under normal circumstances;
- (D) A general pervasive mood of unhappiness or depression; or
- (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) The term includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is deemed that they have a serious emotional disturbance. (IDEA, 1997)

The criteria for eligibility for special services under IDEA do not include children considered to be socially maladjusted, unless they are determined to also have an emotionally-related disturbance. It should be noted that the law does not define the term “socially maladjusted,” opening it up to some level of interpretation by the states, the schools, and the courts.

It would seem that the socially maladjusted exclusionary clause would eliminate most socially-maladjusted children from receiving services under IDEA. This, however, is not the case. A large body of research indicates that there is a relationship between disability and delinquency. According to the *Diagnostic and Statistical Manual of*

*Mental Disorders* (APA, 1994) (DSM-IV), learning disorders and communication disorders (both of which are covered under IDEA) tend to be associated with Oppositional Defiant Disorder, generally considered to fall under the socially maladjusted category. As previously mentioned, others have indicated that cognitive deficits and academic difficulties, such as reading, speech, or language problems are correlated with Conduct Disorder in children (Kazdin, 1997; American Academy of Child and Adolescent Psychiatry, 1997; Tomblin et al., 2000); however, the significant positive relationship of Conduct Disorder with reading disappears in adolescence (Clarizio, 1997). Conduct Disorder is another DSM-IV diagnosis that some consider as indicating social maladjustment. In a study by Zabel and Nigro (1999), 37.1% of all juvenile offender participants had received or were receiving special education services. Of those, 54% were served under the category of learning disabilities (Zabel & Nigro, 1999). Even experts who state that there is a clear distinction between social maladjustment and SED recognize that a proportion of children with social maladjustment also qualify for services under IDEA. Clarizio (1992) acknowledged that up to 25% of students with social maladjustment might be eligible for SED placement. Therefore, services for a proportion of students with social maladjustment come from the special education system and are funded under IDEA. The caution should be reiterated that children with social maladjustment and those with SED have different needs with regard to the ways classrooms are run. What may work for those who externalize emotional difficulties (resulting in problem behavior) may not be helpful for the children who internalize these difficulties (Clarizio, 1992).

*The Socially-Maladjusted Exclusion in This Study's School District*

The school district in which data for the current study were obtained has specific information that had to be collected as part of the evaluation for eligibility determination when a child was referred for a behavioral or emotional problem. The development and implementation of a behavioral intervention plan, entitled the Behavior Success Plan, was required prior to referral for evaluation. This plan was developed with the participation of the teacher; parent or guardian; school psychologist or social worker; and any other school personnel having direct contact with the child (e.g., teacher's assistants, ESOL teacher, etc.). Required components of the evaluation were specified in the School Psychological Services Handbook and included the administration of an intelligence test, a standardized measure of achievement and academic functioning, observations of the student in the classroom environment (which were commonly conducted as part of the pre-referral intervention or Behavior Success Plan process), measures of social and emotional functioning (e.g., behavior rating scales, student interviews, projective measures – though use of projective measures was not required), and a complete social history (typically conducted by the school social worker).

Following the conclusion of the evaluation, reports were written by the school psychologist and social worker and submitted to the staffing coordinator. A staffing specialist reviewed the information and scheduled an eligibility determination meeting, inviting parents and all involved parties. It was at this meeting that a student's eligibility for special education was determined by the multidisciplinary team. To determine eligibility for the emotionally handicapped (EH) category, the team answered a series of questions about the child's behavior and evaluation results and summarized the responses



on a multidisciplinary team report. The questions included on this report included determining the presence of a behavioral or emotional disability that existed to a marked degree and interfered with the student's academic or social functioning or behavioral control, as well as onset and severity of the problem. Nowhere on this multidisciplinary report was a question addressing if the student was socially maladjusted. When this researcher inquired with several practitioners about the implementation of the socially-maladjusted exclusionary clause, most responded that it was exercised at the discretion of the multidisciplinary team if brought up by the school psychologist either in his or her report or during the eligibility determination meeting. In other words, the determination of social maladjustment was not formally a component of the eligibility determination process in the school district from which Omnibus Project data were collected, as it was not specifically addressed on the multidisciplinary report form. Children may have been excluded from ESE eligibility based on social maladjustment, but the use and implementation of the exclusionary clause most likely varied from practitioner to practitioner.

#### *Outcomes for Behaviorally Disordered Children Served in ESE*

Regardless of a given state or school district's interpretation of the socially-maladjusted exclusionary clause, many children with early-onset behavior problems qualify for and eventually receive services through a special education placement of some kind. These services may be provided under one or more of several ESE categories, including Emotionally Handicapped (EH), Seriously Emotionally Disturbed (SED), Educable Mentally Handicapped (EMH), or Specific Learning Disabilities (SLD) to name a few.

Special education placement is not in and of itself an intervention for a child with a behavioral disorder. However, many educators and administrators within the school system frequently view it in this light. As such, it is not only important but essential to examine the outcomes for students with early-onset behavior problems that are served through this “intervention” system and compare their outcomes to those who are not identified as eligible for ESE and do not receive special education services.

*Achievement.* Since a primary goal of the educational system is to increase academic competency, it is a natural step to examine student levels of achievement for those identified as eligible for and receiving ESE services for emotional or behavioral disorders. Often a student’s problematic behavior in the classroom disrupts both that child’s learning and the learning of other children in the classroom. The result of disrupted learning is decreased academic skills and competencies. Additionally, research has indicated that children identified as behaviorally disordered also exhibit other academic disabilities (e.g., reading disabilities) at a significantly higher rate than students not evidencing a behavior problem (Tomblin et al., 2000; Kazdin, 1997; American Academy of Child and Adolescent Psychiatry, 1997).

Baenen, Parris Stephens, and Glenwick (1987) reviewed several research studies analyzing outcomes of psychoeducational day school programs. The participants in most of the studies consisted of students identified as having severe emotional and behavioral disorders receiving special education services in day treatment programs who might otherwise have been placed in residential care. Most of the programs included three central components: (a) academics, (b) mental health, and (c) home involvement/parent training. Five of the studies reviewed by the authors analyzed achievement gains during

the time spent at the day school, and all reported academic gains but to varying degrees. Gains were analyzed as pre-treatment and post-treatment variables and were not compared to the participants' actual grade levels.

One study examined the results of a school-based prevention program for elementary students with or at-risk for emotional disturbance and behavior disorders in both general education and special education classrooms (Kamps, Kravits, Rauch, Kemps, & Chung, 2000). The program included social skills activities, peer tutoring in reading, and the implementation of a strong behavior management system in each classroom and was implemented over the course of 3 to 4 years. Results indicated that the program not only decreased the frequency of aggressive behaviors seen in the target population but also resulted in (a) a decrease in other inappropriate behaviors that tend to interfere with classroom performance and (b) an increase in academic engagement.

While these data on academic gains and increased appropriate academic behavior appear to be promising outcomes for children enrolled in programs specifically designed for emotional and behavioral disorders, not all special education settings provide the empirically-supported educational elements (e.g., peer tutoring, social skills training, mental health services, parent collaboration and training) that were key in the success of these programs (Baenen et al., 1987; Kamps et al., 2000). For example, the Stanford Research Institute analyzed data from the National Longitudinal Transition Study (NLTS), a study that followed a large sample of ESE students for 5 years during high school and beyond. Academic data from the study revealed disappointing results for students identified as Seriously Emotionally Disturbed (SED) receiving special education services. Almost 44 percent of students in the SED sample had failed at least one course

in their last school year, and approximately two-thirds of the SED students could not pass minimal competency tests on grade-level (Wagner, 1993; Denny, Gunter, Shores, & Campbell, 1995). With regard to high school grade point average (GPA), the sample of students with SED had the lowest cumulative GPA of all disability groups identified in the study. They also had the highest incidence of failed classes among the 10% of youth with disabilities classified as emotionally disordered in comparison to other students with disabilities (Wagner, 1993; Wood & Cronin, 1999).

Kaufman, Cullinan, and Epstein (1987) examined the characteristics of students with SED in public schools across Northern Illinois and southern Wisconsin. They found that 70 to 78 percent of students were one or more years below grade level in reading, math, and written expression based on teachers' estimates of the students' academic performance (e.g., on classwork, formal and informal assessments, and daily functioning) in each area.

A study by Anderson and colleagues (2001) compared the academic growth of students labeled as learning disabled (LD) and students with emotional and behavioral disorders (EBD) over the course of five elementary school years. Consistent with other findings for populations identified as disabled (e.g., Scanlon & Mellard, 2002), both groups demonstrated below average academic skills in reading and math compared to their nondisabled peers. The researchers found that the LD students made considerable academic gains over the course of the 5 years study; however, similar academic progress was not seen for the students identified as having EBD. Interestingly, students with LD received less full-time special education services and made greater gains over time than

did the students with EBD, despite the provision of significantly more full-time special education services for students with EBD (Anderson et al., 2001).

*Suspension.* Suspension is the act of removing a child from his or her typical classroom or educational setting to either an on-campus (i.e., in-school suspension) or off-campus (i.e., out-of-school suspension) location. It is a disciplinary action frequently taken by school personnel for behavioral infractions of the rules and regulations specified by the school or district. Since behaviorally disordered students often act in a manner that is inconsistent with teacher and administrator behavioral expectations (e.g., disruptive behavior, physical aggression, talking back to a teacher, etc.), they are likely to be subject to disciplinary actions such as suspension.

As a type of disciplinary action, both students receiving ESE services and those not determined to be eligible for special education may be subject to school suspension (Bock et al., 1998; Hartwig & Ruesch, 2000; Horton, 1999). For example, consider the situation in which a general education student and a special education student were caught fighting in the hallway in between classes. If the standard disciplinary action for fighting is a 3-day suspension, both the disabled student and the general education student may be suspended by the administrator for 3 days. This action was determined to be fair and reasonable by the courts in the case of *Honig versus Doe* in 1988 (Bock et al., 1998). In this case, the courts ruled that schools can use the same disciplinary procedures for special education students as are applied to other students within the school and temporarily suspend special education students for up to 10 days (Bock et al., 1998). This court ruling carried over into the law (i.e., P.L. 105-17), which states that students identified as having a disability may only be suspended for a cumulative total of 10 or

fewer days in a school year before they must be provided educational services during any additional days of suspension (Bock et al., 1998; Hartwig & Ruesch, 2000).

As previously noted, suspensions lasting from 1 to 10 days are often referred to as short-term suspensions, whereas a suspension lasting more than 10 cumulative days in duration is called an extended-term suspension (Bock et al., 1998). Disabled students may still receive an extended-term suspension, but additional consideration from the IEP team may be necessary before an extended-term suspension may be carried out (e.g., a Manifestation Determination review), and educational services must be provided to the disabled student beginning on the 11<sup>th</sup> day of suspension within the same school year (Hartwig & Ruesch, 2000; Horton, 1999). These educational services fall under the category of providing a Free and Appropriate Public Education, or FAPE, and therefore are required to meet two primary standards: they must allow for (a) progress in the general curriculum and (b) advancement toward achieving the student's IEP goals (Horton, 1999).

While short-term suspensions resulting in less than 10 cumulative days of suspension can be handled completely without the IEP team's involvement, extended-term suspensions must include the involvement of the IEP team and will result in a Manifestation Determination review (Hartwig & Ruesch, 2000). Additionally, multiple short-term suspensions within the same school year may require IEP team involvement if they constitute a change in placement (Hartwig & Ruesch, 2000; Horton, 1999). To determine whether a series of short-term suspensions constitutes a change in placement warranting IEP team involvement, consideration should be given to the length of each suspension, the proximity of the suspensions to each other, and the total number of days

the student has been or will be removed from the current educational setting or placement (Horton, 1999). Other reasons for which a Manifestation Determination review must occur include the removal of a disabled student to a 45-day interim placement setting when weapons or illegal drugs are involved or when a student is deemed to be a danger to himself or herself or to others (Hartwig & Ruesch, 2000). The latter requires the involvement of an impartial hearing officer.

The Manifestation Determination review is a meeting conducted by the IEP team for the primary purpose of determining if a causal relationship exists between a student's disability and a behavior that resulted in proposed disciplinary action (Hartwig & Ruesch, 2000). At the meeting, the IEP team considers all available information such as any previous evaluations or school records, student observations, information contained on the IEP and the student's current placement, and information provided by the parent (Horton, 1999) to answer a series of questions. These questions include the following:

- (a) Did the student have a disability at the time of the offense?
- (b) Are the IEP and placement appropriate? Were the services and interventions designated on the IEP actually provided?
- (c) Did the student's disability impair the student's ability to understand the impact of his or her behavior and the consequences of that behavior?
- (d) Did the student's disability impair the student's ability to control the actual performance of the behavior in question? (Hartwig & Ruesch, 2000; Horton, 1999)

The IEP team answers these questions and can come to one of two conclusions. Either the behavior subject to disciplinary action was a manifestation of the student's disability, or it was not. According to Hartwig and Ruesch (2000), "In IDEA '97, the assumption is that the behavior is related to the disability until the IEP team proves that it is not" (p. 244). If the IEP team determines that the target behavior was a manifestation of the student's disability, then the school or district cannot expel the student for the behavior. If it is determined that the behavior was not a manifestation of the student's disability, then the student can be subject to the standard disciplinary procedures that would be followed for a nondisabled student, including expulsion, although a FAPE must be continued (Hartwig & Ruesch, 2000; Horton, 1999). That is, the IEP team must develop a plan to provide the ESE student with continued educational services.

In addition to a Manifestation Determination review, the IEP team must be involved in the analysis of the student's behavior and the development of an intervention plan for any student for whom suspension has amounted to more than 10 cumulative days in one school year, regardless of if the suspensions are deemed to be a change of placement or not (Horton, 1999; Weatherly, 2000). In this case, the IEP team must meet within 10 days of the 11<sup>th</sup> suspension day to plan a functional behavioral assessment (FBA). Following the FBA, the team must meet again to devise and implement a Behavioral Intervention Plan (BIP) to address the student's behavior(s) that resulted in the suspensions. If the student already had an FBA/BIP in place at the time of the behavior resulting in suspension, the team should review and modify the plan to better address the problem (Horton, 1999).



Since the laws regarding the use of suspension for children with disabilities are so complex, many administrators may be reluctant or at least somewhat hesitant to suspend a special education child for an extended period of time or multiple times cumulating to more than 10 school days within one school year (Horton, 1999). Additionally, since the removal of a disabled student for more than 10 days requires the development of a Functional Behavioral Assessment (FBA) and Behavior Improvement Plan (BIP) by the IEP team (Bock et al., 2000; Hartwig & Ruesch, 2000; Horton, 1999; Weatherly, 2000), the student is likely to receive direct intervention for the behavior(s) in questions, hopefully decreasing the likelihood of the same inappropriate behavior occurring in the future. This intervention should ideally decrease the likelihood of future suspensions for the same behavior or class of behaviors and result in fewer suspensions for the disabled child.

Although the laws set forth to regulate suspension for ESE students would ideally decrease the use of suspension as a disciplinary action for this population, research appears to indicate otherwise. For example, Skiba and colleagues (1997) found that special education students were significantly more likely to be suspended than their general education counterparts, and students identified as emotionally or behaviorally disturbed were even more likely to be suspended than other ESE students. According to the Florida Department of Education (1995; cited in Raffaele Mendez et al., 2002), emotionally handicapped students and students identified as learning disabled in Florida schools were far more likely to be suspended or expelled when compared to their nondisabled peers. A similar trend was found for ESE students in Kansas (Mellard & Seybert, 1996; cited in Raffaele Mendez et al., 2002). These data compare suspension

rates of ESE populations to their general education counterparts; however, no research was found that compares the early-onset behavior disordered student receiving special education services to the student identified as having early behavior problems but not receiving ESE services.

*Retention.* As stated previously, children evidencing early-onset behavioral difficulties are at an increased risk for repeating one or more grades, and this is true for both children receiving and not receiving special education services (Jones et al., 2002; Vitaro et al., 1999; Wood & Cronin, 1999). Since the Individuals with Disabilities Education Act (IDEA) and its amendment in 1997 does not prohibit the retention of special education students, many educators continue to retain children regardless of ESE eligibility and services if they are not meeting academic and/or social grade-level goals.

Data from the NLTS indicated that children with emotional or behavioral disabilities are more likely to be retained than other disability groups (Wagner, 1993; Wood & Cronin, 1999). Marder (1992; cited in Wood & Cronin, 1999) found that approximately 16% of students with emotional or behavioral disorders were retained in the average school year.

A study comparing the academic progress of LD and EBD students across the elementary school years found that a significantly high proportion of students with exceptionalities were retained in either kindergarten or first grade (Anderson et al., 2001). In this sample of children drawn from a large school district in the southeastern United States, significantly more children with EBD experienced early retention (45.2%), while 31.1% of LD students were retained in either kindergarten or first grade (Anderson et al., 2001). Early retention, as noted previously in the section on retention, was actually

associated with lower academic performance rather than increased academic skills over time (Anderson et al., 2001).

*Dropout.* Placement in a special education program is associated with increased rates of dropping out of school (Jimerson et al., 1997; Vitaro et al., 1999; Wagner, 1993), especially for students labeled as behaviorally disordered (Parker & Asher, 1987; Wagner et al., 1992). Also, a strong correlation exists between early academic difficulties (e.g., reading disabilities) and behavioral problems, adding to the likelihood of later school dropout (Ensminger et al., 1996; Ensminger & Slusarcick, 1992).

In a study of children identified as at-risk for disruptive behavior based on teacher ratings in kindergarten, likelihood of dropping out of school was significantly increased for the experimental group as compared to children not identified as displaying disruptive behaviors in kindergarten. The dropout rate, however, was not directly related to children's disruptiveness scores but rather was mediated by both the increased retention rates and special education classroom placements (e.g., resource special education classroom, full-time special education classroom, or special school placement) of the children identified as at-risk for disruptive behavior disorders in kindergarten (Vitaro et al., 1999). In other words, disruptiveness led to retention and special classroom placement, which, in turn, increased risk for later dropout.

Based on data from the NLTS, students identified and served through the special education system under the category of Severely Emotionally Disturbed (SED) had the highest dropout rate of all special education students analyzed in the study (Wagner et al., 1992). As many as 55 to 59% of behaviorally disordered students did not complete high school (Wagner, 1993; Wagner et al., 1992). Scanlon and Mellard (2002) reported that

students identified as having emotional or behavioral disorders had estimated dropout rates between 21% and 64%, significantly above the national average dropout rate and the dropout rates for students with other disabilities. Marder (1992; cited in Wood & Cronin, 1999) analyzed absenteeism rates from the NLTS data and found that students labeled as emotionally or behaviorally disordered were absent for an average of 17 days per school year. Chronic absenteeism is related to dropout (Scanlon & Mellard, 2002), and Marder concluded that this factor could have contributed to the high dropout rate of SED students in the NLTS data.

#### *Overview of the Current Study*

Research has consistently shown that children demonstrating conduct-related behavior problems in early childhood are at an increased risk for a continued course of behavior problems, as well as other negative educational outcomes such as grade retention, frequent suspension from school, lower academic performance, and failure to complete school. The current system for intervention most readily available to children with behavioral disorders is the Exceptional Student Education (ESE) system, or special education services. While research has documented some success with intervention programs that include social skills training and other important, evidence-based components, research on students receiving services from the ESE system has indicated significantly poorer educational outcomes for children with disabilities when compared to their peers without disabilities. This is especially true for students identified with emotional or behavioral disabilities served in special education.

This study sought to replicate and expand the literature with regard to the educational outcomes for children identified as having early-onset behavior problems.

Specifically, the study analyzed the suspension rates, retention rates, failure to complete high school, and high school achievement (i.e., GPA) for children who were identified as displaying behavior problems in early elementary school. Additionally, for those identified as having early behavior problems, each outcome variable was analyzed to determine the effect of special education services as an intervention for early-onset group of students. This analysis was achieved by comparing educational outcomes for participants identified as eligible for ESE services and those not identified as eligible for special education. Because gender, race, and socioeconomic status have consistently shown differential effects on the rate of behavior disorders in children, as well as some of the outcome variables (e.g., suspension rates), these variables were controlled through statistical procedures.

## Chapter III

### Method

#### *Introduction*

The researcher conducted a secondary analysis of data from the Omnibus Project to examine the differences in academic and social outcomes for children identified as exhibiting behavioral problems in early elementary school (grades 1-3) as compared to outcomes for children not having early behavior problems. Outcomes for children with behavior problems in early elementary school also were examined as a function of receiving special education services provided by the school system.

#### *Source of the Data*

The source of the data for this study was the Omnibus Project, a longitudinal study of students who began kindergarten in the 1989-1990 school year in a large central Florida school district. The cohort of students has been followed each year in an effort to collect trend data as these students completed their thirteen (or more) years of schooling in the public school system. The project was funded by the local school district.

Data from the Omnibus Project come from the school district's Student Information System (SIS) and annual surveys given to teachers, parents, and students. The SIS is a comprehensive collection of data files containing demographic information and information on student performance as well as other classification data on every student in the district's school system. It contains data on placement in Exceptional

Student Education (including year of placement and program), retention, year in which a diploma or certificate was awarded, high school grade point average, and whether or not a student participated in the free or reduced lunch program.

Demographic data such as gender, race, and household income (for the purpose of determining eligibility of free or reduced price lunch) were collected based on parent report and entered into the SIS by appropriate school personnel – typically a secretary within the school. ESE placement and category were determined by teams of professionals based on evaluation data and student performance. Eligibility followed rules and procedures mandated by state and federal guidelines for special programs. Within the SIS, grade point average in high school was computed based on individual quarter grades entered into the computer system by teachers or by other school personnel, based on teacher-reported scores. Receipt of a certificate or diploma was also coded and entered by school personnel within the school attended by the student.

The surveys were given annually to teachers, parents, and students. Teacher surveys were completed from kindergarten through the sixth grade, and parent surveys were completed for all grades. Students completed surveys beginning in the second grade, when it was deemed that they had reached a suitable level of maturity. School principals, teachers, and parents encouraged participation in the study. Participants gave “passive consent” for participation in the project, meaning that a willingness to fill out the surveys acted as a form of consent. Parents were told that all information provided would be kept confidential, that reports based on the data would only include group-generated data, and that no information would be reported on an individual student. Before the data collection began, support from principals, teachers, and parents was

enlisted by the superintendent of schools. From first grade on, principals were reminded of annual data collection during a superintendent’s meeting, and parents were reminded of the surveys through a school newsletter. In some years, children were given a small incentive for returning the parent survey.

All surveys were preprinted with the student name and identification number and were delivered to the students’ teachers via the school-wide mail system. Teachers distributed the parent and student surveys to the students. The students completed the questionnaires during school hours and took the parent questionnaire home for a parent or guardian to complete. Parent surveys were returned to school by the students or sent directly to the Omnibus Project in a pre-addressed envelope. All forms were computer scannable and were entered into the Omnibus database in this way. The return rate for parents in grade two and teachers in grades two and three are listed in Table 1. Return rates for teachers and parents in first grade were not available from the Omnibus Project database manager.

Table 1  
*Return Rate of Surveys in Grades 2 and 3*

Grade	Teacher	Parent
2	85%	70%
3	88%	N/A

The parent, teacher, and student survey questions were developed by a panel of research professionals in the fields of education and psychology. Survey questions often



differed over the years of the study, with some items remaining the same or tapping similar constructs. Informants were required to respond to each item on the surveys by circling a response (teachers) or filling in the appropriate bubble corresponding to their response (parents). Survey length varied from year to year, with teacher surveys ranging from six to eight questions in the years 1990-91 through 1992-93 and parent surveys asking 16 and 17 questions during 1990-91 and 1991-92 respectively. Teacher surveys were printed on one single-sided page; parent surveys were printed on one double-sided page.

### *Participants*

Participants for the study were drawn from a preexisting database of Omnibus Project participants. At the time the current study began, the majority of the students in the Omnibus Project had already completed the twelfth grade and graduated from high school. However, a small number of students were still in school at this time as a result of being retained or served through their 22<sup>nd</sup> birthday if they were eligible for and receiving ESE services.

Two groups of participants for this study were selected from the Omnibus Project database for the current study. Children identified as having behavior problems in early elementary school (1<sup>st</sup> – 3<sup>rd</sup> grade) were included in the study and comprised the early-onset behavioral problems group. A comparison group of students not identified as having behavior problems in early elementary consisted of children selected based on teacher data during the same three years.

Some exclusion criteria were also used when identifying the sample of participants used for this study. First, students with incomplete teacher information in

first through third grade were excluded since group membership (i.e., children with early behavior problems and those without early behavior problems) was determined by data from these three years. Students identified as receiving Exceptional Student Education services under the category of Mentally Handicapped (e.g., EMH, TMH, etc.) also were excluded from the study, in an effort to control for extreme discrepancies in IQ. Students missing one or more outcome variables were not included in the study's original sample pool, given that the effects of early behavior on later school outcomes were the primary purpose of this study.

From the original Omnibus database of 8268 cases, 5437 cases had data from teacher ratings of behavior in the years 1990, 1991, and 1992. From this point, two exclusionary criteria were applied. Cases in which the primary exceptionality was mental retardation were excluded from the study ( $n = 81$ ), resulting in a sample size of 5356 cases. Omnibus participants who did not have grade point average (GPA) or other data from 1999 through 2004 were also excluded from the study ( $n = 1151$ ), taking the current study's participant number down to 4205.

Of these remaining cases, a composite variable was computed to determine each student's average teacher behavior rating from the 1990-91, 1991-92, and 1992-93 school years, the years in which a majority of students were in first, second, and third grades. Descriptive statistics for this composite score are represented in Table 2. A composite score of 1.0 would indicate "excellent" behavior ratings by teachers across all three school years surveyed. Scores of 2.0 represent an average of "satisfactory" ratings across years, while an average of 3.0 and 4.0 represents teacher ratings indicating that behavior "need[ed] improvement" and was "unsatisfactory" respectively.

Table 2

*Descriptive Statistics for Composite Teacher Ratings in 1990, 1991, and 1992 (n = 4205)*

Composite Score	Mean	SD	Median	Range
Composite score (average) of teacher rating of behavior from 1990, 1991, 1992	1.85	0.71	1.67	1.0-4.0

*Note:* Scores range from 1 (excellent behavior ratings) to 4 (unsatisfactory behavior ratings).

Table 3

*Frequency of Participants Based on Composite Teacher Rating of Behavior in 1990, 1991, and 1992 (n = 4205)*

Composite Teacher Behavior Rating Score	Frequency	Percent	Cumulative Percent
1.00 (Excellent)	904	21.5	21.5
1.33	701	16.7	38.2
1.67	635	15.1	53.3
2.00 (Satisfactory)	684	16.3	69.5
2.33	490	11.7	81.2
2.67	336	8.0	89.2
3.00 (Needs Improvement)	251	6.0	95.1
3.33	129	3.1	98.2
3.67	60	1.4	99.6
4.00 (Unsatisfactory)	15	0.4	100.0

Participants who obtained a composite behavior rating of 3.0 or above fell within the highest 10% of the study's participants. These students comprised the group of students at risk for early onset of behavior problems (i.e., the early onset group). Those obtaining an average score of 2.0 or less represented 69.5% of the sample. This group of participants comprised the comparison group for the current study. Therefore, students with composite teacher ratings from the seventieth percentile through the eighty-ninth percentile (scores of 2.33 and 2.67) were excluded from the study ( $n = 826$ ). This resulted in a total sample size of 3379 for the current study. Table 4 shows the number of participants based on the independent variable of students identified as at risk for early onset of behavior problems.

Table 4

*Number of Participants Based on the Independent Variable of Early Onset of Behavior Problems and Comparison Group ( $n = 3379$ )*

Independent Variable	Number of Participants	Percent of Sample
Students identified as early onset of behavior problems – Early onset group	455	13.5
Comparison group	2924	86.5

Variables that were used as control variables for the purpose of data analysis included socioeconomic status based on receipt of free or reduced-priced lunch, gender, and race. Gender was controlled because males have a higher incidence of behavioral

disorders (DSM-IV, 1994) and are more likely than females to have trajectories that include negative social and academic outcomes when early behavior problems are present (Moffit, 1990, 1993; Olweus, 1979; Shaw et al., 2003), although trajectories for females tend also to be poor (Cote et al., 2001). Race and SES also were controlled in the study to reduce the threats to internal validity that may have occurred if potentially confounding variables were not controlled, either statistically or through matched samples.

Of the 3379 participants in the sample, 1374 (41%) were identified as qualifying for free or reduced-priced lunch in one or more of the years from 1990 through 1992. The sample was comprised of 1833 (54%) females and 1546 (46%) males. Race was represented by three categories: Caucasian (non-Hispanic) (78%), African-American/Black (18%), and Other (3%). The “Other” category included Hispanic, Native American, Asian/Pacific Islander, and multiracial students.

To examine the effect of ESE services on the outcomes for students with and without early-onset behavior problems, a second independent variable was included. This dichotomous variable identified participants as either receiving ESE services anytime between the 1989-90 and 1997-98 school years or not receiving ESE services within this time period. For a majority of students, these years represented kindergarten through eighth grade. Of the sample included in the study, 2021 (60%) were not identified or served under any category of ESE from 1989-90 through 1997-98, and 1358 (40.2%) received ESE services at some point within this timeframe. Table 5 shows the number and percent of students in the sample that received ESE services in each of the years from 1989-90 through 1997-98.

Table 5

*Number and Percent of Students Receiving ESE Services by Year (n = 3379)*

Year	Grade of Majority of Students	<i>n</i>	%
1989-90	K	664	19.7
1990-91	1 <sup>st</sup>	664	19.7
1991-92	2 <sup>nd</sup>	835	24.7
1992-93	3 <sup>rd</sup>	963	28.5
1993-94	4 <sup>th</sup>	1030	30.5
1994-95	5 <sup>th</sup>	1072	31.7
1995-96	6 <sup>th</sup>	1038	30.7
1996-97	7 <sup>th</sup>	1030	30.5
1997-98	8 <sup>th</sup>	959	28.4
1989-90 through 1997-98		1358	40.2

*Measurement of Variables for the Study Sample*

The study had two primary independent variables. The first was group membership, which had two levels: the early-onset group (children identified as having behavior problems in early elementary) and a comparison group (students not identified as having behavior problems in early elementary). The second within-subjects independent variable was also dichotomous and categorized students as receiving special education services or not receiving these services. The dependent variables included

suspension frequency, student retention, dropout rates (i.e., non-completion rates), and student GPA.

*Children demonstrating early-onset behavior problems.* Children identified as having or not having a behavior problem in early elementary was defined using a combination of items asked to teachers in the first, second, and third grades. In the event that a student was retained in kindergarten, first, or second grade, the teacher responses to survey questions from the surveys given in the years 1990-91, 1991-92, and 1992-93 were used to determine a behavior problem. An average behavior score called the Composite Teacher Behavior Rating was calculated for each child, based upon the teachers' responses to a question regarding the student's behavior. The question asked on each teacher survey during the specified years was on a four-point Likert scale, with 1 being excellent and 4 being unsatisfactory. See Table 6 for the question asked on the teacher survey. Equal weight was given to each teacher's response in calculating the mean behavior score. The formula for calculating the mean behavior score was as follows:

$$\text{Composite Teacher Behavior Rating} = \frac{(T1 + T2 + T3)}{3}$$

Where T1 = teacher's rating, first grade (or 1990-91); T2 = teacher's rating, second grade (or 1991-92); and T3 = teacher's rating, third grade (or 1992-93)

Early-elementary behavior scores were ranked and the percent of students scoring at each level was reported in Table 3 previously. A similar procedure for forming a dichotomy of children based on a behavioral rating score was used in a study analyzing the outcomes for children identified as at-risk for conduct-related problems (Jones et al.,

2002). Children receiving an average behavior score in the top 10<sup>th</sup> percentile of all obtained scores and a score of 3.0 or greater were assigned to the early onset group. In the current study, students with a mean behavior score in the 1<sup>st</sup> to 79<sup>th</sup> percentiles and a composite score of 2.0 or below formed the comparison group, thus creating a dichotomous variable from data that were continuous in nature. Jones et al. used a similar dichotomous variable but also analyzed the data as a continuous variable to ensure that results were not significantly affected by the false dichotomy that was imposed upon the data. They found that the “continuous indicators add[ed] virtually no explanatory power to the model” (Jones et al., 2002, p. 254). Therefore, the present study used the Composite Teacher Behavior Rating to form two dichotomous groups in a manner similar to that used by Jones and his colleagues (2002), rather than analyze the Composite Teacher Behavior Rating as a continuous variable.



Table 6

*Survey Questions Asked to Teachers and Parents Regarding Child Behavior*

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The following question was asked of teachers in grades 1-6:

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Choose the one answer that best describes this student's behavior in school.	1	2	3	4
	Excellent	Satisfactory	Needs Improvement	Unsatisfactory

---

The following was asked to parents in grades 1-2, 4-5, and 7:

---

Choose only one answer that best describes each of the following:

Child's behavior at home.	1	2	3	4
	Excellent	Satisfactory	Needs Improvement	Unsatisfactory
Child's behavior at school.	1	2	3	4
	Excellent	Satisfactory	Needs Improvement	Unsatisfactory

---

Table 6 also contains the two questions applicable to the current study asked on the parent survey during the 1990-91, 1991-92 school years. Research by Jones and colleagues (2002) analyzed the effect of combining teacher and parent information as a source for identifying children at-risk for conduct problems and found that the use of both parent and teacher reports was equal to or only slightly different than the use of only the teacher as reporter of student behavior. Since the addition of parent reports resulted in minimal to no differences in the findings in their study (Jones et al., 2002) and many other studies reviewed from the literature included only teacher reports of student behavior (e.g., Cote et al., 2001; Fergusson & Horwood, 1995; Hofstra et al., 2002), only

teacher reports of the students' behavior were used to determine presence or absence of early-onset behavior problems in the current study. Because the parent return rates for surveys were lower than teacher return rates, requiring parent survey data would have significantly decreased the number of participants in the current study. Using only teacher ratings rather than teacher and parent ratings increased the number of participants that could remain in the sample as those with missing data in these years were excluded.

*Reliability and validity of the composite teacher rating.* Consistency of responses to the survey question addressing students' general behavior across raters and over time was examined via correlational analysis. Teacher ratings from each of the three years combined to form the Composite Teacher Score were highly correlated, with  $r$  values ranging from .60 to .64. Behavior problems as rated by teachers remained relatively similar even into 1994-95 ( $r = .49$  to  $.55$ ), lending further support to the construct measured. Correlations between parent ratings of behavior at school during 1990-91 and 1991-92 were moderately correlated with the Composite Teacher Rating with  $r$  values of .62 and .64 respectively. Parent ratings of the child's behavior at home were less consistent than their ratings of behavior at school ( $r = .35$  and  $.36$ ). See Table 7 for a summary of correlation coefficients between scores for teacher and parent ratings across the three years, plus teacher ratings from 1993-94 and 1994-95.

Table 7

*Correlations Between Teacher Behavior Ratings, Composite Teacher Rating, and Parent Ratings Across Years (n = 3379)*

	Teacher 1990-91	Teacher 1991-92	Teacher 1992-93	Composite Teacher Rating	Parent - Behavior at Home 1990-91	Parent - Behavior at School 1990-91	Parent - Behavior at Home 1991-92	Parent - Behavior at School 1991-92	Teacher 1993-94	Teacher 1994-95
Teacher 1990-91	1.00									
Teacher 1991-92	.644	1.00								
Teacher 1992-93	.601	.634	1.00							
Composite Teacher Rating	.862	.878	.859	1.00						
Parent - Behavior Home 1990-91	.307	.316	.286	.352	1.00					
Parent - Behavior at School 1990-91	.591	.500	.500	.616	.553	1.00				
Parent - Behavior Home 1991-92	.294	.339	.297	.362	.554	.366	1.00			
Parent - Behavior at School 1991-92	.516	.609	.517	.639	.388	.569	.545	1.00		
Teacher 1993-94	.530	.563	.573	.644	.271	.439	.283	.457	1.00	
Teacher 1994-95	.489	.527	.545	.601	.244	.375	.249	.401	.589	1.00

Cronbach's alpha also was calculated for teacher responses to the question used in the study across the three years to examine the internal consistency of the Composite Teacher Behavior rating score ( $\alpha = .83$ ). Concurrent validity of the primary behavior question could have been evaluated by giving a standardized behavior rating scale (e.g., the Achenbach Teacher Report Form and the Child Behavior Checklist) to both the teacher and parent and also asking them to complete the survey question(s). However, this validity check was not done at the time of the Omnibus Project data collection, and resource limitations made such a validity check infeasible for the current study. Surveys were created and written by a panel of experts in the fields of education and psychology, offering construct validity for the survey data.

Although calculating a Composite Teacher Behavior rating based on a single question over three years was not the most comprehensive or most research-based method one might have selected to identify early-onset behavior problems in children, it has demonstrated strong consistency over time and among multiple raters. The Cronbach's alpha coefficient for the composite variable also was strong. Therefore, the survey question tapping a broad measure of behavior across these 3 years was considered to be a reliable and valid construct for the purpose of identifying those students who did and did not exhibit early symptoms of possible behavioral problems.

*Receipt of ESE services.* The second independent variable examined was whether or not a student received special education services before the ninth grade. These data were obtained using the school district's SIS. Because a student's ESE services are driven by individual needs and not by the category under which he or she was made eligible, data analyses examined all special education students as one group rather than

dividing them by classification category. The power of the analysis would have been greatly reduced by examining each of these categories separately.

Although analyses were conducted based on ESE services in general and did not examine the subgroups based on ESE eligibility category, the number of participants in each ESE category is presented in Table 8. This table indicates the primary exceptionality of participants in the 1995-96 school year. This year is the one in which most students were in 5<sup>th</sup> grade and the year in which the number and percent of students receiving ESE services peaked.

Table 8

*Number of Students Receiving ESE Services in 1995-96 By Category for the Early-Onset and Comparison Groups*

ESE Category	Early-Onset Group (n = 257)	Comparison Group (n = 1101)
Specific Learning Disabled	106 (41.2%)	339 (30.8%)
Emotionally Handicapped	66 (25.7%)	3 (0.3%)
Severely Emotionally Handicapped	13 (5.1%)	0 (0%)
Autistic	0 (0%)	1 (0.1%)
Physically Impaired	0 (0%)	8 (0.7%)
Speech Impaired	22 (8.6%)	81 (7.4%)
Language Impaired	2 (0.8%)	5 (0.5%)
Hard of Hearing	0 (0%)	3 (0.3%)
Visually Impaired	0 (0%)	1 (0.1%)
Gifted*	11 (4.3%)	411 (37.3%)

*Note:* In the state of Florida, Giftedness is considered an exceptionality. This is not true for many other states and results of the current study may be impacted as a result of including students in the subsample of students receiving ESE services.

*Control variables.* Variables that were statistically controlled included gender (male or female), race (Caucasian, African-American, or Other), and SES (receipt of free or reduced price lunch in one or more year during the period from 1990-91 through 1992-93). All of these demographic variables were available in the school district's Student Information System (SIS).

For the statistical analyses, race was recoded with dummy variables since it had three values. Three variables were created to include Caucasian, not Caucasian or Other (i.e., African-American), and not Caucasian or African-American (i.e., Other). Receipt of free or reduced price lunch was available for each of the years from 1990-91 through 1992-93. A single variable representing students who received free or reduced price lunch in one or more of these years also was created for the purpose of statistically controlling for estimated SES in the regression analyses.

*Outcome variables.* To answer the research hypotheses regarding outcomes for students identified with early onset behavior problems and the impact of ESE services on these outcomes, four dependent variables were analyzed. These outcome variables included average high school grade point average (GPA); number of retentions through the 1997-98 school year; number of suspensions in the years 1995-96, 1996-97, and 1997-98 averaged across years; and high school completion (as a measure of if a student dropped out of school). All four dependent variables were synthesized using data available through the school district's SIS.

A measure of student achievement, average high school GPA, was included as a dependent variable in the study. While cumulative GPA may provide a better estimate of a student's overall academic success in high school, many cases in the database were

missing GPAs from multiple years of the student's high school experience. Ideally, a typical student would have had four GPAs reported in the database, if he or she was not retained in high school. The majority of students in the current study fell into this category ( $n = 2074$ , 61.4%), having four years of GPA data available in the database. Many students had only one ( $n = 380$ , 11.2%) or a few years in which GPA was reported. Some cases had as many as 6 reported GPAs ( $n = 39$ , 1.2%). Explanations for fewer than four reported GPAs could include a student moving out of the district, dropping out of school, or missing data due to data entry error. A student having more than four reported GPAs may be explained by retention or the provision of ESE services beyond the typical age for high school students, as students eligible for ESE services may receive a free and appropriate public education through their 22<sup>nd</sup> birthday. Due to the missing and extra GPA data available, an average of all GPA data available for each student was computed. Table 9 reports the number and percentage of students by average GPA, broken into categories.



Table 9

*Average High School GPA by Category*

GPA	Total Sample		Early-Onset Group		Comparison Group	
	<i>(n = 3379)</i>		<i>(n = 455)</i>		<i>(n = 2924)</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
0.00	95	2.8	15	3.3	80	2.7
0.01 through 0.50	120	3.6	49	10.8	71	2.4
0.51 through 1.0	189	5.6	68	14.9	121	4.1
1.1 through 2.0	649	19.2	183	40.2	466	15.9
2.1 through 3.0	1223	36.2	118	25.9	1105	37.8
>3.0	1103	32.6	22	4.8	1081	37.0

The second outcome variable to be analyzed was the number of years in which participants were retained. The total number of years a student was retained throughout his or her schooling experience was first computed. This ranged from 0 to 6 retentions, with a mean of 0.83 and standard deviation of 1.07. Table 10 reports the number and percent of students retained by school year. Through the 1997-98 school year, 502 (15%) students had been retained one or more years (range 0-4). By the 1998-99 school year, retention for one or more years increased to 1164 (34%) students. This dramatic increase in proportion of students retained corresponds to the year in which a majority of students were in ninth grade.

An examination of the retention data by school year reflects the most retentions occurring in 1996-97 through 2000-01 years, which corresponds to seventh through

eleventh grade for a majority of the sample, peaking in ninth grade at 27%. In high school, promotion from one grade to the next becomes dependent on the number of credits a student earns. High school courses frequently contain mixed-grade students (e.g., ninth-, tenth-, and eleventh-grade students in one class); therefore, it is probable that a student who was retained may be just as likely to have classes with “age appropriate peers” as those who were not retained. Because the research on the impact of retention focuses largely on not being with age-appropriate peers (e.g., Jones et al., 2002), the current study examined the cumulative number of retentions from 1989-90 through 1997-98, the year in which the majority of students completed eighth grade. Table 11 indicates the number of students retained for 1, 2, 3, and 4 years through 1997-98.

Table 10

*Number and Percent of Students Retained by School Year (n = 3379)*

Year	Grade of Majority	Number	Percent of Sample
1989-90	K	91	2.7
1990-91	1 <sup>st</sup>	91	2.7
1991-92	2 <sup>nd</sup>	24	0.7
1992-93	3 <sup>rd</sup>	12	0.4
1993-94	4 <sup>th</sup>	3	0.1
1994-95	5 <sup>th</sup>	3	0.1
1995-96	6 <sup>th</sup>	89	2.6
1996-97	7 <sup>th</sup>	142	4.2
1997-98	8 <sup>th</sup>	246	7.3
1998-99	9 <sup>th</sup>	907	26.8
1999-2000	10 <sup>th</sup>	676	20.0
2000-01	11 <sup>th</sup>	357	10.6
2001-02	12 <sup>th</sup>	140	4.1
2002-03		23	0.7
2003-04		5	0.1

Table 11

*Number of Years Each Student was Retained Through 1997-98 (n = 3379)*

Number of Retentions	Number of Students	Percent of Sample
0	2877	85.1
1	333	9.9
2	141	4.2
3	26	0.8
4	2	0.1

To answer the research hypothesis predicting that students with early onset behavior problems are more likely to have greater rates of suspension from school than those not demonstrating early behavior problems, the number of suspensions averaged across three years was computed for each student. Suspension data from the 1995-96, 1996-97, and 1997-98 school years were obtained and averaged to form a single variable for analysis. These years represented grades six, seven, and eight for a majority of students. Table 12 reports the descriptive statistics for number of suspensions by school year during this period.

Table 12

*Descriptive Statistics for Number of Suspensions by Year (n = 3379)*

Year	Mean	Median	SD	Range
1995-96	0.77	0	2.57	0-47
1996-97	1.17	0	3.14	0-44
1997-98	1.17	0	3.14	0-44

The research hypothesis predicting a difference in the dropout rate of students identified with early onset behavior problems and those not identified with early onset behavior problems was explored through an analysis of high school completion data. The number and percent of students receiving a high school diploma or certificate in 2002, 2003, and 2004 is reported in Table 13. Of the 3379 students in the sample, 64% ( $n = 2151$ ) received a high school diploma or certificate by Summer 2004 and 36% ( $n = 1228$ ) had not completed high school as of Summer 2004. For the purpose of this study, this “failure to complete” group is considered to have dropped out of school.

Table 13

*Number of Students Receiving a High School Diploma or Certificate by Year (n = 3379)*

Year	Diploma	Certificate
2002	1944 (57.5%)	61 (1.8%)
2003	137 (4.1%)	19 (0.6%)
2004	29 (0.9%)	3 (0.1%)

#### *Procedure*

Omnibus data represented in the study were made available to the current researcher in an SPSS computer file by the Omnibus Project database manager in Fall 2004. Only those variables analyzed in the study were included in this file, although many other variables were collected throughout the longitudinal project. From that point, several variable transformations were computed to form the final variables used in data analysis (e.g., means for GPA, receipt of a service over multiple years, etc.). These created variables were described previously in *Measurement of Variables for the Study Sample*.

Hypotheses for the current study were tested using multiple regression analyses, which examined main effects of early onset of behavior problems and receipt of ESE services on each of the continuous outcome variables (i.e., high school GPA, suspension rates, and retention rates), as well as any interaction effects, controlling for gender, race, and socioeconomic status. Because failure to complete high school was a dichotomous

variable, multiple logistic regression was used to examine the impact of the independent variables.

### *Data Analysis*

Descriptive statistics were calculated first to define the sample selected. Next, descriptive statistics including mean, standard deviation, median, and range were calculated for each outcome variable (average suspension rates, retention rates, school completion rates, and average High School GPA). The descriptive statistics were analyzed to determine the extent to which the assumptions of linear regression were or were not violated.

One of the core assumptions of linear regression is the assumption that the dependent variables are normally distributed. When measures of skewness and kurtosis indicated that the distribution was not normal (i.e., skewness and/or kurtosis values outside of  $\pm 1$ ), then a mathematical transformation of the data was computed, whereby all data points were transformed using the equation  $f(x) = \log_n(x + 1)$ . In some cases, the transformed variable represented a closer approximation to a normal distribution, whereas in other cases the transformation did not help the distribution's normality. When the transformed variable was found to be more normal, the transformation was used for data analysis purposes (i.e., the linear regression computation).

Multiple linear regression was used for each of three continuous dependent variables (or the transformed dependent variable, in some cases), holding gender, race, and SES constant (i.e., statistical control). Each regression examined the main effects of early onset of behavior problems and receipt of ESE services, in addition to the interaction between the two. Four models were analyzed in each of the regression

analyses. The first contained data for each outcome variable for the control variables. The second model added the effect of receipt of ESE service. The third model included the independent variable of early-onset of behavior problems, and the fourth model added an interaction variable (early-onset by receipt of ESE). The change in  $R^2$  was examined to determine the extent to which adding the interaction variable contributed to the overall predictability of the model. When the change in  $R^2$  was equal to or greater than approximately .03 to .05, the interaction was considered to add significant value to the model.

Multiple logistic regression was used to examine the effects of early-onset behavior problems and receipt of ESE services on high school completion, since the outcome variable was dichotomous. The percent of correct predictions value was examined to determine the extent to which each independent variable increased the predictability within a given model. An odds ratio was calculated to report the odds that a student with early-onset behavior problems would fail to complete high school with a diploma or certificate by each independent variable.



## Chapter IV

### Results

This chapter presents the results of the statistical analyses used to address the eight research hypotheses (4 directional hypotheses and 4 null hypotheses) examining outcomes for students identified with early onset behavior problems and the impact of the provision of special education services for these students. First, the demographics of the sample are described, including gender, race, and socioeconomic status. Next, the descriptive statistics for each independent and dependent study variable follows, along with other important information defining these variables. Finally, each research question is addressed through multiple regression analyses, which examined main effects of early onset of behavior problems and receipt of ESE services on each of the four outcome variables (i.e., high school GPA, suspension rates, retention rates, and dropout/failure to complete school rates), as well as any interaction effects of behavior by ESE status, controlling for gender, race, and socioeconomic status.

#### *Preliminary Analyses*

*Descriptive statistics for independent variables.* Two primary independent variables were analyzed within the current study – early onset of behavior problems and receipt of ESE services by or before the 1997-98 school year. In the study 455 (14%) were identified as at risk for early onset of behavior problems and 2924 (87%) students comprised the comparison group. The second independent variable identified

participants as either receiving ESE services anytime between the 1989-90 and 1997-98 school years or not receiving ESE services within this time period. For a majority of students, these years represent grades kindergarten through eighth grade. Of the sample included in the study, 2021 (60%) were not identified or served under any category of ESE from 1989-90 through 1997-98 and 1358 (40%) received ESE services at some point within this timeframe.

*Control variables.* Three key demographic variables that were used as control variables for the purpose of data analysis included gender, race, and socioeconomic status based upon receipt of free or reduced-priced lunch. The sample was comprised of 1833 (54%) females and 1546 (46%) males. Race was represented by three categories: Caucasian (non-Hispanic) (78%), African-American/Black (18%), and Other (3%). The “Other” category included Hispanic, Native American, Asian/Pacific Islander, and Multi-racial students. Of the 3379 participants in the sample, 1374 (41%) were identified to qualify for and/or receive free or reduced-priced lunch in one or more of the years from 1990 through 1992, which coincides with grades 1, 2, and 3 for most students. Table 14 shows the number and percentage of the sample for each control variable by group membership (i.e., those identified to exhibit behavior problems in early elementary school and the comparison group).

Table 14.

*Demographic Characteristics by Early Onset of Behavior Problems*

Control Variable (N = 3379)	Early onset of behavior problems	
	Yes (n = 455)	No (n = 2924)
<b>Gender</b>		
Male (n = 1546)	348 (76.5%)	1198 (41.0%)
Female (n = 1833)	107 (23.5%)	1726 (59.0%)
<b>Race</b>		
Caucasian (non-Hispanic) (n = 2644)	244 (53.6%)	2400 (82.1%)
African American/Black (n = 722)	208 (45.7%)	414 (14.2%)
Other (n = 113)	3 (0.7%)	110 (3.8%)
<b>Socioeconomic Status</b>		
Free or reduced lunch (n = 1374)	309 (67.9%)	1065 (36.4%)
No free or reduced lunch (n = 2005)	146 (32.1%)	1859 (63.6%)

*Descriptive statistics for dependent variables.* To examine the research hypotheses regarding outcomes for students identified with early onset behavior problems and the impact of ESE services on these outcomes, four dependent variables were analyzed. These outcome variables included average high school grade point average (GPA); number of retentions through the 1997-98 school year; average number of suspensions in the years 1995-96, 1996-97, and 1997-98; and high school completion as a

measure of student dropout rate. Table 15 reports the mean, standard deviation, median, and range for these four dependent variables.

Table 15

*Descriptive Statistics for Dependent Variables (n = 3379)*

Dependent Variables	Mean	SD	Median	Range	Skewness	Kurtosis
Average high school GPA	2.41	1.03	2.55	0.0-4.32	-0.55	-0.39
Number of retentions through 1998	.21	.55	0	0-4	2.92	8.72
Number of suspensions averaged over 1995-1996, 1996-1997, and 1997-1998 school years	.98	2.22	0	0-26.33	3.84	20.53
Students not receiving a HS diploma or certificate as of Summer 2004 (dichotomous)	0.36	0.48	0	0-1	0.57	-1.68

A measure of student achievement, average high school GPA, was included as a dependent variable in the study. Due to the missing and extra GPA data available, an average of all GPA data available for each student was computed.

The second outcome variable to be analyzed was the number of years in which participants were retained through the 1997-98 school year. Table 16 reports the number of retentions by each of the independent variables (early-onset vs. comparison and receipt of ESE service).

Table 16

*Number of Years Each Student was Retained Through 1997-98 by Independent Variable*

Number of Retentions	Early-Onset		Comparison	
	Non-ESE ( <i>n</i> = 198)	ESE ( <i>n</i> = 257)	Non-ESE ( <i>n</i> = 1823)	ESE ( <i>n</i> = 1101)
0	121 (61.1%)	173 (67.3%)	1604 (88.0%)	979 (88.8%)
1	46 (23.2%)	46 (17.9%)	166 (9.1%)	75 (6.8%)
2	25 (12.6%)	29 (11.3%)	48 (2.6%)	39 (3.5%)
3	6 (3.0%)	9 (3.5%)	4 (.2%)	7 (.6%)
4	0 (0%)	0 (0%)	1 (.1%)	1 (.1%)

To evaluate the research hypotheses that students with early onset behavior problems are more likely to have greater rates of suspension from school than those not demonstrating early behavior problems, with a possible interaction effect for those receiving ESE services, the number of suspensions averaged over three years was computed for each student. Suspension data from the 1995-96, 1996-97, and 1997-98 school years were obtained and averaged to form a single variable for analysis.

The research hypothesis predicting a difference between the dropout rates of students identified with early onset behavior problems and those not identified with early onset behavior problems was explored through an analysis of high school completion

data. Of the 3379 students in the sample, 64% ( $n = 2151$ ) received a high school diploma or certificate by the Summer of 2004 and 36.3 percent ( $n = 1228$ ) had not completed high school at that time.

### *Research Hypotheses*

Several multiple regression analyses were conducted in an effort to answer the research hypotheses predicting poorer educational outcomes (i.e., high school GPA, retention rates, and suspension rates) for students identified to exhibit symptoms of early onset behavior problems compared to those not exhibiting such behavioral problems, with possible interaction effects for those receiving ESE services. Each of the six hypotheses was addressed with regression analyses, in which gender, race, and socioeconomic status were controlled. When there was a significant  $R^2$  increase in the model with the interaction ( $\Delta R^2$  about .03-.05 or greater), the interaction effect was investigated. Logistic regression was used for the 2 hypotheses analyzing the dichotomous outcome variable identifying likelihood of completing high school with a certificate or diploma.

*Suspension rates.* The first hypothesis stated, “Suspension rates for students identified as having a behavior problem in early elementary school will be significantly higher than suspension rates of students without early behavior problems.” Hypothesis 5 addressed the possibility that suspension rates may differ for the early-onset group receiving ESE services compared to those in the early-onset group not eligible for or receiving these special educational services. To address these hypotheses, multiple regression analysis was conducted involving identification of early-onset behavior problems, receipt of ESE services, and number of suspensions received (transformed

variable) averaged over the years 1995-96, 1996-97, and 1997-98, controlling for gender, race, and socioeconomic status (i.e., receipt of free or reduced-priced lunch). Results indicated a main effect for group membership (i.e., early-onset group vs. comparison group) ( $Beta = .409, p < .001$ ) on suspension rates. Neither the main effect for receipt of ESE service ( $Beta = .020, p > .10$ ) nor the interaction between early-onset of behavior problems and receipt of ESE service ( $Beta = .009, p < 0.10$ ) were found to be significant. That is, students who were identified to exhibit behavior problems in early elementary school had, on average, significantly more suspensions in the middle school years (i.e., 1995-96, 1996-97, and 1997-98) than did the comparison group. The standardized  $Beta$  coefficient of .409 indicated, holding gender, race, and SES constant, the average number of suspensions was approximately 0.41 standard deviations greater for students in the early-onset group. The  $R^2$  value for the regression model demonstrating this main effect indicated that early-onset of behavior problems explained approximately 14.2% of the average suspension rate, above and beyond the 21.2% explainable by gender, race, and free or reduced lunch status. Table 17 and Figure 1 show the average number of suspensions per year by group membership (early-onset vs. comparison) and receipt of ESE services. Table 18 reports the standardized  $Beta$  coefficient and standard error of measurement for each independent and control variable across four regression models.

Table 17

*Number of Suspensions Averaged Over Three Years by Group Membership and ESE*

*Status (Non-Transformed Variable)*

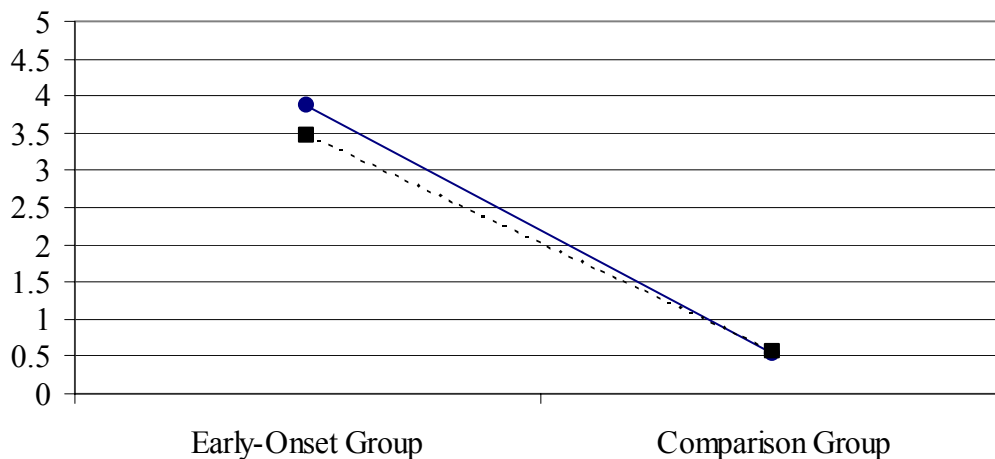
Average number of suspensions	Early onset group ( <i>n</i> = 455)		Comparison group ( <i>n</i> = 2924)		Total ( <i>n</i> = 3379)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Received ESE services ( <i>n</i> = 1358)	3.88	4.12	0.54	1.40	1.17	2.55
No ESE services ( <i>n</i> = 2021)	3.48	3.41	0.57	1.46	0.86	1.95
Total ( <i>n</i> = 3379)	3.71*	3.83	0.56*	1.44		

\*Significant at  $p < 0.001$ .

Figure 1

*Mean Number of Suspensions for Students with and without Early-Onset Behavior*

*Problems by Receipt of ESE Services.*



*Note:* Students who received ESE services by 1998 are represented by the circle; no receipt of ESE is represented by the square in the figure above.



Table 18

*Estimated Beta Coefficients Predicting Number of Suspensions Averaged Over Three Years (Transformed Variable) (n = 3379)*

Control and Independent Variables	Model I	Model II	Model III	Model IV
Male	.197**	.194**	.104**	.104**
Free/Reduced Lunch	.184**	.184**	.131**	.131**
Other <sup>a</sup>	-.040*	-.039*	-.023	-.023
African-American <sup>a</sup>	.294**	.293**	.207**	.207**
Received ESE by 1998		.020	-.015	-.018
Early-onset group			.409**	.403**
Early-onset X ESE service				.009
R <sup>2</sup>	.212	.212	.354	.354

*Note:* <sup>a</sup> Dummy variable compared against Caucasian  
 \*  $p < .01$       \*\*  $p < .001$

*Retention rates.* The second hypothesis addressed the number of retentions experienced by children with early-onset behavior problems and the comparison group, predicting significantly more retentions for the early-onset group. Hypothesis 6 addressed the possible interaction effect on retention for students identified as exceptional students (i.e., ESE). Multiple regression was used to examine the outcome

variable of number of retentions through 1998, the year in which a majority of students had completed 8<sup>th</sup> grade. Results indicated a main effect for group membership (early-onset vs. comparison) ( $Beta = .178, p < .001$ ) on retention rates. No main effect for receipt of ESE service was found ( $Beta = .001, p > .10$ ). The interaction of early-onset and ESE on retention approached significance ( $Beta = -.050, p > .05$ ).

Students who were identified as exhibiting behavior problems early in their school experience were retained significantly more often than the comparison group. The standardized  $Beta$  coefficient of .178 indicates that the number of retentions was approximately 0.18 standard deviations greater for students in the early-onset group. The  $R^2$  value for the regression model demonstrating this main effect indicates that early-onset of behavior problems explains approximately 2.6% of the retention rate, above and beyond the 6.4% explainable by gender, race, and free or reduced lunch status. The  $R^2$  values for the models examining receipt of ESE service and the interaction of early-onset by ESE service indicated no additional explanatory power for retention. Table 19 and Figure 2 show the average number of retentions through 1998 by group membership and receipt of ESE services. Table 20 reports the standardized  $Beta$  coefficient and standard error of measurement for each independent and control variable across four regression models.

Table 19

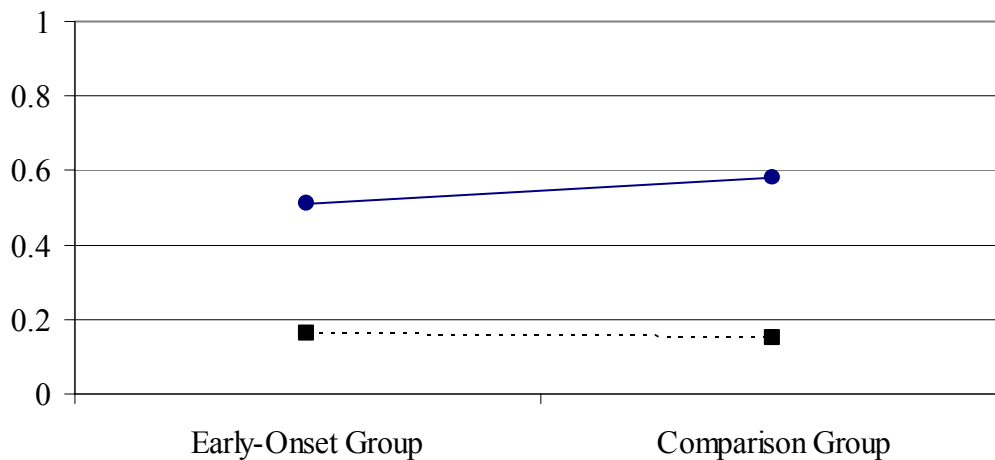
*Average Number of Retentions Through 1998 by Group Membership and ESE Status*

Average number of retentions through 1998	Early onset group ( <i>n</i> = 455)		Comparison group ( <i>n</i> = 2924)		Total ( <i>n</i> = 3379)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Received ESE services ( <i>n</i> = 1358)	0.51	0.83	0.16	0.51	0.23	0.60
No ESE services ( <i>n</i> = 2021)	0.58	0.83	0.15	0.45	0.19	0.51
Total ( <i>n</i> = 3379)	0.54*	0.83	0.16*	0.47		

\*Significant at  $p < 0.001$ .

Figure 2

*Retention Rates for Students with and without Early-Onset Behavior Problems by Receipt of ESE Services.*



*Note:* Students who received ESE services by 1998 are represented by the circle; no receipt of ESE is represented by the square in the figure above.

Table 20

*Estimated Beta Coefficients Predicting Number of Retentions Through 1998**(Transformed Variable) (n = 3379)*

Control and Independent Variables	Model I	Model II	Model III	Model IV
Male	.110**	.110**	.070**	.070**
Free/Reduced Lunch	.169**	.169**	.146**	.147**
Other <sup>a</sup>	.010	.010	.017	.018
African-American <sup>a</sup>	.094**	.094**	.057*	.057*
Received ESE by 1998		.001	-.014	-.002
Early-onset group			.178**	.212**
Early-onset X ESE service				-.050 <sup>#</sup>
R <sup>2</sup>	.065	.065	.091	.092

Note: <sup>a</sup> Dummy variable compared against Caucasian

\*  $p < .01$     \*\*  $p < .001$     <sup>#</sup>  $p = .055$  (approached significance)

*High school GPA.* Hypothesis 4 predicted, “High school cumulative grade point averages (GPAs) of students identified as having a behavior problem in early elementary school will be significantly lower than high school cumulative GPAs of students without early behavior problems.” The null hypothesis to examine the interaction of ESE services on high school GPA for those with early-onset behavior problems predicted no

difference between high school GPA for general education students with early-onset behavior problems and those receiving ESE services prior to high school. Regression results indicated a main effect for early-onset of behavior problems ( $Beta = -.225, p < .001$ ) and a main effect for students receiving ESE services ( $Beta = .032, p < .05$ ). The interaction effect was not significant ( $Beta = -.038, p > .10$ ). Students exhibiting early-onset behavior problems demonstrated, on average, high school grade point averages that were 0.23 standard deviations lower than those of the comparison group. Students identified as receiving ESE service had an average of 0.03 standard deviation units higher average high school GPAs than did students not identified as ESE eligible before 1998 for the entire sample of participants.

The  $R^2$  coefficients indicated that the control variables of gender, race, and SES predicted 16.5% of the variance for high school GPA. The model adding receipt of ESE services increased the predictability of the model only slightly ( $R^2 = .166$ ). When the independent variable identifying early-onset of behavior problems was added to the model, an additional 4.2% of the variance was accounted ( $R^2 = .208$ ). The interaction variable of early-onset by ESE added little to the model ( $R^2 = .209$ ). Table 21 and Figure 3 depict the average high school GPA for students by group membership and ESE status. Table 22 reports the standardized  $Beta$  coefficient for each control and independent variable in the multiple regression analysis by each of four regression models.

Table 21

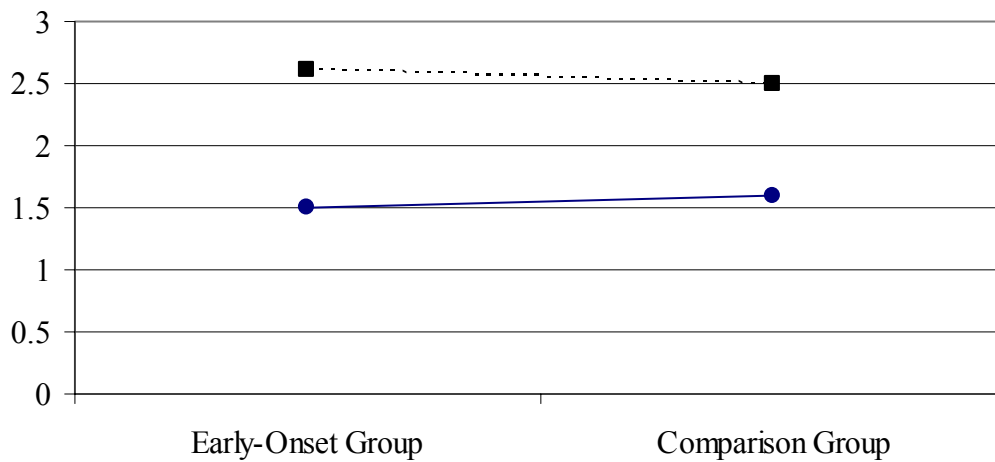
*Average High School GPA by Group Membership and ESE Status*

Average high school GPA	Early onset group ( <i>n</i> = 455)		Comparison group ( <i>n</i> = 2924)		Total ( <i>n</i> = 3379)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Received ESE services ( <i>n</i> = 1358)	1.50	0.86	2.62	1.05	2.407*	1.11
No ESE services ( <i>n</i> = 2021)	1.60	0.88	2.50	0.95	2.413*	0.98
Total ( <i>n</i> = 3379)	1.54**	0.87	2.56**	.99		

\*Significant at  $p < 0.05$  \*\*Significant at  $p < 0.001$ .

Figure 3

*Average High School GPA for Students with and without Early-Onset Behavior Problems by Receipt of ESE Services.*



*Note:* Students who received ESE services by 1998 are represented by the circle; no receipt of ESE is represented by the square in the figure above.

Table 22

*Estimated Beta Coefficients Predicting Average High School GPA (n = 3379)*

Control and Independent Variables	Model I	Model II	Model III	Model IV
Male	-.163***	-.167***	-.117***	-.117***
Free/Reduced Lunch	-.281***	-.281***	-.252***	-.251***
Other <sup>a</sup>	.031	.032*	.023	.024
African-American <sup>a</sup>	-.147***	-.149***	-.102***	-.102***
Received ESE by 1998		.032*	.052***	.062***
Early-onset group			-.225***	-.199***
Early-onset X ESE service				-.038
R <sup>2</sup>	.166	.167	.210	.210

*Note:* <sup>a</sup> Dummy variable compared against Caucasian

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

*Dropout/Failure to complete high school rates.* Hypotheses addressing high school dropout rates were examined by the dependent variable “failure to complete high school with a diploma or certificate.” The first of the two hypotheses predicted that students with early-onset behavior problems would be more likely to dropout of school or fail to complete high school. The second stated, “Dropout rates for students receiving special education services through the schools will not differ significantly from dropout

rates for students with early-onset behavior problems not receiving special education intervention.” Because this outcome variable was discrete rather than continuous (i.e., 0 or 1), logistic regression was used in the statistical analysis (Whitehead, 2005).

A significant main effect for the early-onset group versus the comparison group was obtained ( $B = 1.344, p < .001$ ). The model in which the provision of ESE services was analyzed controlling for gender, race, and SES was not significant ( $B = -.130, p < .05$ ). The interaction was also not significant ( $B = .318, p > .10$ ). Significantly more of the early onset group (69.5%) failed to complete high school by 2004 versus the comparison group, who had 31.2% failing to receive a diploma or certificate by 2004. ESE students completed high school with a certificate or diploma at a similar rate to their non-ESE peers. The odds ratio calculation indicates that students displaying early-onset behavior problems were approximately 3.8 times more likely to fail to complete high school with a diploma, certificate, or GED ( $Exp(B) = 3.835$ ). Table 23 and Figure 4 display the mean and standard deviations for failure to complete high school by group membership (early-onset vs. comparison) and receipt of ESE services. Table 24 displays the  $B$ , standard error, and significance for each variable included in the logistic regression across four models.



Table 23

*Failure to Complete High School with a Diploma or Certificate by 2004 by Group*

*Membership and ESE Status*

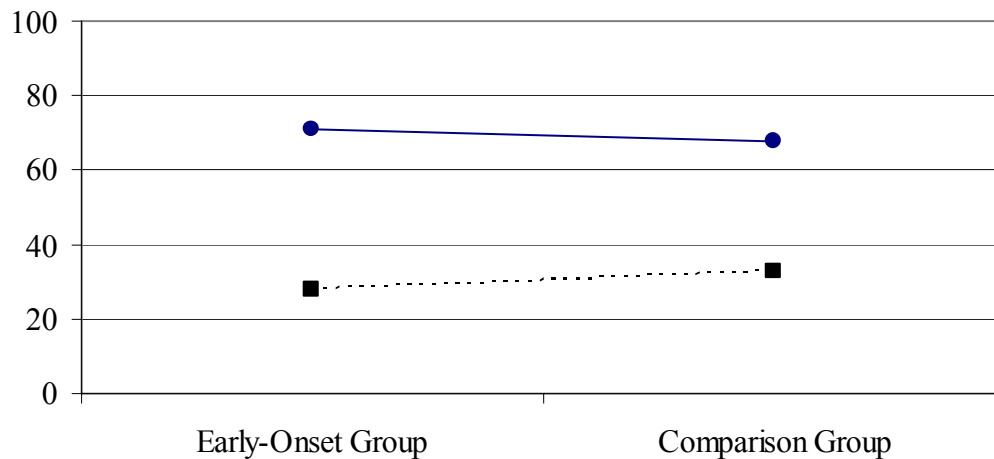
No diploma or certificate by 2004	Early onset group (n = 455)		Comparison group (n = 2924)		Total (n = 3379)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Received ESE services (n = 1358)	0.71	0.46	0.28	0.45	0.36	0.48
No ESE services (n = 2021)	0.68	0.47	0.33	0.47	0.37	0.48
Total (n = 3379)	0.69*	0.46	0.31*	0.46		

\*Significant at  $p < 0.001$ .

Figure 4

*Percentage of Students Failing to Complete High School by Early-Onset Behavior*

*Problems and Receipt of ESE Services.*



*Note:* Students who received ESE services by 1998 are represented by the circle; no receipt of ESE is represented by the square in the figure above.

Table 24.

*Logistic Regression B Coefficients Predicting Completion of High School With a**Diploma or Certificate (n = 3379)*

Control and Independent Variables	Model I	Model II	Model III	Model IV
Male	.488**	.505**	.303**	.304**
Free/Reduced Lunch	1.086**	1.087**	1.005**	1.002**
Other <sup>a</sup>	-.337	-.351	-.253	-.261
African-American <sup>a</sup>	.112	.121	-.126	-.127
Received ESE by 1998		-.130	-.229*	-.274*
Early-onset group			1.344**	1.174**
Early-onset X ESE service				.318
Overall % Correct Predictions	63.7%	66.9%	68.9%	68.5%

Note: <sup>a</sup> Dummy variable compared against Caucasian

\*  $p < .01$       \*\*  $p < .001$

## Chapter V

### Discussion

The current study examined the educational outcomes of children identified as exhibiting behavioral problems in early elementary school. A subsample of students was drawn from a large longitudinal database, which followed a cohort of students from kindergarten through high school graduation in a large, suburban school district in central Florida. School retentions, suspensions, mean high school grade point average, and completion of high school were analyzed for students demonstrating behavioral problems in the school setting during first, second, and third grades and those not evidencing behavior problems in the same years. Multiple regression analyses were used to address research hypotheses examining effects of early behavior problems and receipt of special education services within the schools on the four outcomes measured. This chapter will discuss the results of the data analyses, offer implications for school systems and teacher training programs, note the limitations of the study, and suggest directions for future research.

#### *Outcomes for Children with Early-Onset Behavior Problems*

*Stability of behavior problems over time.* Students in the current study were identified as exhibiting early-onset behavior problems based on teacher ratings to a single broad statement about the students' behavior in school over three years (i.e., Choose the one answer that best describes this student's behavior in school, rated on a scale of 1 to 4

where 1 = Excellent and 4 = Unsatisfactory). Correlations between teacher ratings over these years, parent ratings on a similar question, and teacher ratings in the following two years indicated that students' behavior across time and between raters was moderately consistent. The correlation coefficient for teacher ratings in first grade (1990-91) with teacher ratings in fifth grade (1994-95) yielded the lowest correlation for teacher ratings of behavior ( $r = .49$ ). However, this indicates that behavior ratings in first grade explained at least 23.9% of the variance in behavior ratings as much as four years later. Parents' ratings of their children's behavior at school in the same years as teacher ratings yielded moderate correlations as well ( $r = .59$  and  $.61$  for 1990-91 and 1991-92, respectively). The lowest correlation coefficients were found when comparing parent ratings of their children's behavior at home with teacher ratings of behavior at school, both in the same year and across years ( $.24 \leq r \leq .34$ ). In general, consistency of behavior across time and across settings in this study was similar to other research findings indicating that exhibiting behavior problems early in life is a good predictor of risk for continued behavior problems into adolescence and adulthood (Amminger et al., 2000; Cote et al., 2001; Hofstra et al., 2002; Moffitt, 1993; Nagin & Tremblay, 1999; Shaw et al., 2003). Additionally, correlations between parent and teacher ratings of behavior in this study were similar to those found by publishers of norm-referenced measures of behavior. For example, Achenbach reported on a meta-analysis of behavioral ratings and indicated that the average correlation between two raters within the same context was approximately  $.60$ , and the correlation between two raters in different contexts (e.g., home and school) was approximately  $.28$  (Achenbach, McConaughy, & Howell, 1987; cited in Achenbach & Rescorla, 2001).

*Suspension rates.* A majority of students in the current study did not experience suspension from school during their middle school years (median and mode = 0). The mean number of suspensions averaged over three years (1995-96, 1996-97, and 1997-98) was approximately 1 suspension per year ( $M = 0.98$ ). The maximum number of suspensions served by a student in a given year was 47 ( $n = 1$ ). This student was in the early-onset group.

Hypothesis 1 stated, “Suspension rates for students identified as having a behavior problem in early elementary school will be significantly higher than suspension rates of students without early behavior problems.” This hypothesis was supported by the data analysis. Students with early-onset behavior problems in grades 1 through 3 were significantly more likely to experience suspension from school during the middle school years ( $M = 3.71$ ,  $SD = 3.83$ ) when compared to students not demonstrating behavior problems in early elementary ( $M = 0.56$ ,  $SD = 1.44$ ,  $p < .001$ ).

School suspension is frequently given by school administrators when a student breaches the code of student conduct. This most commonly takes the form of inappropriate behavior in the school setting (e.g., classroom disruption, insubordination, etc.) (Skiba et al., 1997). The finding that early-onset behavior problems in the first few years of school is predictive of increased school suspension rates three to five years later lends support to the notion that children with early behavior problems are more likely to display behavior problems later in life as well (Amminger et al., 2000; Hofstra et al., 2002; Moffitt, 1993, 1999; Nagin & Tremblay, 1999; Shaw et al., 2003).

Increased rates of school suspension among students with early-onset behavior problems represent an especially negative outcome because suspension disrupts the

learning process and reduces the amount of instruction the student receives (CPCOPS, 1992; cited in Bock et al., 1998). Suspension from school also establishes a pattern of nonattendance and increases the student's risk of dropping out of school before graduation (DeRidder, 1990; Skiba et al., 1997).

*Retention rates.* Most students in the subsample of Omnibus participants used in this study did not experience school retention within their educational experience from kindergarten through eighth grade. Of the entire sample, 14.9% experienced one or more retentions from 1989-90 through 1997-98.

The research hypothesis which stated, "Retention rates for students identified as having a behavior problem in early elementary school will be significantly higher than retention rates of students without early behavior problems," was supported based upon results of the multiple regression analysis. Students identified as exhibiting behavior problems early in their school careers were significantly more likely to experience one or more retentions within their first nine years of formal schooling ( $M = 0.54$ ,  $SD = 0.83$ ), compared to their peers not exhibiting behavior problems in first through third grade ( $M = 0.14$ ,  $SD = 0.47$ ). This finding is consistent with previous research (Jones et al., 2002; Vitaro et al., 1999; Wood & Cronin, 1999) indicating an increased risk of repeating one or more grades for children evidencing early-onset behavioral difficulties.

Children with unsatisfactory behavior in the classroom may have difficulty attending to instruction, may miss instruction due to disciplinary procedures following poor behaviors (e.g., in-school suspension, referrals to see administrators in the office, out-of-school suspension, etc.), or may fail to complete classwork (Tomblin et al., 2000; Kazdin, 1997; AACAP, 1997). Additionally, problematic behaviors exhibited by some

children may be the result of attempts to escape or avoid coursework that students find to be difficult. In the later case, academic deficits preceded unacceptable behavior (Beitchman et al., 1996; cited in Tomblin et al., 2000), so the academic problem is more likely implicated as the reason for retention.

Whatever the reason for increased rates of retention among students with early behavior problems, research has failed to demonstrate any strong benefits for retained students (Anderson et al., 2001). In fact, retention has been associated with increased dropout rates, among other negative academic and social consequences (FASP, 2002; Vitaro et al., 1999). An alternative to retention would be to approach the situation from a problem-solving perspective in which the specific reason for the behavioral problems was identified (e.g., academic skill deficit, behavioral skill deficit, performance deficit, etc.) and interventions targeting the specific problem were implemented and monitored (Deno, 1995).

*Academic achievement.* Academic achievement was researched through examination of student average high school GPA. The mean GPA for the sample of students in this study was 2.41 (range = 0 – 4.32) on a scale in which 0 points were awarded for a failing grade and 4.0 points were awarded for an “A.” As much as 5.0 points were awarded for earning an “A” in an honors-level high school course.

The researcher predicted that students exhibiting early-onset behavior problems would have significantly lower high school grade point averages than the comparison group. This hypothesis was accepted. Students in the early-onset group had, on average, a GPA reflecting a full letter grade (1.02 points) lower achievement ( $M = 1.54$ ,  $SD = 0.87$ ) than students in the comparison group ( $M = 2.56$ ,  $SD = 0.99$ ). Presence of early-

onset behavior problems accounted for 4.2% of the variance in average GPA, above and beyond that explained by gender, SES, race, and ESE status.

Although high school GPA is not entirely indicative of a student's academic achievement, it is reflective of the amount of expected learning that a student has effectively *demonstrated* for his or her teacher. High school GPA is also one of the pieces of information considered for admission into post-secondary institutions including universities and technical schools. Thus, the implications for lower academic achievement among the early-onset group extend well beyond the high school years and impact career opportunities and future socioeconomic status for these individuals in the long term (Cohen, 1998).

*High school completion.* The researcher predicted that, "Dropout rates for students identified as having a behavior problem in early elementary school will be significantly higher than dropout rates of students without early behavior problems." This hypothesis was explored through an analysis of high school completion rates. Students were considered to have dropped out of school if they failed to complete school with a diploma, certificate, or GED by the summer of 2004.

Results confirmed this hypothesis; students with behavior problems in first through third grades were significantly more likely to fail to complete high school ( $M = .69$ ,  $SD = .46$ ) than the comparison group ( $M = .31$ ,  $SD = .46$ ). Within the logistic regression model, children with early-onset behavior problems were approximately 3.8 times more likely to fail to complete high school.

Results confirmed previous research indicating that students with early behavioral problems were more likely to drop out of school (Blackorby et al., 1991; Parker & Asher,



1987; Scanlon & Mellard, 2002; Wood & Cronin, 1999). However, the rates at which students in this sample (in the comparison group) failed to complete school (31%) were greater than figures reported in previous research, which found 11% (McMillen et al., 1993) and 12% (Kaufman et al., 1999; cited in Scanlon & Mellard, 2002) of students from the general population ages 16 to 24 to not be enrolled or not have graduated. The difference may be attributed to the fact that students enrolled in adult education that had not received a diploma, certificate, or GED were counted as “failing to complete high school” in the present study. Graduation rates for the years 2000-2001, 2001-2002, 2002-2003, and 2003-2004 for the entire school district ranged from 64.4% to 70.8%, with values increasing slightly each year (Florida Department of Education, 2005). In comparison, the completion/graduation rates for a nearby district ranged from 74.4% to 79.3% during the same years. The 69% high school completion rate seen in the comparison group in this study is roughly within the same range as these state-collected figures.

#### *Effects of Exceptional Student Education Services on Outcomes*

Research on outcomes for students served in ESE compared to their peers served in general education settings has been abundant (Blackorby et al., 1991; Jimerson et al., 1997; Wood & Cronin, 1999), but an examination of students demonstrating behavior problems served in general education compared to those in special education has not specifically been explored until now. Therefore, four null hypotheses were proposed regarding the effect of ESE services on educational outcomes for children demonstrating early-onset behavior problems. These hypotheses sought to answer the research question,

“Does the receipt of special education services significantly affect the outcomes for children identified as having early-onset behavior problems?”

*Differences in severity of behavior in early elementary.* Before discussing the results of statistical analyses examining the possible effects of ESE services on student’s later educational outcomes, it was necessary to examine if a significant difference existed between students with early-onset behavior problems identified as receiving ESE services and those not receiving ESE services in the degree or severity of the students’ behavior in early elementary school. This question was addressed by comparing the means of those in ESE and those not in ESE within the early-onset group. Results of an independent samples t-test indicated that the difference between the composite teacher behavior ratings of the ESE early-onset group ( $M = 3.24, SD = 0.29$ ) was statistically significant when compared to the mean rating of the non-ESE early-onset group ( $M = 3.19, SD = 0.26, p < .05$ ). While this suggests that students with early onset behavior problems that were identified as eligible for ESE services had more severe teacher behavior ratings in 1<sup>st</sup> through 3<sup>rd</sup> grades, the difference was only 0.05 points. Practically speaking, this is a small effect size (0.19). That is, students with more severe behavior problems were more likely to be identified for ESE services, but the difference in the severity of their behavior compared to students with early-onset behavior problems not identified for ESE was very small. This small difference could have impacted the educational outcomes analyses in this study, but the effect was likely a very small one. However, there is a possibility that the “intervention” of ESE services may have a slightly more positive impact than is indicated in the results of this study, since the ESE subsample began with slightly greater behavioral problems than did their non-ESE peers.

*Suspension rates.* Students with early-onset behavior problems had significantly higher rates of suspension than did their peers not evidencing behavior problems in early elementary. For students identified and served under the ESE system, a similar pattern was observed between the two groups. ESE students in the early-onset group had more suspensions ( $M = 3.88, SD = 4.12$ ) than those in the comparison group ( $M = 0.54, SD = 1.40$ ). However, no significant differential effect was seen for the early-onset group who received ESE services and those who did not ( $M = 3.48, SD = 3.41$ ). Therefore, the null hypothesis stating, “Suspension rates for students receiving special education services through the schools will not be significantly different than suspension rates for students with early-onset behavior problems not receiving special education intervention,” was not rejected.

The lack of an interaction effect of early-onset by ESE eligibility is notable and perhaps surprising due to the safeguards guaranteed within the law for students with disabilities requiring a manifestation determination hearing for any suspensions in excess of 10 cumulative days or a pattern of suspensions constituting a change in placement (Hartwig & Ruesch, 2000; Horton, 1999; IDEA, 1997). While procedural safeguards were intended to protect students with disabilities, research has found that special education students are more likely to receive suspension as a consequence following a referral to the office for inappropriate behavior than their nondisabled peers who also were referred to the office (Raffaele Mendez et al., 2002; Skiba et al., 1997).

Increased suspensions for students with early-onset behavior problems who were served within the special education system is especially troubling because a majority of these students already exhibited academic deficits or a disability that impacted their

learning in some way to be eligible for ESE services. Suspension from school only compounds that problem, because students miss out on instructional time and opportunities for feedback from their teachers while serving their suspension(s) (CPCOPS, 1992; cited in Bock et al., 1998). It also puts them out of a supervised school setting and into the community, often without any proper supervision (Skiba et al., 1997).

*Retention rates.* The hypothesis stating, “Retention rates for students receiving special education services through the schools will not be significantly different from retention rates for students with early-onset behavior problems not receiving special education intervention,” was not rejected. However, the model addressing an interaction effect on retention rates approached significance ( $p < .05$ ). Students demonstrating early-onset behavior problems who were served in ESE had, on average, slightly fewer retentions ( $M = 0.51$ ) than did early-onset students not receiving ESE services ( $M = 0.58$ ). When considering the  $R^2$  coefficient, the regression model which included the interaction term added no predictive value ( $R^2 = .09$ ) over and above the model including the early-onset independent variable ( $R^2 = .09$ ). Therefore, the “intervention” of special education services did not significantly impact the increased rate of retention for children with early-onset behavior disorders.

Both students with early behavior problems in general education and those receiving ESE services were retained at a significantly greater rate than the comparison group of students not demonstrating early behavior problems. This finding is especially important due to the lack of empirical support for retention as an effective intervention in the remediation of academic deficits (Anderson et al., 2001). Repeating a grade in school also has been associated with increased rates of dropping out of school (FASP, 2002).

*Academic achievement.* The researcher also examined high school GPAs for students displaying behavior problems in elementary school who received special education intervention and those who did not. The hypothesis was worded as a null hypothesis due to a lack of research addressing these specific populations.

Based on the results of this study, there was insufficient evidence to reject the null hypothesis. High school average GPAs for students receiving special education services through the schools ( $M = 1.50, SD = 0.86$ ) did not differ significantly from high school cumulative GPAs for students with early-onset behavior problems not receiving special education intervention ( $M = 1.60, SD = 0.88$ ). The intervention of special education services did not result in better academic outcomes for eligible students when compared to students who did not have an IEP.

The average GPA for all sample participants served in ESE ( $M = 2.41, SD = 1.11$ ) was statistically significantly lower than those who did not receive ESE services ( $M = 2.41, SD = 0.98$ ); however, it was a very small difference (i.e., less than 0.01), practically speaking. The addition of receipt of ESE service to the regression model resulted in only a 0.1% increase in the predictability of the model above the variability accounted for by gender, race, and SES.

Students with early-onset behavior problems who were identified and served in ESE programs did no better than the early-onset group not in special education programs with regard to average high school GPA. This result could indicate a failure on the part of the special education intervention, as has been seen in nationwide data in which students with severe emotional disturbance tended to have the lowest grade point average among all the disability categories, including students with mental retardation (Wagner,

1993; Wood & Cronin, 1999). A second hypothesis for the lack of significant interaction might include real but unmeasured differences in the academic skills of students in the early-onset group, with those in ESE programs demonstrating significantly more academic deficits to begin with than those served in general education (i.e., not receiving ESE services).

*High school completion.* Among the early-onset group, the researcher hypothesized no significant difference between the failure to complete high school rate of those identified and served in ESE programs and students who did not receive ESE services (null hypothesis). Statistical analysis provided insufficient evidence to reject the null hypothesis for high school completion. Approximately 71% of students with early-onset behavior problems served in ESE dropped out of high school (i.e., failed to complete school) compared to about 68% of the non-ESE early-onset group. Only about 31% of the entire early-onset subsample had completed high school with a diploma, certificate, or GED by the summer of 2004.

The failure to complete high school rates for the early-onset group receiving special education were fairly consistent with research finding that 55 to 59% of students with emotional or behavioral disabilities did not complete high school (Wagner, 1993; Wagner et al., 1992). Another set of research estimated dropout rates for these students to fall between 21% to 64% (Scanlon & Mellard, 2002). One study analyzing student dropout and other outcomes for students displaying early behavior problems found that dropping out was actually mediated by retention and special education placement (Vitaro et al., 1999), in which disruptiveness led to retention and special classroom placement, which, in turn, increased risk for later dropout.

### *Implications for School Systems*

The results of this study have several implications for school districts and education systems. The long-term educational outcomes (retention, suspension, GPA, and failure to complete high school) for students exhibiting unsatisfactory behavior or behavior in need of improvement were consistently worse than those of students demonstrating acceptable or satisfactory behavior in early elementary school. School districts will need to respond to this problem by implementing early identification and intervention programs for these easily identified students in order to affect positive change in education outcomes for this population (Lawrence et al., 2003).

During the time in which this database was compiled, the model in place to intervene for many students with behavioral problems included exploring eligibility for special education services. Many students with early-onset behavior problems in this sample were identified and served in the ESE system, mostly in the categories of Specific Learning Disabled (SLD), Emotionally Handicapped (EH), and, to a lesser extent, Severely Emotionally Disturbed (SED), among other categories. Results of this study indicated that students demonstrating early-onset behavior problems served in an ESE service model and those not identified as eligible for ESE services had similarly poor outcomes, as evidenced by the lack of significant interaction effects.

The negative educational outcomes for students with early-onset behavior problems among those served in ESE prompts questions about the effectiveness of ESE as an intervention system for this population. School districts should collect and analyze data to determine the effectiveness of their individual ESE service programs and implement a problem-solving model (Deno, 1995) to address behavioral concerns not

demonstrating improvement with the degree of intervention specified on the student's IEP. The problem-solving approach implemented in Iowa provides a good model of a "systematic problem-solving procedure...to address student performance problems" (Grimes & Tilly, 1991, p.1). The approach includes collaborative consultation, development of hypotheses to explain the reason for the problem, functional assessment, goal development, intervention development and implementation, progress monitoring, and evaluation of the intervention based on data.

School districts also should consider exploring other preventative programs and early intervention programs with demonstrated effectiveness (e.g., Kamps et al., 2000). Because this study indicated that identification of children at risk for early-onset behavior problems can be reliably done with as little as one broad question addressing behavior rated by a teacher over a few years, schools could easily identify and target students who are at-risk for increased suspensions, retentions, and dropout and intervene in an attempt to alter the trajectory of continued behavior problems (Aber et al., 2003; Jones et al., 2002). However, the types of programs and support offered for students identified as "at risk" for early-onset behavior problems and later poor educational outcomes should be carefully considered. Children identified as "at risk" should be given proactive interventions along with their peers who were not identified as displaying behavioral problems. Stigmatizing labels for these children should be avoided at all costs, especially considering the possibility of "false positives" when the identification of the target population for behavioral support and intervention is based on a single question or measure.



In addition to preventative programs and early intervention, school systems should reconsider the manner in which behavioral problems are often addressed. Suspension from school is a common consequence to inappropriate behavior within the school setting. However, it is most likely not yielding the desired result (i.e., decreasing the likelihood of the behavior's reoccurrence in the future). For students demonstrating aggression, hyperactivity, and a lack of social skills (i.e., many of the early-onset group in this study), suspension most likely acted as a negative reinforcer rather than a punisher (Atkins et al., 2002; Costenbader & Markson, 1998). Suspending students with behavior problems also results in a negative reinforcement paradigm for staff, who are reinforced by not having to deal with the students (Bock et al., 1998). Administrators should consider and develop alternative responses and consequences in lieu of suspension for students such as those in this study's early-onset group, if they intend to truly reduce recidivism.

#### *Implications for Teacher Training Programs*

The current study also has implications for teacher training programs at the pre-service and in-service levels. Teachers of early-elementary grades should be prepared to successfully implement behavior management systems on both the classroom and individual level, although many feel they are ill-equipped to handle these types of problems (Shapiro et al., 1999). They also need to learn how to use the problem-solving process to identify, define, intervene in, and progress monitor behaviors of specific students who do not respond well to a teacher's classroom-wide behavior management system. It is important to include a course containing an overview of functional

behavioral assessment and behavioral intervention planning prior to completion of an elementary education degree program.

For professionally-certified educators currently employed in the schools, continuing education in-service trainings should highlight the need for early identification and intervention with students exhibiting behavior in need of improvement. Emphasis should be placed on how to teach social skills for students demonstrating a skill deficit and reinforcement of appropriate behavior within the school setting and beyond, as well as effective techniques for altering undesirable behavior (e.g., differential reinforcement of alternative behavior).

#### *Limitations of the Study*

*Use of archival data from a longitudinal database.* The current study used archival data from a longitudinal design to analyze the educational outcomes for students identified as having early-onset behavior problems in a large, suburban Florida school district. As is true in every study, there were several limitations to the application and generalization of significant findings that arose from the data analysis. Both threats to internal and external validity existed in the current study. Because this study was a secondary analysis, the researcher was limited in that it was not possible to make the decision to include any additional measures or to change existing measures. This limitation existed in both the independent variable and the dependent variables.

The primary limitation of the study was the manner in which early-onset of behavior problems was defined. Because the data were archival, the researcher was limited to the use of the data that were collected as a part of the Omnibus study's database. For this study's analyses, one question posed to teachers addressing global

behavior over three years was used to identify children with and without early-onset behavior problems. Ideally, one would use a more structured, multifaceted measure of the child's behavior such as the Achenbach Child Behavior Checklist and Teacher Report Form or another similar measure shown to have acceptable reliability and validity for the purpose of identifying children who display clinically significant levels of specific types of behavior.

Other limitations from the use of archival data that were not specifically selected as variables to be collected by the researcher existed as well. For example, the mean number of days each child was suspended per year may have provided a more meaningful set of information than did the mean number of suspensions per year, as suspensions can range from only 1 or a few days to an extended period of time of 10 or more days. However, this study was limited to the data that were available and had to make use of the way in which data were collected at the time the data collection was completed.

A third limitation of the current study is that there are many potential extraneous variables as a result of the nonexperimental design that was used (i.e., no manipulation of variables or random assignment of participants). Although an attempt was made to control for some expectedly influential variables (i.e., gender, race, and SES), differences seen between the early-onset and comparison groups may have been the result of unmeasured extraneous variables and may not be attributable to the independent variables defined in the study. Differences seen between students who received special education services and those who did not also could be explained by a multitude of variables including true but unmeasured differences in the severity of the student's behavior and its impact on learning. Additionally, some of the students identified as having early-onset

behavior problems did not continue to display these problems over time into the later elementary, middle, and high school years (as indicated by an imperfect correlation between behavior ratings across time), which most likely impacted the outcome variables of interest in this study.

Another set of limitations came from the design of the Omnibus database as longitudinal in nature. Longitudinal data are subject to cohort effects and limit the generalizability of the findings without replication. In other words, a significant finding or the lack of a significant finding could be the result of the time in which the data were collected. Especially in the field of education, laws, policies, and procedures are constantly changing and being amended. For example, Florida's recent law requiring mandatory retention in the third grade for students not reading at a certain level of proficiency would undoubtedly have altered the data on retention for this study if a similar law had been in place when this cohort of participants was in elementary school.

*Inclusion of students identified as Gifted.* The current study was conducted using a database of students within the state of Florida. Unlike many of states, Florida includes Giftedness within their model of programs for students with exceptionalities. In this study, students identified as Gifted comprised 37% of the comparison group of students eligible for ESE services before 1998 and 4% of students within the early-onset group receiving ESE services. Students considered to be Gifted are likely to exhibit better educational outcomes (e.g., fewer retentions, higher GPAs, etc.) than their non-Gifted peers. Therefore, the disproportionate number of Gifted students in the comparison group of students receiving ESE services likely resulted in somewhat skewed results.

*Limited sample.* Finally, generalizability of these findings is limited by the fact that data were collected from only one school district in one state. Other districts within the same state and especially those of a different state may differ on variables that would impact the ability to generalize the results to other school systems or districts. For example, this Florida district's guidelines for identifying children who are eligible for special education are likely different than other districts, even those in the nearby area. The manner in which the school district interpreted the social maladjustment exclusion for emotionally handicapped and seriously emotionally disturbed ESE eligibility is just one example of how the same law can be implemented in different ways from locale to locale. Additionally, the special education service delivery system often differs from district to district, as will its effectiveness with regard to providing research-based and empirically founded interventions for children with behavioral problems.

#### *Suggestions for Further Research*

Future research could expand upon this study through replication with a different cohort of students and by attempting to rectify some of the limitations noted above. Educational law and policy changes, along with generational and social changes can have a dramatic impact on the children who attend school during a specified period of time. Outcomes could vary widely depending on the culture and climate of a school system at a given point in time. For example, retention rates for students identified with or without early-onset behavior problems would likely be significantly different if examined under the current laws in the state of Florida, which mandate retention in 3<sup>rd</sup> grade for students failing to demonstrate grade-appropriate reading skills. Likewise, a different cohort from a different school district, varied in size or location, could also yield significantly

different results. Future research should explore the consistency of the current findings over time, geographical location, and school district composition.

Future research should also examine the extent to which behavioral severity impacts eligibility for ESE services and ultimately educational outcomes. One of the major limitations of the current study was the lack of a standardized measure of behavior that would allow for reliable and valid identification of an early-onset group and provide data as to the severity and nature of the behavioral concern. For example, the Achenbach behavior rating scales could be used to identify students demonstrating clinically significant levels of behavioral concerns, with more specific information about the area of concern (e.g., internalizing behaviors, externalizing behaviors, attention problems, etc.). Researchers should consider measuring behavior at multiple times and analyzing the outcomes for those students demonstrating early behavior problems who continue to have behavior problems into middle school compared to those who do not exhibit this trajectory.

Also, research should be conducted to examine the educational outcomes for students with early-onset behavior problems when controlling for academic achievement. The current study does not have a measure that controls for academic skill levels in elementary or middle school; therefore, the extent to which academic difficulties preceded and/or impacted the educational outcomes measured is unknown. Studies including a standardized measure of achievement at each grade level could provide insight into the specific nature of the problem by looking at the correlation between (and possible directionality of) behavior problems in the school setting and academic achievement.

Researchers should also consider exploring the outcomes of students with early-onset behavior problems from a more qualitative perspective. Case studies on students with early-onset behavior problems who continue to exhibit behavior problems into adolescence and those whose behavior problems appear to be resolved and do not continue into middle school and beyond. The educational outcomes for these students can be assessed and compared, and risk and protective factors should be analyzed to provide insight into possible ways in which parents and school personnel can intervene successfully.

Finally, future research should explore outcomes for children with early-onset behavior problems when a problem-solving model has been used to intervene in elementary school and beyond. The service delivery model should include systems-level tiered behavioral interventions, such as Positive Behavioral Support (PBS) for the entire school, social skills training for all students, and specific problem-solving processes in place for students continuing to demonstrate inappropriate behavior (Grimes & Tilly, 1991). The problem-solving process can include collaborative consultation between educators and other school-level professionals knowledgeable about behavioral theory and empirically-supported interventions (e.g., school psychologist, applied behavior analysts, etc.). Functional behavioral assessment (FBA) may be necessary to determine the function the behavior is serving in order to develop and implement effective behavior improvement plans (Cooper et al., 1997). Progress monitoring and ongoing data collection would be essential in determining intervention effectiveness and aiding decisions to modify or change the intervention as necessary. Outcome data could be collected on an on-going basis and might include annual collection of standardized

behavior measures, retention data, achievement data (such as curriculum-based measures and/or published, norm-referenced achievement measures), in-school and out-of-school suspensions (number of suspensions and total number of days suspended), special programs attended (e.g., special education, remediation programs, etc.), and completion of high school data.



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