

Operational differences and early indicators of emotional and behavioral impairment and  
social maladjustment

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## ABSTRACT

Emotional disturbance is a qualifying area under special education for students experiencing emotional or behavioral difficulties in school. To qualify with an emotional disturbance, a student must meet at least one of the five criteria and demonstrate an educational need in order to qualify for special education services. There is an additional piece of the federal eligibility guidelines, known as the *social maladjustment exclusionary clause*. The term social maladjustment is not defined, leaving the state and local education agencies to operationally define the term, which has led to challenging debates over the last several decades.

The Fragile Families Child and Wellbeing Study (FFCWS, 2001) and Early Childhood Longitudinal Study, Kindergarten (ECLS-K, 2009) each present a unique opportunity to construct and examine operational differences between characteristics of social maladjustment and behaviors related to emotional disturbance. Using structural equation modeling and latent class analyses, behavioral subgroups within the datasets were identified. The results of the current study indicate there are developmental behavior changes between kindergarten and third grade and students have varying degrees of internalizing and externalizing problem behaviors. In addition, the results from the Fragile Families Child and Wellbeing dataset suggest the social maladjustment population may be relatively small or inappropriate to define at the age of nine. Future research should examine characteristics using data with more variables related to conduct problems beyond the age of nine as well as with other datasets related to juveniles justice.

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## CHAPTER I

### INTRODUCTION

Emotional disturbance is one of 13 qualifying disability areas for special education as outlined in the Individuals with Disabilities Improvement Act (IDEA, 2004).

In order to qualify for special education services as a student with an emotional disturbance, certain criteria must be met. As stated in the federal guidelines:

(i) Emotional disturbance 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 a child's 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.

(E) A tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section. (IDEA, 2004, pg. 118)

While the federal definition does not explicitly list a range of mental and emotional disorders that one could find in the *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition* (DSM-V) (American Psychiatric Association, 2013),

students who qualify with an emotional disturbance often have characteristics similar to a wide variety of mental health problems. For instance, students suffering from a depressive mood may qualify for special education services if their mood interferes with their ability to perform successfully in their academics. Similarly, a student who suffers from anxiety and anxious tendencies may qualify under the criteria of a tendency to develop physical symptoms or fears associated with personal or school problems. Students can meet any of the five qualifying criteria if one of those criteria has been evident for a marked period of time and significantly hinders the student's academic performance.

The controversial focal point of the federal definition of emotional disturbance is the last sentence that reads, "The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section" (IDEA, 2004, Sec. 300.8(c)(4)(ii)). This sentence is referred to as the *social maladjustment exclusionary clause*. The term *socially maladjusted* is included, but is not defined throughout the entire definition of emotional disturbance nor has there been an amendment to date to define this term. As a result, it is left to the states, local education agencies, and professionals to ultimately decide whether a student receives services under this eligibility—emotional disturbance. As one can imagine, this ambiguity opens evaluation and identification of students to discrepancies and subjectivity.

The inclusion of the social maladjustment exclusionary clause has been challenged and debated for the past several decades, roughly 30 years, since the federal definition of emotional disturbance was first published in the Education for All

Handicapped Children Act of 1975. Some professionals have argued behaviors that constitute social maladjustment are consistent with behaviors outlined in the DSM-V definition of oppositional defiant disorder (ODD), conduct disorder (CD), and later antisocial personality disorder (Olympia, Farley, Christiansen, Pettersson, Jenson, & Clark, 2004). Others have suggested social maladjustment behaviors are more externalized and include tendencies such as lying, stealing, arguing, and fighting with others (Costenbader & Buntaine, 1999; Merrell & Walker, 2004; Olympia et al., 2004). Counter to social maladjustment, behavior problems related to emotional disturbance (e.g., depression, anxiety, withdrawn, low self-esteem) have been identified as more internalized (Costenbader & Buntaine, 1999; Merrell & Walker, 2004). Lastly, some research indicates individuals can have varying degrees of both internalizing and externalizing problem behaviors and, therefore, social maladjustment and emotional disturbance cannot virtually be separated nor should they be separated (Costenbader & Buntaine, 1999; Hong, Tillman, & Luby, 2015; Merrell & Walker, 2004; Olympia et al. 2004).

As aforementioned, the inclusion of the social maladjustment exclusionary clause in the federal definition defers operationalizing the term to the state and local education agencies. Out of the 50 United States of America, 44 have accepted the inclusion of the social maladjustment exclusionary clause in some form or fashion, while seven have removed it to accept all students with emotional and behavior problems (Cloth, Evans, Becker, & Paternite, 2014). There are several possible reasons why 86% of the states have accepted the federal definition, and many revolve around finances and disciplinary issues.

One potential reason states may have chosen to accept the social maladjustment clause is the cost associated with providing socially maladjusted students with specialized services (Cloth et al., 2014). As one can imagine, society would naturally frown upon spending valuable tax dollars on students who are viewed as deviant and seemingly do not care to do well in school or contribute positively to the community. As a result, students with inappropriate behaviors, such as fighting, failing to comply, and disrespecting authority, are often withheld psychological and academic special services and instead face disciplinary action from administrators. Disciplinary action may include in-school suspension, out-of-school suspension, alternative education placement, and even expulsion. The attitude toward students who are socially maladjusted is often exclusionary and rejecting as their behaviors can be quite problematic for teachers and administrators to manage. The Individuals with Disabilities Improvement Act (2004) protects special education students and reserves their right to a free and appropriate public education. While there are restrictions on disciplinary measures with students identified in special education, particularly when those measures involve a change of placement, general education students can have numerous discipline referrals and suspensions for behavior problems.

### **Statement of the Problem**

The prevalence of students identified with an emotional disturbance is lower compared to the frequency of identification with other eligibilities. During the 2012-2013 school year, 6.4 million students were served in special education under IDEA and 6% qualified as having an emotional disturbance (NCES, 2015). Eligibilities with high prevalence rates include specific learning disability (35%), speech impairment (21%),

and other health impairment (12%). Other eligibilities relatively on par with emotional disturbance rates include autism (8%), intellectual disability (7%), and developmental delay (6%). In the 49.8 million students enrolled across the United States, less than 1% (0.7%) is identified as having an emotional disturbance, while 4.6% are identified with a specific learning disability, 2.7% with a speech impairment, and 1.6% with an other health impairment (NCES, 2015).

Previous literature (Wiley & Siperstein, 2011; Villarreal, 2015) indicates school-aged children and adolescents with emotional and behavioral problems are under identified, and other sources indicate more accurate rates may be closer to 5-6% of all students (Costello, Foley, & Angold, 2006). The problem implied by this discrepancy is that there are students in the general education population with emotional behavioral problems who would likely benefit from services provided by special education programs yet are currently withheld the assistance.

Students with emotional and behavior problems often struggle in their academic performance (Wagner, 1995). Research continues to show students identified with an emotional disturbance have the poorest outcomes out of all 13 disability categories. Students with an emotional disturbance have lower grade point averages, higher failure rates, and are more likely to drop out of high school (Wagner, 1995). While students in this disability category may have the cognitive and academic ability to perform well, their academic discrepancy can be attributed to their disengagement, absenteeism, and behavior problems such as not completing work, not asking for help when needed, and not participating appropriately in class with others. These issues often lead to

disciplinary measures, such as a change of placement and office referrals, and overall negative feedback from teachers and peers.

The consequence of suspension and alternative placement is that these students miss valuable instruction when they are barred from the classroom. If the behavior problems recur, the vicious cycle repeats itself and the student begins to fall further behind in both academics and the ability to socialize with peers. These students eventually experience rejection by their teachers, administrators, and peers while they continue to lag behind academically. It is no question why dropping out or failing out of high school is the only option for some students who have emotional and behavioral problems (Wagner, 1995; Wagner & Newman, 2012).

### **Significance of the Study**

This dissertation will be conducted to further advocate for students with emotional and behavior problems, regardless of identification. Despite the ambiguity and lack of a concrete, operational definition, there is little doubt students with emotional and behavioral problems fare worse than their peers across several domains. It is doubtful the federal definition of emotional disturbance will be amended in the near future, if its history is any indication.

Instead, if this research and those to follow continue to demonstrate there are no educational differences or trajectories between students with an emotional disturbance and those deemed socially maladjusted, states may be more inclined to adjust their definitions of emotional disturbance. As a result, this would alter identification practices

in the field ideally, thereby increasing access to educational resources for students with emotional and behavior problems, both internally and externally oriented.

Further, perhaps the findings of this research will help practicing school psychologists justify reevaluating students who had been classified as socially maladjusted. After all, the state and federal guidelines are simply a guide in identifying students for services. Ultimately, the decision to qualify a student is based on the data presented in the evaluation, evidence of educational need, professional judgment, and best practice.

### **Purpose of the Study**

The purpose of this study was to identify and differentiate profiles of social maladjustment and emotional impairment. Results of this study provide information for decision makers on how to distinguish students with social maladjustment from those with an emotional impairment. Furthermore, the results will provide educational professionals and service providers support in identifying students with social-emotional deficits in addition to behavior problems that significantly hinder their educational performance.

### **Research Questions**

This study answered the following research questions:

1. What early patterns of temperament and behavior, as reported by parents and caregivers, are evident in students identified as having emotional and/or behavior problems in school during middle childhood?

2. What, if any, behaviors significantly differentiate students with social maladjustment from those with an emotional impairment?
3. What are the educational implications of both groups and how do they differ?

### **Delimitations of the Study**

This dissertation has delimitations that make the findings unique to this study. First, the data used for this study were collected from the Fragile Families and Child Wellbeing Study (FFCWS, 2001). The students who participated in the Fragile Families and Wellbeing Study were born in nontraditional households to unmarried parents, whom the data collectors identified as “fragile” because they are at greater risk of living in poverty than their traditional family counterparts. As a result, the findings from this study will generally be specific to students who come from disadvantaged households. Second, the choice to analyze data with national weights was implemented to increase generalizability. The choice to include national weights was based on the recommendation of the creators of Fragile Families. If weights had not been included, interpretation could have been riddled with error, rendering the generalizations meaningless.

The data from the Early Childhood Longitudinal Study, Kindergarten was collected only from the Fall Kindergarten and Spring 3<sup>rd</sup> grade semesters. The purpose to include these two data time points was to cross validate findings from the Fragile Families and Wellbeing Study data using same aged groups of students. Kindergarten was the earliest data collection time point available in the ECLS-K and therefore data was not available to compare with the year 3 time point in Fragile Families.



## **Limitations of the Study**

This dissertation also has limitations that hinder the generalization to the greater population. First, data were collected primarily from students who resided in urban cities across the United States. Generalizations may be limited to students who attend relatively larger schools and findings may not accurately represent students in more rural districts. Second, this study will not take into consideration the state in which each student attended school. As aforementioned, the definition of emotional disturbance varies among the states and, therefore, the identification of students with a disability related to emotional or behavioral problems may not be the same. Nonetheless, the sample is said to be nationally representative and should reflect consistent prevalence rates.

In addition, the terms emotional disturbance and emotional impairment should not be considered interchangeable in this study. The decision to use emotional impairment was based on the limited number of students in the Fragile Families study identified with an emotional disturbance as well as the disability restrictions on variables in the ECLS-K. The results do not guarantee students identified with an emotional impairment would qualify for special education services under emotional disturbance.

## CHAPTER II

### REVIEW OF THE LITERATURE

The research over the last two decades has shed light on mental health within the public school system. There has been lengthy debate on whether students with social maladjustment can be differentiated from students experiencing an emotional disturbance. Further, there has been discussion on whether the two should be differentiated (Merrell & Walker, 2004). Currently, little empirical data constructively distinguish operationalized definitions of social maladjustment and emotional disturbance. What is evident, however, is students from both groups ultimately have similar outcomes if intervention is not available (Wagner, 1995; López-Romero, Romero, & Andershed, 2015; Wagner & Newman, 2012).

The purpose of this chapter is to review the history of emotional disturbance, as well as social maladjustment, and offer an explanation of how both have been defined in the past. For the purposes of this study, emotional disturbance is defined using the federal definition as outlined in the Individual with Disabilities Education Act (2004):

Emotional disturbance 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 a child's 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.
  - (E) A tendency to develop physical symptoms or fears associated with personal or school problems.
- (ii) Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section. (IDEA, 2004, Part 300 A 300.8(c)(4)(ii)).

Further, this chapter will address how former researchers have differentiated behavioral profiles of each group and how these profiles change throughout childhood into adolescence. Lastly, an exploration of possible trajectories and treatment options for each group will be presented.

### **History of Emotional Disturbance**

Addressing mental health in children at school is a relatively new concept and has been a more relevant issue in public schools over the last two decades (Sullivan, Sadeh, & Hitchcock, 2014). Advocates in related fields, such as psychology, psychiatry, and even sociology, have continued to emphasize and stress the importance of mental well-being and treating mental health problems. For decades prior to the 1970s, children with disabilities were isolated or prohibited from attending public school as their level of functioning and handicapping conditions could not be appropriately attended in such a setting (Dang, 2010).

In the United States, it was not until the 1970s that case law played a pivotal role in shaping the future of educating students with special needs. In the case of *Mills v.*

*Board of Education of District of Columbia* (1972), seven children with handicapping conditions, including Mills who demonstrated behavior problems, were denied access to public education. The court determined that all students had the right to a free, appropriate, public education and those with disabilities would be placed in appropriate programs taking their needs and abilities into consideration.

In 1975, federal legislators passed the Education for All Handicapped Children Act, which aimed to protect the rights of students with disabilities, including those with an emotional disturbance. This act outlined six provisions to evaluate, qualify, and develop individual education plans for students with disabilities, which included free appropriate public education, disability qualifications, nondiscriminatory assessment, least restrictive environment, individual education programs (IEP), parent involvement, and procedural due process.

The term *seriously emotionally disturbed* used in the Education for All Handicapped Children Act (1975) was originally coined by Eli Bower, an advocate and researcher of children with disabilities, in 1957 and later defined in the 1960s (Merrell & Walker, 2004). Per Bower's definition, in order for a student to qualify with an emotional disturbance, he or she must meet one or more characteristics over a long period of time and to a marked degree. These characteristics include

(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 or teachers, (c) inappropriate types of behavior or feelings under normal circumstances, (d) a general pervasive mood of unhappiness or depression, and (e) a tendency to develop physical symptoms or fears associated with personal or school problems. (Bower, 1981)

## **Social Maladjustment Clause**

Using Bower's definition, an additional criterion of educational need was added so that in addition to having one or more of the five conditions, the behavior or emotional issue also had to impede educational performance adversely. Federal legislation further deemed that students with an emotional disturbance could include students who had been diagnosed with schizophrenia, but "does not include students who are socially maladjusted unless, it is determined that they are seriously emotionally disturbed" (IDEA, 2004, Part 300 A 300.8 (c)(4)(ii)). The clause was added to suffice administrative and policymaker concerns regarding providing services to delinquent individuals and those with maladaptive behavior problems that are typically difficult for educators to manage (Merrell & Walker, 2004; IDEA, 2004). For example, these students may engage in behaviors, such as stealing, defiance, non-compliance, and arguing, that no doubt require attention and time that should be used for instruction. As a result, these students are referred either for behavioral interventions or to the campus principal and may ultimately be placed in alternative settings such as in-school and/or out-of-school suspension.

The inclusion of the social maladjustment clause has been debated and challenged in the literature over the last three decades (Cloth et al., 2014; Sullivan et al., 2014). The federal definition of emotional disturbance does not specify or define what constitutes socially maladjusted and, therefore, professionals as well as state and local education agencies are left to interpret the ambiguous social maladjustment clause. As one can imagine, there are implications of this ambiguous and undefined clause. Without clear wording of this clause, how can education agencies effectively identify students who

need specialized services without ignoring measures of validity and reliability? If social maladjustment cannot be differentiated from emotional disturbance, do the two coexist? Not surprisingly, there have been numerous attempts to operationalize and define social maladjustment over the past several years (Wery & Cullinan, 2013).

### **Internalizing Versus Externalizing Problems**

Some professionals have defined social maladjustment as exhibiting behaviors consistent with ODD and CD which include purposeful, destructive, and delinquent behaviors as defined by the Diagnostic Statistical Manual, Fourth Edition (DSM-IV), which is now in its fifth edition (Clarizo, 1992; Skiba & Grizzle, 1992, Olympia et al., 2004). By this definition, the social maladjustment construct applies to more externalizing problem behaviors, such as conduct problems (e.g., theft, lying, deceiving others), aggression (e.g., hitting, verbal threats, name calling, using foul language), and even hyperactivity (e.g., gets out of seat, blurts out at inappropriate times, cannot sit still) (Clarizo, 1992).

Students with an emotional disturbance, as opposed to their socially maladjusted counterparts, are said to have more internalizing problems such as depression, anxiety, and limited social skills. By this definition, students experiencing an emotional disturbance would be more likely to appear lonely, sad, withdrawn, and have fewer, if any, friends (Costenbader & Buntaine, 1999; Gresham, Lane, MacMillan, & Bocian, 1999). The literature that supports this position argues this differentiation is one way to distinguish between students with true emotional or mental health problems and those who are “problem children.”

In 1999, Costenbader and Buntaine challenged the social maladjustment clause by aiming to diagnostically differentiate students experiencing an emotional disturbance from those identified as socially maladjusted. Two groups of children, between the ages of 12 and 15, were sampled from 26 public school districts in rural, upstate New York. Of the 135 students selected, 85 children were described as experiencing an emotional disturbance and 50 children were described as having a social maladjustment. For the purpose of their study, the students with a social maladjustment were identified as not receiving special education services and had been suspended either in-school or out-of-school. The students identified as having an emotional disturbance were assessed by a psychoeducational evaluation, which consisted of norm-referenced formal instruments, observations, and interviews. The students in the emotional disturbance group were identified for special education services under *Part 200 of the Regulations of the Commissioner of Education* of the state of New York. The New York State Board of Education definition of emotional disturbance includes the social maladjustment clause.

Costenbader and Buntaine (1999) used two rating scales, the Differential Test of Conduct and Emotional Problems (DT/CEP) and the Emotional and Behavior Problem Scale (EBPS), to identify key differences between the two groups—the emotional disturbance group and the socially maladjusted group. They predicted that students identified as having an emotional disturbance would have higher ratings on the (EBPS) and those identified as socially maladjusted would have higher ratings on the (DT/CEP). The results indicated that students with an emotional disturbance actually had higher means on the DT/CEP and lower means on the EBPS than their socially maladjusted counterparts. However, for the emotional disturbance group, the only two areas on the

EBPS that were statistically significantly ( $p < .01$ ) lower were in the areas of the inability to build and maintain satisfactory relationships with peers and teachers and the tendency to develop physical symptoms and fears associated with personal or school problems. Other than these two areas, it was concluded that the two groups were statistically no different from one another, as the emotional disturbance group also had externalizing behavior problems. Therefore, the study did not identify a noticeable difference in behavior between students identified with an emotional disturbance and those not identified, but had behavior problems also. As a result, the social maladjustment clause in the federal or New York state definition of emotional disturbance was not supported by these findings.

The Costenbader and Butine study limitations may somewhat threaten the generalizability of the findings. First, the team used two rating scales that claim to differentiate students with a social maladjustment and students with an emotional disturbance. The Differential Test of Conduct and Emotional Problems has a high internal validity with test-retest reliabilities of .91 and .85, as well as consistency correlations of .81 and .92. In particular, the authors identified students as socially maladjusted only if they had been suspended. While this criterion was used as a qualifier to place students into the social maladjustment group, suspension may not be exclusive to students with a social maladjustment. Also, 94% of the emotional disturbance group was comprised of boys as opposed to 63% in the social maladjustment group. This suggests boys were overrepresented in the emotional disturbance group.

Historically, boys are more likely to be referred for formal special education testing due to externalizing behaviors that can be challenging for teachers to manage



(Bryan, Day-Vines, Griffin, & Moore-Thomas, 2012). As a result, these students are often identified with an emotional disturbance and/or other health impairment for attention-deficit/hyperactivity disorder (ADHD), provided they are under the care of a medical physician, if their behavior impedes their academic performance. Results from the National Longitudinal Transition Study indicate of the students identified with an emotional disturbance between the years 1984–1993, 76.4% were boys.

Girls, on the other hand, often are underrepresented in the emotional disturbance population because they tend to exhibit more internalizing behaviors such as anxiety, depression, and appearing socially withdrawn from their peers (Gresham et al., 1999; Bryan et al., 2012; Gage, 2013). These students are less likely to be referred, especially if there is little noticeable impact on educational performance such as failing grades, lack of motivation, and low test scores.

Gresham et al. (1999) had findings that supported the notion girls are more likely than boys to be identified with internalizing problems. In the Gresham et al. (1999) study, 181 3rd-grade students, 111 boys and 70 girls, were differentiated into three groups: internalizing, externalizing, and control. All students were selected from 32 schools in southern California. Of the 181 students, 85 were identified as being “at-risk” for failing school, had been referred for formal testing, and were placed in either the internalizing group or externalizing group based on their behavior characteristics as identified by their teachers using the Social Skills Rating System.

The internalizing problems group was comprised of 55 students, all girls, while the externalizing problems group was comprised of 19 boys and 11 girls. The control group was comprised of 96 students, 45 girls and 51 boys, who were performing

academically on grade level and did not exhibit problem behaviors that interfered with their learning or impeded the learning of others. The 55 girls in the internalizing group tended to exhibit symptoms such as appearing sad or depressed, lonely, anxious, easily embarrassed, and socially withdrawn. The students in the externalizing group exhibited problem behaviors such as fighting, bullying others, arguing, and becoming angry easily. A major limitation with this particular study was that an analysis was not conducted on the data from students identified with an emotional disturbance, but only data from students identified as at risk for academic failure.

Clearly, there is a gender issue within the emotional disturbance class. If researchers have historically associated internalizing behaviors with emotional disturbance as well as with girls, why are boys overrepresented in the emotional disturbance population if they are traditionally associated with externalizing behaviors? The literature is contradictory in itself as professionals search for an operational definition and distinctions between social maladjustment and emotional disturbance.

In general, while there is a miniscule gender difference in mental illness, women are more often diagnosed with mood and anxiety disorders, whereas men have higher rates of substance abuse and psychotic disorders (Gleason, Hobart, Bradley, Landers, Langenfeld, Tonelli, & Kolodziej, 2014). Again, this is consistent with previous findings that suggest that girls are more likely to exhibit internalizing behaviors, but still inconsistent with the notion of girls being underrepresented in the emotional disturbance population. Moreover, if there is no gender difference in the overall mental illness population, this further calls for an investigation of why students who may have a

manifestation of mental illness in predominately externalizing behaviors are excluded from services and early intervention in the school.

Gage (2013) extended the Gresham et al. (1999) study to compare behavioral profiles using a sample of students in grades first through ninth who were identified as having an emotional disturbance. Using archival data from the Special Education Elementary Longitudinal Study, Gage selected the 1,176 students who had been identified as having an emotional disturbance and, therefore, were receiving special education services. Of this sample, an overwhelming 78% of the students were boys ( $n = 917$ ) while the remaining 22% were girls ( $n = 259$ ), which again supports the notion that boys are overrepresented in the emotional disturbance population. Similar to the Gresham et al. (1999) study, Gage used teacher surveys to examine their ratings of the students' internalizing and externalizing behaviors. In addition, student self-reports on self-concept and confidence in academic and social skills were used and compared between and within the two groups (i.e., internalizing behaviors, externalizing behaviors).

Findings from the Gage (2013) study supported the claim that students with an emotional disturbance can have varying levels of internalizing and externalizing problem behaviors. Using a latent class analysis, Gage found the students fit into one of four behavior profiles. Class 1, the largest group (comprised 67% of the sample), was identified as the control since these students had characteristics of both internalizing and externalizing problem behaviors; the data were not skewed one way or the other. Class 3 was the smallest group (12%) labeled "other" with some inconsistent behavior problems. Class 2 (14%) had high levels of externalizing problems, which were identified with items such as fighting, lack of controlling temper, and arguing. Class 2 reported having a

higher social self-concept, but did not perform as well academically, as measured using standard scores from the Woodcock-Johnson, Tests of Achievement, Third Edition (Woodcock, McGrew, & Mather, 2001), as their internalizing class counterparts in Class 4. Class 4 (7%) had high levels of internalizing problems, which were identified by items such as appears sad/depressed, does not join groups, does not make friends, low self-esteem, does not start conversations, and appears lonely.

Counter to existing literature, Gage (2013) found there were no statistically significant differences between Class 2 and Class 4 in relation to gender. However, Gage found age had a small effect on which type of behavior was evident. Younger students (mean age = 10.60 years) were more likely to have externalizing behavior problems, whereas the older students (mean age = 10.93 years) had less externalizing behavior problems. These findings provide support that the manifestation of the behavior problems may change and vary as the student grows older.

### **Developmental Patterns of Behavior and Comorbidity**

As the research advanced, themes of comorbidity were studied. It was questioned whether early behavior problems and patterns could predict later conduct problems and maladaptive behaviors during adolescence and into early adulthood. Researchers investigated the comorbidity of behaviors in early childhood and later behavior problems related to disorders, such as attention deficit/hyperactivity disorder, oppositional defiant disorder, and CD (Hong et al., 2015; Morgan, Li, Cook, Farkas, Hillemeier, & Lin, 2015), and how these behaviors change over time. In general, few studies have focused on the longitudinal association between internalizing and externalizing problems.

Mantymaa, Puura, and Luoma (2011) conducted a longitudinal study to analyze the interaction between the child's environment and early risk factors that may likely predict later internalizing and externalizing problems at the age of five. The study used a sample of 96 children born to mothers at risk for psychopathology and social disadvantages such as poverty and a lack of resources. Variables in the study included child risks (e.g., difficult temperament, health problems, and early behavior problems) as well as parental risks that included psychopathology, parental stress, and perception of the child (e.g., easy, difficult). The study also analyzed family risks such as low socioeconomic status (SES), relationships, and family violence.

The results of this study are relevant to issues pertaining to the onset and evolution of behavior problems and the influence of the child's environment. Behavior problems can commence even during the prenatal period. The team discovered internalizing problems in later childhood positively correlated with parental stress during early childhood (Mantymaa et al., 2011). In addition, violence within the family appeared to predict the onset of internalizing problems around the age of five. Maternal psychopathology before and during gestation appeared to predict the onset of externalizing problems around two years of age.

This study relied primarily on parent reports, and because the sample was drawn from an outreach study, the demographics of the relatively small sample may over-represent the lower SES population. As a result, the findings are difficult to generalize to the population at large. Even so, the results indicate the likelihood of overlapping internalizing and externalizing symptoms for children in at-risk environments. A review

of the prevalent research further supports comorbidity across diagnoses with both internalizing and externalizing behaviors.

Hong, Tillman, and Luby (2015) also investigated early indicators of conduct disorder, externalizing problems without conduct disorder, and internalizing problems without externalizing problems in a sample of 273 preschool students in the St. Louis area as part of their Preschool Depression Study. Using ratings from the Preschool Age Psychiatric Assessment and Child and Adolescent Psychiatric Assessment provided by caregivers, Hong and colleagues (2015) collected data during the children's preschool years (approximately ages 3–5 and again during their school-age years, ages 6–9). Using a logistic and linear regression model with pairwise group comparisons, they identified four cluster groups of preschool students: (a) students diagnosed with conduct disorder before the age of 6 ( $n = 46$ ), (b) students with externalizing problems who had been diagnosed with ADHD or oppositional defiant disorder, but not conduct disorder ( $n = 57$ ), (c) students with internalizing problems who had been diagnosed with major depressive disorder, generalized anxiety disorder, separation anxiety disorder, or posttraumatic stress disorder ( $n = 62$ ), and (d) healthy students who were not diagnosed with a psychological illness before the age of six ( $n = 106$ ).

The results of the Hong et al. (2015) study indicated all four clusters of students had behavior problems that overlapped one another, and no single variable or type of behavior problem was exclusive to only one of the four groups. The degree of intensity of the behavior problem varied across the four clusters with higher intensity behavior problem means generally observed in the conduct disorder and externalizing problems

clusters and lower intensity behavior problem means in the healthy and internalizing without conduct disorder clusters.

Of the 46 students who had been previously diagnosed with conduct disorder, 36 continued to carry the diagnosis into their school-aged years. High-intensity behaviors, such as defiance, aggression, property damage, problems with peers, and vindictiveness, were highly correlated with preschool conduct disorder. Similar to the conduct disorder group, the students with externalizing problems also had high levels of vindictiveness, deceitfulness, and stealing. All these behaviors, in addition to inappropriate sexual behavior, were markers for predicting school-age conduct disorder. Interestingly, the students in the conduct disorder cluster had a statistically significantly higher likelihood of having peer problems than all three remaining groups.

This study challenges the social maladjustment clause with supporting evidence that students with conduct disorder have social problems similar to students with externalizing and/or internalizing problems. Therefore, it is possible these students could meet at least one of the emotional disturbance criteria for the inability to build and maintain satisfactory relationships with peers and teachers. However, there is still the special education criteria of educational need, and a limitation of this study is that the researchers only relied on retrospective parent reports and failed to include teacher input, observations of the problem behaviors identified, or documentation that the problem behaviors impeded the students' academic performance.

Another longitudinal analysis on behavior problems, comorbidity, as well as academic performance was conducted by Morgan, Li, Cook, Farkas, Hillemeir, and Lin (2015). Morgan and colleagues investigated early predictors of CD and ADHD

comorbidity in kindergarten students and symptomatology and academic performance later, on the same students, when they were in the 8th grade. Using the Early Childhood Longitudinal Study, the team assigned 7,456 students to one of three groups: (a) no symptoms of ADHD-CD, (b) moderate symptoms of ADHD-CD, and (c) severe symptoms of ADHD-CD. Ratings, taken from Likert-type scales, were gathered from the students' teachers and parents.

Variables used to identify possible predictors during kindergarten included items related to internalizing/externalizing problem behaviors, academic achievement, SES, birth and maternal characteristics, and routines in the household. Internalizing behavior items included attentiveness, task persistence, eagerness to learn, flexibility, and organization. Externalizing behavior items included arguing, fighting, getting angry, disrupting others, acting impulsively, and talking at inappropriate times (Morgan et al., 2015). The internalizing, externalizing, and academic achievement variables were rated by the students' teachers, while the socioeconomic status, birth and maternal characteristics, and routines in the household items were rated by the students' parent.

Symptomatology during the 8th-grade year was rated by both the students' teachers and parents to best identify behaviors across settings, home and school. Items used to rate the students' ADHD symptoms included "restless, overactive, cannot sit still, fidgeting, and easily distracted" (Morgan et al., 2015, p. 63). Conduct disorder items were based on the DSM-5 diagnostic criteria and included items such as "loses his/her temper, fights or bullies with others, lies, steals, and if the student had been suspended in the past" (p. 63).



Findings from the Morgan et al. (2015) study supported the notion that low SES students, males, and students raised by mothers with depression, emotional problems, and/or substance abuse were more likely to be at risk for severe ADHD-CD symptomatology. In addition, students with both low academic and behavioral functioning fared worse than those who only performed poorly in one of the two areas. These findings contributed to the sparse literature in the area of early symptomatology related to both internalizing and externalizing problem behaviors and later conduct problems.

One limitation of the study is that it did not specify which students were clinically diagnosed with either ADHD or CD, but instead looked at characteristics of each. In addition, the behavior of the sample studied was only analyzed through their 8th-grade year when they were approximately 14 years of age. The researchers have yet to collect data into the participants' young adult years to explore the likelihood of later criminality that appears to stem from conduct problem behavior.

López-Romero and colleagues (2015) further examined the onset, environmental factors, and outcome trajectories of students in Spain with conduct problems. With an initial sample of 192 Spanish children ages 6–11, 139 boys and 53 girls, the team analyzed behavior problems across six years in increments of three years. The second data collection, three years after the initial, was parent data collected on 133 children, and the third collection, six years after the initial, was data on 138 children. Data collected included variables related to conduct problems, psychopathic traits, impulsivity, empathy and lack thereof, attention deficit/hyperactivity disorder, aggression, and social competence. The team expected the children to fall into one of four behavioral cluster

groups: (a) early onset with stable, high intensity, (b) childhood-limited behavior problems, (c) adolescent-limited behavior problems, and (d) control or non-problematic.

What they found, in actuality, were five behavioral profile groups ranging from medium-high, medium-low, childhood-limited, stable high, and non-problematic. However, due to similarities and statistical insignificance, the groups were collapsed into three based on behavioral profiles across the 6-year span: (a) stable low, (b) stable high, and (c) decreasing. As a result, there were statistically significant differences between the groups that could be analyzed at the end of each time period.

Data analysis revealed the control group (non-problematic) was the largest and these children had relatively low levels of conduct behavior problems throughout their childhood into adolescence. The decreasing group initially showed moderate to high levels of conduct problems at the first data collection but decreased over the next six years, which suggested the behavior problems were specific to the childhood years and the students “outgrew” the behaviors. The smallest, yet most severe, group was the stable high, which was comprised of the children with early onset conduct problems and continued to have extreme conduct problems across the 6-year span.

Of the three groups, the early onset, stable high group fared the worst in terms of psychological and social problems at the third data collection period. They appeared to have a higher likelihood of behaviors related to ADHD such as impulsivity, aggressive behaviors, and limited social skills and competencies. More specifically, these students were reported to be more callous, uncaring, less empathetic, and less emotional than students in the stable low and non-problematic groups.

Like several of the studies mentioned in this review, the major limitation to the López-Romero et al. study (2015) is that the researchers relied on parent data and interviews to provide information on the children studied. While parents are a relevant and often reliable data source, the authors suggested future studies incorporate self-report and assessments to identify behavior profiles. In addition, future studies should specifically examine the characteristics of students similar to those in the stable high group. After all, students in this group may be the unfortunate population that continues to be excluded from necessary interventions that could potentially change their trajectory and outcomes. Ultimately, access to intervention and resources may differentiate the stable high students from students similar to those in the decreasing group.

### **Treatment, Trajectories, and Outcomes**

As aforementioned in the previous section, both internalizing and externalizing problems can coexist within a student's behavioral profile. The age of onset at which these behavior problems become apparent may have an influence on whether the student is eventually diagnosed with a psychological disorder such as major depressive disorder, attention deficit/hyperactivity disorder, generalized anxiety disorder, oppositional defiant disorder, and conduct disorder (Hong et al., 2015; Morgan et al., 2015). The latter two disorders have historically been associated with social maladjustment, which is not actually defined in the federal special education eligibility guidelines as listed in IDEA. Regardless of what researchers name the problem, without proper intervention the trajectory for students experiencing an emotional disturbance is relatively similar to that of students with conduct problem behavior during late adolescence and throughout adulthood.

Throughout the past several decades, researchers and clinicians have evaluated the effectiveness of treatment options for behavior problems. Some have suggested the type of treatment needed depends on the typography and symptomology of the behavior rather than the diagnosis (Theodore, Akin-Little, & Little, 2004; Heathfield & Clark, 2004). The logic behind this rationale is that while students with an emotional disturbance may have internalizing problem behaviors, they also likely have externalizing problem behaviors similar to students who have been considered socially maladjusted. Therefore, treatments that have been hypothetically developed to treat feelings of inadequacy may not address concurrent behaviors such as interrupting other students' learning, which could be considered an externalizing behavior.

Theodore et al. (2004) suggested behavior intervention and therapies would likely be effective for students identified with social maladjustment, as per Kazdin (1998), if their behaviors are consistent with behaviors related to conduct disorder. These interventions suggested by Theodore et al. (2004) should include training in cognitive problem solving, parent management training, functional family therapy, and multi-systemic therapy (Theodore et al., 2004). The commonality among these four approaches is taking the student's environment and important family members, such as parents, into consideration when shaping their maladaptive behaviors. These treatments use a systematic approach and focus on parent interactions with the child. These interactions may include how to respond to negative behaviors and emphasize positive reinforcement to appropriate behaviors.

While students with an emotional disturbance may have externalizing problem behaviors similar to those with social maladjustment, they could also benefit from

behavior intervention strategies in addition to tackling their internalizing problems with other approaches. Treatment for a student with an emotional disturbance may focus on more internalizing problems such as anxiety or depression. Nonetheless, family therapy, cognitive behavioral treatments, counseling, and psychopharmacology therapy have been shown to be effective for both groups of students (Kazdin, 1998; Theodore et al., 2004).

Wagner (1995) examined the outcomes of youth identified with an emotional disturbance using data from the National Longitudinal Transition Study (NLTS) conducted in the 1990s. The NLTS gathered data over nine years from 1984 to 1993. The data were survey responses of parents and their youth, ages 13–21 years. Over 8,000 students were included in the study and all received special education services under at least one of the 11 eligibility areas outlined by what is now IDEA. Of this sample of students, 10.5% were identified as having an emotional disturbance as their primary disability, as reported by their parents.

Wagner found students with an emotional disturbance fared worse than any other group of students in special education, such as those with specific learning disabilities and other health impairments, in terms of social disconnectedness at school, engagement, absenteeism, and dropping out (Wagner, 1995). On average, students with an emotional disturbance had missed 20 days of school during each year of their high school careers and were less likely to join school clubs or social activities at school than their other disabled peers. Interestingly, they were reported to have friends outside of school; however, the reasoning was not indicated.

In addition, students identified with an emotional disturbance had lower grade point averages and had the highest failure rate of all the disability groups. It was

suggested their failure in academic performance was not directly related to academic ability, but there was no doubt students with an emotional disturbance lagged behind grade level by approximately two years in reading and math. Instead, their academic discrepancy was attributed to their disengagement, absenteeism, and behavior problems, such as not completing work, not asking for help when needed, and not participating appropriately in class with others. As one might predict, if a student fails multiple courses, he/she is at risk for retention or credit remediation. Further, of the students with an emotional disturbance who left high school, 54.8% eventually dropped out as opposed to the 41.7% who graduated and the 3.5% who did not meet graduation criteria of receiving 22 credits and instead aged out of high school.

Postsecondary functioning was also examined by Wagner (1995) in areas such as education, employment, and social functioning. Compared to the general population, only 25% of students who were identified with an emotional disturbance enrolled in a postsecondary education program within 3–5 years of their graduating year, whether they received their diploma or not. Of the students with an emotional disturbance who graduated with a diploma, only 32% continued their education after high school. These percentages were well below the enrollment rate of the general population, which was over 67% (Wagner, 1995).

When examining employment outcomes over 3–5 years after their graduating year, students who had been identified with an emotional disturbance had a lower employment rate compared to the general population and even other students who had any other disability. For instance, only 47% of students who were identified with an emotional disturbance were employed two years after they left high school compared to

students from other disability areas (57%) and the general population (69%). Further, at the 5-year follow-up, Wagner reported students with an emotional disturbance were less likely than their peers to be employed at both time periods, two and five years post high school graduation, and had a higher likelihood of unemployment and changing jobs frequently (Wagner, 1995).

As aforementioned, students identified with an emotional disturbance have historically had social problems. These social problems may be manifested in appearing lonely and withdrawn from social groups, having few to no friends, or being incapable of getting along with others due to a lack of social skills or exhibiting behavior problems that interfere with maintaining friendships (Costenbader & Buntaine, 1999; Hong et al., 2015; Morgan et al., 2015). Results from the NTLs, as analyzed by Wagner (1995), suggest these social difficulties carry over into early adulthood.

Students with an emotional disturbance had slightly lower marriage rate compared to their peers. Only 14% of boys with an emotional disturbance reported to be in a relationship or married 3–5 years after high school compared to the 22% of boys in the general population. Girls with an emotional disturbance were less likely to be in a relationship, with only 27% reported to be in a relationship or married, compared to the 38% of girls the same age in the general population. Interestingly, almost half (48%) the girls with an emotional disturbance were already mothers 3–5 years after their graduating year compared to only 28% of their general population peers. When compared to a non-disabled sample of girls, yet disadvantaged girls of the same age, the girls with an emotional disturbance were still more likely to be mothers, 48% versus 34% (Wagner,

1995). In addition, these girls were more likely to be single parents compared to all other groups including boys and girls, disabled vs. non-disabled, and the general population.

Perhaps an arguably greater issue pertinent to the outcomes of students with an emotional disturbance is the arrest rate and criminal behavior observed in adulthood. Students with an emotional disturbance were significantly more likely (25%) than both other disabled (12%) and general population peers (8%) to have been arrested within their first year after high school. During the 3–5 year time period, 58% of these students had been arrested and the students who had dropped out were significantly more likely to be arrested (73%) compared to students with an emotional disturbance who had graduated and received a diploma.

In 2010, the National Longitudinal Transition Study 2 (NLTS2) was released to provide additional information on a second cohort of students in special education and their postsecondary functioning similar to the National Longitudinal Transition Study (NLTS) in the 1990s. The NLTS2 provides imperative information to compare to the NLTS because, although the study was conducted with a similar sample of students, this second cohort may have different outcomes due to more intervention, medications, and more effective treatment methods that had been developed over the 10 years since the first study was conducted with the first cohort. Even changes in society, economics, and social norms would likely have an impact on all students, with or without disabilities, and their outcomes. More importantly, there were significant changes within the public school system that ultimately shaped the quality and practice of education, including the reformation of the Education for All Handicapped Children Act of 1975 to what is now the Individuals with Disabilities Education Act (IDEA, 2004).



Wagner and Newman (2012) compared the data from the NLTS2, collected from the younger set of students with an emotional disturbance, to the data from the NLTS. For their comparison study, Wagner and Newman used the data from 247 students from the NLTS (1984–1993) and the data from 248 students from the NLTS2 (2001–2010); all students had been identified as having an emotional disturbance. The data from the NLTS2 indicated students with an emotional disturbance had a much higher graduation rate in 2005 (78.1%) than their 1990 counterparts (47.4%). It was reported the 2005 cohort graduation rate was not statistically significantly different from the general population graduation rate.

Moreover, the 2005 cohort had higher rates of enrollment in postsecondary education (34.7%), vocational/technical training (23.5%), and either a 2-year or 4-year college (26.4%). The 1990 cohort rates were significantly less with only 18% having enrolled in postsecondary education, 6.9% in vocational/technical training, and 11.4% in a 2- or 4-year college (Wagner & Newman, 2012). Information regarding social relationships was not presented in the Wagner and Newman (2012) study; however, there were striking increases in criminal behavior in both cohorts. In 2010, the 1990 cohort had a 36% arrest rate, while the 2005 cohort arrest rate was 60.7%.

Gage, Joseph, and Lunde (2012) examined the link between behaviors during early and middle childhood and arrest rates in late adolescence into adulthood of students identified with an emotional disturbance. In particular, they were interested in the apparent increase in violence, criminal behavior, and arrest rates of girls. Using archival data from the Special Education Elementary Longitudinal Study (SEELS, 2012), Gage and colleagues (2012) analyzed data from an initial sample of 1,081 students, but with

weighted estimates: 165,416 students (137,159 boys and 28,257 girl) were identified with an emotional disturbance and received special education services with this disability.

The students, ages 6–12, came from 245 school districts across the United States.

Gage and colleagues (2012) examined the data for statistically significant differences between boys and girls with respect to their behaviors in elementary school and history of arrest in middle to high school. Within the sample, the research team found 50.7% of the boys were suspended in elementary school compared to only 19.7% of the girls ( $\chi^2 = 15.67, df = 1, p < .000$ ). While this difference was statistically significant, there were no statistically significant differences in arrest rates for boys and girls despite their history of suspension in elementary school (Gage et al., 2012).

Further, when analyzing arrest rates of girls, taking demographics into consideration, the team found statistically significant differences between arrest rates in light of their history, ethnicity, and socioeconomic status. Girls who were African American were statistically significantly ( $\chi^2 = 5.76, df = 2, p < .05$ ) more likely to have a history of arrest than their White, Hispanic, and Native American counterparts (Gage et al., 2012). In addition, girls from lower socioeconomic homes were statistically significantly ( $\chi^2 = 5.94, df = 4, p = .05$ ) more likely to have a history of arrest than their middle to higher class counterparts. While girls from urban schools were more likely to have a history of arrest than their rural and suburban counterparts, these differences were not statistically significant.

The results from the Gage et al. (2012) study supported previous findings of behavioral profile differences between boys and girls. Early behavior profiles suggested boys were more likely to engage in externalizing behaviors that resulted in suspension

whereas girls of the same age, also identified as having an emotional disturbance, engaged in behaviors that were more internalized. Similar to studies in the previous section that addressed behavior manifestation (Gresham et al., 1999; Bryan et al., 2012; Gage, 2013), girls in this study were more likely identified as appearing anxious, shy, withdrawn, and sad/depressed as reported by their teachers.

Using variables from teacher reports, the results indicated hyperactivity items correlated most highly with both suspensions in elementary school and later arrest for girls, but not boys (Gage et al., 2012). Specifically, girls who exhibited impulsive behavior in elementary school were at greatest risk for being arrested later in middle or high school. Again, this study was conducted with data from students who were identified with an emotional disturbance. The researchers of this study suggested future studies compare arrest rates of students with an emotional disturbance and students not identified with an emotional disturbance. Results from such studies may be useful in identifying differences between individuals who are said to have a psychological disorder, such as an emotional disturbance, and individuals who were never identified but may have been deemed socially maladjusted.

### **Summary of the Literature**

A review of the literature indicates social maladjustment and emotional disturbance has been a topic of discussion for several decades. Even with the revision of The Education for All Handicapped Children Act of 1975, what is now known as the Individuals with Disabilities Education Act (2004), the social maladjustment exclusionary clause continues to spark debate among researchers and practitioners. Previous literature and research suggest the emotional and behavioral profiles of students

with an emotional disturbance and students with a social maladjustment often overlap one another (Gage, 2013; Mantymaa et al., 2011; Hong et al., 2015; Morgan et al., 2015), and others further demonstrate the two groups can be virtually indistinguishable (Costenbader & Buntaine, 1999; López-Romero et al., 2015).

The literature points out high levels of comorbidity (Morgan et al., 2015; López-Romero et al., 2015), indicating that while students can be identified with an emotional disturbance they can also engage in behaviors typically identified with attention deficit/hyperactivity disorder (ADHD). Likewise, students who are identified as socially maladjusted can also have behaviors related to ADHD. It has been supported continuously in both empirical studies and meta-analyses there is too much overlap between social maladjustment and emotional disturbance to have a fixed, differential definition that is widely accepted among state and local education agencies (Costenbader & Buntaine, 1999; Cloth et al., 2014; López-Romero et al., 2015; Merrell & Walker, 2004; Olympia et al., 2004).

Further, the literature and statistics are mixed when considering gender as a mediating factor. The research shows girls are more likely to have internalizing problem behaviors and boys demonstrate more externalizing problem behaviors (Bryan et al., 2012; Gage, 2013; Gage et al., 2012; Gresham et al., 1999;). However, statistically, boys have been shown to be overrepresented in the emotional disturbance eligibility population (Gresham et al., 1999). Figures related to mental illness in general indicate there are gender differences; however, women are more likely to be diagnosed with anxiety, depression, and mood disorders, whereas men are more likely to engage in substance abuse and be diagnosed with psychotic disorders (Gleason et al., 2014).

There is also evidence in the literature that the manifestation of the behavior problems can evolve over time, as a child grows both physically and emotionally (Gage, 2013). The child's environment can also have an impact on what types of behavior problems are evident. There is the likelihood of overlapping internalizing and externalizing symptoms for children in at-risk environments. For instance, Mantymaa et al. (2011) found the child's environment, including the prenatal period, could influence behavior problems. Maternal psychopathology before and during gestation appeared to positively correlate with externalizing problems beginning around two years of age. The team identified internalizing problems in later childhood was positively correlated with parental stress during early childhood, and violence within the family appeared to predict the onset of internalizing problems around the age of five (Mantymaa et al., 2011).

As the developmental trajectory of behavior problems became more apparent, themes of comorbidity started to emerge in the literature. Findings from Hong et al. (2015) challenged the social maladjustment clause with supporting evidence that students with conduct disorder have social problems similar to those exhibited by students with externalizing and/or internalizing problems that were not identified in special education and students identified with an emotional disturbance. Morgan and colleagues (2015) investigated early predictors of CD and ADHD comorbidity in kindergarten students. The research team later measured symptomatology and academic performance of the same students when they were in the 8th grade. They found students of low SES, male students, and students raised by mothers with depression, emotional problems, and/or substance abuse were more likely to be at risk for severe ADHD-CD symptomatology.

In addition, students with both low academic and poor behavioral functioning fared worse than those who only performed poorly in one of the two areas.

López-Romero and colleagues (2015) found students can have varying degrees of both internalizing and externalizing behavior problems and these behaviors can change as the child grows older. The team identified three groups of students with behavior problems. One group was childhood specific, meaning that the child outgrew the behaviors. One group was relatively stable with low intensity behavior problems. One group was relatively stable, but with high intensity behavior problems. Ultimately, their access to intervention and resources were thought to differentiate the stable high students from the students in the childhood specific group. The results of this study suggest that early intervention is key in possibly curbing later behavior problems.

Lastly, treatment, outcomes, and trajectories were reviewed. Kazdin (1998) suggested students with conduct disorder and oppositional defiant disorder, typically characterized as socially maladjusted, may benefit from therapies such as training in cognitive problem solving, parent management training, functional family therapy, and multisystemic therapy. Treatment for a student with an emotional disturbance may focus more on internalizing problems, such as anxiety or depression; however, family therapy, cognitive behavioral treatments, counseling, and psychopharmacology therapy have also been shown to be effective for students with an emotional disturbance.

Wagner (1995) examined the outcomes of youth identified with an emotional disturbance using data from the National Longitudinal Transition Study (NLTS) in the 1990s. Wagner found students with an emotional disturbance fared worse than any other groups of students in special education. Students with an emotional disturbance had

lower grade point averages and the highest failure rate of all the disability groups. However, their poor performance in school was not necessarily attributed to academic ability, but instead to disengagement, absenteeism, and behavior problems (e.g., not completing work, not asking for help when needed, not participating appropriately in class with others) (Wagner, 1995). Data from the NLTS2 indicated students with an emotional disturbance had much higher graduation rates in 2005 than their former counterparts in the 1990s (Wagner & Newman, 2012).

Perhaps a greater issue pertinent to the outcomes of students with an emotional disturbance is the arrest rate and criminal behavior observed in early adulthood. Data from the NLTS and NLTS2 indicate striking rates of criminal behavior for both cohorts. The 1990 cohort had a 36% arrest rate, while the rate for the 2005 cohort had increased to 60.7%. Gage et al. (2012) found statistically significant differences among girls with an emotional disturbance. Specifically, African American girls who came from lower socioeconomic homes and those who attended urban schools were more likely to have higher arrest rates than their peers.

## CHAPTER III METHODOLOGY

The purpose of this chapter is to describe the methodology for this study. This chapter will review the samples and sub-samples from which the data were drawn in addition to the variables and items that were analyzed. Lastly, the procedures and statistical analyses will be presented.

### **Purpose of the Study**

The aim of this study was to identify and differentiate profiles of social maladjustment and emotional impairment. This study used items from parent and teacher surveys that were collected for the Fragile Families and Child Wellbeing Study as well as the Early Childhood Longitudinal Study, Kindergarten (ECLS-K). Results from this study were intended to support the capability to distinguish between students with a social maladjustment and those with an emotional impairment in the 3rd grade. Further, the findings provide educational professionals and service providers support in identifying students with social-emotional deficits in addition to behavior problems that significantly hinder their educational performance.

This study answered the following research questions:

1. What early patterns of temperament and behavior, as reported by parents and caregivers, are evident in students identified as having emotional and/or behavior problems in school during middle childhood?
2. What, if any, behaviors significantly differentiate students with social maladjustment from those with an emotional impairment?



3. What are the educational implications of both groups and how do they differ?

### **Rationale for the Research Approach**

The rationale for using a person-centered statistical approach as opposed to a variable-centered approach was that the research objective was to focus on the differences between individual people. Had the focus been placed on the variables used, the study would not be a unique contribution to the literature. Former studies that have researched the issue of the inclusion of the social maladjustment clause have continued to demonstrate both sides of the argument. The literature pool did not need additional supports for both sides, but instead new insight into the individuals within each category was needed.

### **Description of the Data**

Data for this dissertation were drawn from two national databases. The first data set used was the Fragile Families and Child Wellbeing Study (FFCWS, 2001), which is a longitudinal data set available for public use. Research reported in this publication was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health under award numbers R01HD36916, R01HD39135, and R01HD40421, as well as a consortium of private foundations. The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health. The Fragile Families Study is following roughly 4,700 children, born between 1998 and 2000, living in 20 urban cities across the United States. At the time of the present study, there were five waves of data available with data from the following ages: birth, one year, three years, five years, and nine years.

The purpose of the Fragile Families Study is to provide information on non-traditional families, particularly those of unmarried couples and their children. In addition, the Fragile Families study aims to address three areas, including non-marital childbearing, welfare reform, and the role of fathers, and how these three issues interact with one another. There are four research questions the study aims to answer:

1. What are the conditions and capabilities of unmarried parents, especially fathers?
2. What is the nature of the relationships between unmarried parents?
3. How do children born into these families fare?
4. How do policies and environmental conditions affect families and children?

The Fragile Families database consists of data collected over nine years from multiple sources including mothers, fathers, teachers, early childhood caregivers, as well as child self-reports. Data were collected via methods such as telephone interviews and mailed surveys. The baseline data were collected from both biological mothers and fathers, if they were present shortly after the child's birth and gave consent to participate in the study. Parent interviews provided data in regard to attitudes, social relationships, parenting views and styles, environmental demographics, mental and physical health, finances, and employment. In later waves (i.e., 1-year, 3-year, 5-year, and 9-year), data were collected again from parents, caregivers, and teachers of the children in addition to the interview of the focal student starting in the 9-year wave. The teacher surveys included data such as the student's behavior and emotional functioning at school, academic performance, parent-teacher communication, and discipline. The student

interview captured responses to items inquiring about parental and sibling relationships, discipline, routines, school, early delinquency, behavior, and health.

### **Fragile Families Sampling Frame**

The children in the Fragile Families Study were sampled from 20 urban cities across the United States. Urban cities were defined as having a population of over 200,000 (Reichman, Teitler, Garfinkel, & McLanahan, 2001). The sample was drawn from a 3-stage stratified random sampling process starting with cities, then hospitals within those cities, and then births within the hospitals. First, only cities with a population of 200,000 or more were considered and those cities were rated across three variables, which included welfare generosity, the child support system, and the local labor market. The purpose of this sampling procedure was to maximize the likelihood of national representation. Once the final 20 cities were chosen, the hospitals within the cities were chosen to represent national numbers accurately. Finally, births within the hospitals were screened and participants were chosen. More information is available on the sampling process (Reichman et al., 2001).

### **Fragile Families Sample**

The Fragile Families database is comprised of information gathered from a sample of 4,789 children. Using the baseline mother national weights, the sample is increased to 1,118,178 students. Of these students, 168,737 (15%) were in special education and 949,442 (85%) were not in special education. For the sake of this study, national weights will be applied in order to obtain a more accurate national representation of the findings.

The initial data, collected in the hospitals shortly after the children's births, included information from both the biological mothers and fathers. The 4,789 children in the Fragile Families Study were born between 1998 and 2000. About 75% ( $n = 3,600$ ) of the children participating in the study were born from unmarried parents, which the data collectors identified as "fragile families" because they were evaluated to be at greater risk of living in poverty than were their traditional family counterparts. At year five, 4,055 students had maternal data available while only 3,515 students had maternal data available in year nine. However, 3,630 students had information provided by a primary caregiver, which suggests some students had been under the care of someone other than a biological parent at the age of nine. For this study, all 3,630 students at year nine were used for the Fragile Families sample.

### **Selection of Sub-sample**

Using data from the Fragile Families study, this present study analyzed behavioral and academic data from three groups of students: (a) students who had been identified with an emotional disturbance, (b) students who had behavior problems and were receiving special education services under an eligibility other than emotional disturbance, and (c) students who had behavior problems but had not been identified nor had received special education.

Information regarding special education was not introduced into the database until year five. One item on the teacher survey, for year five, asked if the student had been diagnosed with a disability (kind\_a13; "Did the child have a diagnosed physical or psychological disability and need special services?"). Another asked if the child had an IEP for the disability (kind\_a14; "Did the child have an Individual Education Program

(IEP) for this disability?”). During year five, 61 students had an IEP for a disability, but the qualifying disability was not identified.

The year nine teacher survey asked more in-depth questions related to special education and services provided. Again, the teacher survey asked if the student was receiving special education (t5c1; “Is this child currently receiving special education services through an Individualized Education Program (IEP)?”). During year nine, the number of students who had an IEP jumped to 300. To determine a participant’s eligibility for special education services based on an emotional disturbance, the teacher interview question (t5c2; “What is the child’s primary disability as identified on the child’s IEP?”) was used. The item response choices include each of the 13 disabilities as listed under IDEA, Part B (2004). In year nine, there were 28 students who had been identified with an emotional disturbance.

To select students for the second group, which received special education services, but not under the eligibility of an emotional disturbance, the same teacher items were used. For item t5c2, students who had been identified with an emotional disturbance had been filtered out using SPSS. In year nine, there were 243 students who received special education services under eligibilities other than an emotional disturbance.

The remaining 1,960 students, in the third and largest group, were not receiving services through special education. To exclude students in special education, item t5c1 was filtered to select only cases that did not receive special education services through an IEP. The total sample size consisted of 2,231 students, some with and some without disabilities.

### **Early Childhood Longitudinal Study, Kindergarten Sample**

The Early Childhood Longitudinal Study, Kindergarten (ECLS-K) was utilized to cross validate results from the Fragile Families data. The ECLS-K is a longitudinal study that has followed a nationally representative sample of students beginning in kindergarten in 1998 through their 8th-grade year. Students selected to participate in the ECLS-K attended both public and private schools. In addition, the students covered a wide range of socioeconomic backgrounds as well as diverse racial/ethnic populations. The purpose of the ECLS-K was to provide information from students, parents, teachers, and schools on the students' progression from elementary school through middle school, in addition to how family, school, community, and individual factors were associated with school performance.

For this study, only data collected from the kindergarten fall semester and 3rd-grade spring semester were analyzed to cross validate findings from the Fragile Families data. The entire unweighted fall-kindergarten sample consisted of 21,409 students; however, only 18,696 cases had valid data for the externalizing problem behavior composite variable and only 18,951 cases had valid data for the internalizing problem behavior composite variable. When the data were analyzed in *MPlus*, only 18,988 cases were identified and 2,246 cases had missing data on both variables.

The entire unweighted spring, 3rd-grade sample consisted of 21,357 students. Only 11,721 cases had valid data for the externalizing problem behaviors composite variable and 11,621 cases had valid data for the internalizing problem behavior composite variable at 3rd grade. Using *MPlus*, 11,664 cases were identified and 9,570 cases had missing data on both variables.

## **Description of the Data**

Data in the Fragile Families study was organized by the interviewee at each wave. There are five waves total: (a) baseline, (b) year one, (c) year three, (d) year five, and (e) year nine. The year three in-home and childcare data, as well as the year five survey data provided by the kindergarten teacher and in-home data were available in single files and were merged with the core-merged data file using statistical software. The year nine core data, as well as national weights, were also available.

For the purpose of this study, variables related to both internalizing and externalizing behaviors were chosen for analysis. These variables were analyzed between and within the three groups initially identified (ED students, special education students other than ED, and non-special education students). The behavior variables for these groups were compared at years three, five, and nine. Further, items related to special education and academic performance from the year nine wave were added to assess educational performance and need for specialized services. Table 1 describes the year three variables used for analysis.

Table 1

*Summary of Year Three Variables for Analysis*

Variable	Scale	Wave	Data File
m3: He/She clings to adults or is too dependent	3-point scale	3	Year Three In-Home Questionnaire
m3a: He/She cries a lot	3-point scale	3	Year Three In-Home Questionnaire
m5: He/She is defiant	3-point scale	3	Year Three In-Home Questionnaire
m14: He/She is easily frustrated	3-point scale	3	Year Three In-Home Questionnaire
m16: He/She feelings are easily hurt	3-point scale	3	Year Three In-Home Questionnaire
m23: He/She has angry moods	3-point scale	3	Year Three In-Home Questionnaire
m25: He/She is nervous, high strung, or tense	3-point scale	3	Year Three In-Home Questionnaire
m28: Punishment doesn't change (his/her) behavior	3-point scale	3	Year Three In-Home Questionnaire
m39: He/She is stubborn, sullen, or irritable	3-point scale	3	Year Three In-Home Questionnaire
m41: He/She has temper tantrums or hot temper	3-point scale	3	Year Three In-Home Questionnaire
m42: He/She is too fearful or anxious	3-point scale	3	Year Three In-Home Questionnaire

Variables used from year five (wave four) are listed in Table 2. The variables from year five were collected from the students' teachers using the teacher survey and the child's mother using the in-home questionnaire. Behavior variables were collected from the in-home parent questionnaire and answer choices included the following responses: 1 (*not true*), 2 (*somewhat or sometimes true*), and 3 (*very true or often true*). Academic performance variables were collected from the teacher survey, and answer choices included the following responses: 1 (*far below average*), 2 (*below average*), 3 (*average*), 4 (*above average*), and 5 (*far above average*).



Table 2

*Summary of Year Five Variables for Analysis*

Variable	Scale	Wave	Data File
15: Child complains of loneliness	3-point scale	4	Year Five In-Home Questionnaire
11: Child argues a lot	3-point scale	4	Year Five In-Home Questionnaire
124: Child is impulsive or acts without thinking	3-point scale	4	Year Five In-Home Questionnaire
125: Child would rather be alone than with others	3-point scale	4	Year Five In-Home Questionnaire
121: Child gets in many fights	3-point scale	4	Year Five In-Home Questionnaire
126: Child lies or cheats	3-point scale	4	Year Five In-Home Questionnaire
128: Child is not liked by other kids	3-point scale	4	Year Five In-Home Questionnaire
143: Child is self-conscious or easily embarrassed	3-point scale	4	Year Five In-Home Questionnaire
154: Child swears or uses obscene language	3-point scale	4	Year Five In-Home Questionnaire
17: Child is cruel, bullies, and shows meanness to others	3-point scale	4	Year Five In-Home Questionnaire
159: Child threatens people	3-point scale	4	Year Five In-Home Questionnaire
kind_a5: How would you rate the child in language and literacy skills?	5-point scale	4	Year Five Teacher Survey
kind_a7: How would you rate the child in mathematical skills?	5-point scale	4	Year Five Teacher Survey
kind_a13: Did the child have a diagnosed physical or psychological disability and needed special services?	5-point scale	4	Year Five Teacher Survey
kind_a14: Did the child have an Individual Education Program (IEP) for this disability?	5-point scale	4	Year Five Teacher Survey

Variables used from year nine (wave five) are listed in Table 3. The variables from year nine were collected from the child's teachers using the teacher survey and the child's primary caregiver using the primary caregiver questionnaire. Behavior variables collected from the teacher survey included the following answer choice responses: 1 (*never*), 2 (*sometimes*), 3 (*often*), and 4 (*very often*). The primary caregiver questionnaire included the following answer choices: 1 (*not true*), 2 (*somewhat or sometimes true*), and 3 (*very true or often true*).

Academic performance variables were collected from the Peabody Picture Vocabulary Test-III (PPVT-III; 1997) and Woodcock-Johnson Tests of Achievement, Third Edition (WJIII; 2001) (hv5\_wj9ss "Woodcock Johnson Test 9 standard score" and hv5\_wj10ss "Woodcock Johnson Test 10 standard score"). Passage Comprehension (WJ Subtest 9) items require the test taker to read a short passage and identify a missing key word that makes sense in the context of that passage. The items become increasingly difficult by removing pictorial stimuli and by increasing passage length, level of vocabulary, and complexity of syntactic and semantic cues.

Applied Problems (WJ Subtest 10) requires the student to analyze and solve math problems. The student must listen to the problem, recognize the procedure to be followed, and then perform relatively simple calculations. Because many of the problems include extraneous information, the student must decide not only the appropriate mathematical operations to use, but also which numbers to include in the calculation. Item difficulty increases with complex calculations.

Scores on the Woodcock Johnson variables are reported in standard score format with a mean of 100 points and a standard deviation of 15 points. Scores between 85 and

115 are considered within the average range. Scores below 85 are considered delayed and scores above 115 are advanced.

The PPVT-III measures receptive vocabulary and screens for verbal ability. In the administration, the interviewer reads a word and asks the child to identify the picture on the easel (among a set of four pictures) that corresponds to that word. Scores are reported in standard score format similar to the Woodcock Johnson scores.

Items related to special education and disability were in dichotomous format (yes/no) with the exception of item t5c2, which asked the child's primary disability. This item was in categorical format with 14 possible responses, 13 disabilities and an option for no classification.

Table 3

*Summary of Year Nine Variables for Analysis*

Variable	Scale	Data File
p5q3o: Child is cruel, bullies, or shows meanness to others	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3aa: Child breaks rules at home, school, or elsewhere	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3ag: Child feels worthless or inferior	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3t: Child destroys things belonging to family or others	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3ap: Child lies or cheats	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3av: Child is too fearful or anxious	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3co: Child has temper tantrums or a hot temper	3-point scale	Year Nine Primary Caregiver Questionnaire
p5q3cv: Child is unhappy, sad, or depressed	3-point scale	Year Nine Primary Caregiver Questionnaire
t5b1aa: Child forms and maintains friendships	4-point scale	Year Nine Teacher Survey
t5b1ab: Child respects the property rights of others	4-point scale	Year Nine Teacher Survey
t5b1ac: Child is sensitive to the feelings of others	4-point scale	Year Nine Teacher Survey
t5b3i: Child gets angry easily	4-point scale	Year Nine Teacher Survey
t5b3j: Child has temper tantrums	4-point scale	Year Nine Teacher Survey
t5b4o: Child argues with adults	4-point scale	Year Nine Teacher Survey
t5b4t: Child has temper outburst, is explosive, or has unpredictable behavior	4-point scale	Year Nine Teacher Survey
t5c1: Child receiving special ed through Individualized Education Program (IEP)	Dichotomous	Year Nine Teacher Survey
t5c2: Child's primary disability as identified on IEP	Categorical	Year Nine Teacher Survey
hv5_ppvtss: PPVT standard score	Continuous	Child Home Visit Workbook
hv5_wj9ss: Woodcock Johnson Test 9 standard score	Continuous	Child Home Visit Workbook
Hv5_wj10ss: Woodcock Johnson Test 10 standard score	Continuous	Child Home Visit Workbook

**Measures of Subtype Characteristics**

For this study, emotional behavioral impairment was defined as having significant emotional or behavior concerns to the degree it impedes the child’s academic performance and/or his or her ability to build and maintain friendships. It was anticipated the 28 students identified in the Fragile Families database with an emotional disturbance would be identified through the data analysis as having an emotional impairment. The definition of social maladjustment, for this study, is consistent with the diagnostic criteria for Oppositional Defiant Disorder (ODD) and CD as listed in the *Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition (DSM-V)* (American Psychiatric Association, 2013). Table 4 lists items from year nine from the Fragile Families database that match behavior characteristics of ODD and CD.

Table 4

*Items Used to Define Social Maladjustment*

Fragile Families Variable	DSM-V
p5q3aa: Child breaks rules at home, school, or elsewhere	Often actively defies or refuses to comply with adults’ requests or rules (ODD)
p5q3co: Child has temper tantrums or a hot temper	Often loses temper (ODD)
t5b1ab: Child respects the property rights of others	Has deliberately destroyed others’ property (CD)
p5q3o: Child is cruel, bullies, or shows meanness to others	Often bullies, threatens, or intimidates others (CD)
p5q3ap: Child lies or cheats	Often lies to obtain goods or favors or to avoid obligations (CD)

Note: Oppositional Defiant Disorder (ODD), Conduct Disorder (CD)

For the ECLS-K data analysis, only composite teacher variables were used for internalizing and externalizing problem behaviors. The variables T5EXTERN (“T5

EXTERNALIZING PROBLEM BEHAVIORS”) and T5INTERN (“T5 INTERNALIZING PROBLEM BEHAVIORS”) were utilized because these data variables were collected when the students were in 3rd grade which was a comparable age group to the year nine data in the Fragile Families.

The externalizing and internalizing problem behavior composites were derived items collected from the *Social Skills Rating Scale: Elementary Scale A* (Gresham & Elliott, 1990). Actual items used to rate social skills were not included in the user’s manual nor this study due to copyright protection. The externalizing problem behavior composite was created using six items that asked teachers to rate the student’s frequency of behaviors such as arguing, fighting, getting angry, acting impulsively, disturbing ongoing activities, and talking during quiet time. The internalizing problem behavior composite was created using four items. These four items were teacher perception ratings on the student’s anxiety, loneliness, low self-esteem, and sadness.

### **Statistical Analyses**

The data were downloaded directly from the Fragile Families and the Child Wellbeing Study website onto an external hard drive and safeguarded by the researcher. The ECLS-K data were extracted from a compact disc that contained the full sample K-8th grades data files for public use and the electronic codebook. After extraction, the data were put on the same external hard drive owned by the researcher. Before the data were thoroughly analyzed, they were screened and prepared using SPSS (v. 23). The Fragile Families data were screened for univariate and multivariate outliers. Screening also involved the identification and recoding of missing data. Missing data were retained, and

the collection of preliminary descriptive frequencies in the available data are reported in the results section.

The primary analysis used for this study was a latent class analysis. The purpose of using this particular analysis was to distinguish distinct heterogeneous classes within the samples as identified by the statistical software. In general, individuals are placed within specific classes based on their characteristics using variables and latent variables as deemed appropriate by the researcher. For this study, the classes were distinguished among the latent variables created within *MPlus* using available items from the Fragile Families and Child Wellbeing Study and the Early Childhood Longitudinal Study, Kindergarten.

A confirmatory factor analysis was used to identify a model of emotional-behavioral problems. Latent factors were created in *MPlus* and adjusted to get a reasonable good fit. For year three, 11 variables were used to create an internalizing latent factor and an externalizing latent factor. Each latent factor was comprised of items that have been historically used to define internalizing and externalizing behaviors and all items were available in the Fragile Families data bank. For example, internalizing problems have been defined with more emotional terms such as sadness, anxious, and sensitive. As a result, items related to emotional insecurity, crying, sensitivity, and anxiety were chosen for the year three variables for internalizing problems.

Externalizing problems have historically been defined with terms such as defiance, hyperactivity, talking at inappropriate times, and arguing with others. For this study, items related to defiance, frustration, erratic mood, and temper were used to define externalizing problems. Other variables were initially included for both internalizing and

externalizing latent variables, however, were ultimately excluded when model fit indices were taken into consideration. Table 5 shows each latent factor with its relevant variables using standardized estimates.

Table 5

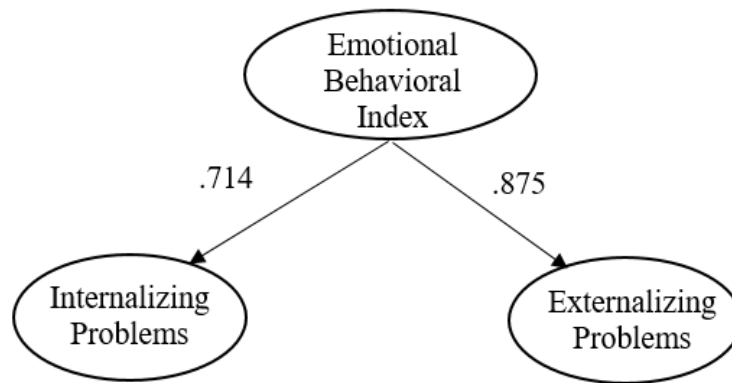
*Latent Factors for Year Three Variables*

Latent Factor	Variable	Estimate
Internalizing Problems	m3: He/She clings to adults or is too dependent	.464
	m3a: He/She cries a lot	.572
	m16: He/She feelings are easily hurt	.386
	m25: He/She is nervous, high strung, or tense	.471
	m42: He/She is too fearful or anxious	.494
Externalizing Problems	m5: He/She is defiant	.494
	m14: He/She is easily frustrated	.565
	m23: He/She has angry moods	.655
	m28: Punishment doesn't change (his/her) behavior	.453
	m39: He/She is stubborn, sullen, or irritable	.607
	m41: He/She has temper tantrums or hot temper	.688

Using a higher-order model, the two latent factors loaded on the overall Emotional Behavior Index as indicated in Figure 1. Model fit indices used to determine appropriate fit included the root mean square error of approximation (RMSEA), Tucker-Lewis Index, and Comparative Fit Index. The RMSEA was chosen as a fit index because it has been regarded as a valuable piece of information that suggests optimal parameter estimates in the sample relative to the model (Hu & Bentler, 1999). The root mean square error of approximation (RMSEA) was .034 indicating good model fit.



The Tucker-Lewis and Comparative Fit Indices was also chosen by default to assess model fit. In addition, the Tucker-Lewis index (TLI) value was .961 and the Comparative Fit Index (CFI) was .969, again indicating good model fit. The standardized root mean square residual (SRMR) value was less than .05 at a value of .025. Again, some items that were initially added to the latent variables were removed to accommodate appropriate model fit.



*Figure 1.* Three factor, higher-order model for year five variables.

Year five variables were used to identify emotional and behavior problems at the kindergarten grade level. A total of six variables from year five data were used to load onto two latent factors, internalizing problems and externalizing problems. Similar to the year three latent variables, the year five latent variables were defined by items typically associated with internalizing and externalizing problem behaviors. Items for internalizing problems included loneliness, withdrawal, and embarrassment while items related to externalizing problems included arguing, impulsivity, and cheating. The latent factors with their respective variables are indicated in Table 6.

Table 6

*Latent Factors for Year Five Variables*

Latent Factor	Variable	Estimate
Internalizing Problems	15: Child complains of loneliness	.299
	125: Child would rather be alone than with others	.443
	143: Child is self-conscious or easily embarrassed	.315
Externalizing Problems	11: Child argues a lot	.477
	124: Child is impulsive or acts without thinking	.638
	126: Child lies or cheats	.525

Using the higher-order model, the two latent factors loaded on the overall Emotional Behavior Index. The RMSEA value was .012 indicating an acceptable fit as it was less than .05. The TLI value was .993 and the CFI was .996, again both indicating good model fit. The SRMR value was .011. Overall, the model had acceptable and good fit.

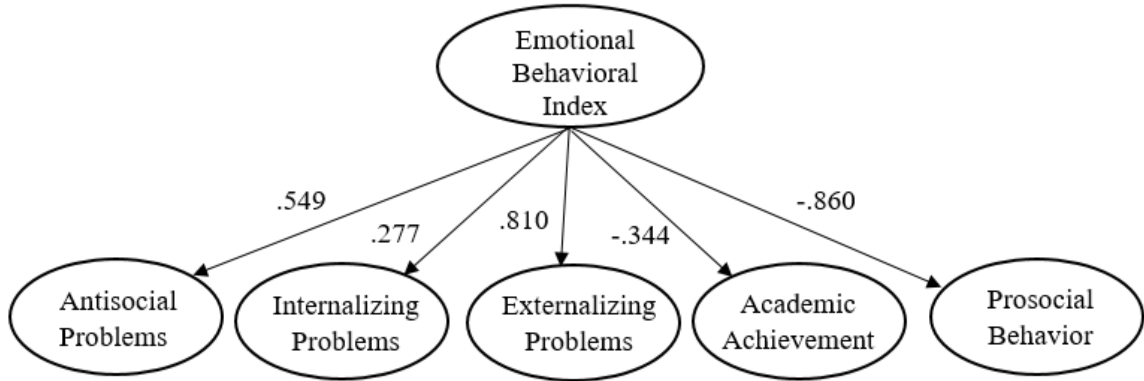
Lastly, latent variables were built for year nine. A total of 18 variables from year nine were loaded into five latent factors. Five latent factors were created and labeled: antisocial problems, internalizing problems, externalizing problems, academic achievement, and prosocial behaviors. For the five latent factor model, RMSEA was .033 indicating an acceptable fit as it was less than .05. The TLI was .973 and the CFI was .978, both also indicative of acceptable fit. Lastly, the SRMR was .029 providing another index of acceptable model fit. Table 7 shows each latent factor with its relevant variables using standardized estimates.

Table 7

*Latent Factors for Year Nine Variables*

Latent Factor	Variable	Estimate
Antisocial	p5q3co: Child has temper tantrums or a hot temper	.600
	p5q3o: Child is cruel, bullies, or shows meanness to others	.556
	p5q3ap: Child lies or cheats	.615
	p5q3aa: Child breaks rules at home, school, or elsewhere	.657
	p5q3t: Child destroys things belonging to family or others	.634
Internalizing	p5q3cv: Child is unhappy, sad, or depressed	.586
	p5q3ag: Child feels worthless or inferior	.489
	p5q3av: Child is too fearful or anxious	.463
Externalizing	t5b3j: Child has temper tantrums	.867
	t5b3i: Child gets angry easily	.888
	t5b4t: Child has temper outburst, is explosive, or has unpredictable behavior	.893
	t5b4o: Child argues with adults	.838
Academic	hv5_ppvtss: PPVT standard score	.735
	hv5_wj9ss: Woodcock Johnson Test 9 standard score	.835
	hv5_wj10ss: Woodcock Johnson Test 10 standard score	.749
Prosocial	t5b1ac: Child is sensitive to the feelings of others	.867
	t5b1aa: Child forms and maintains friendships	.770
	t5b1ab: Child respects the property rights of others	.879

When the higher-order model was considered, the five latent factors loaded on the overall Emotional Behavior Index as indicated in Figure 2. The RMSEA increased to .047, but continued to indicate an acceptable fit as it was less than, or arguable equal to, .05. The TLI decreased to .943 and the CFI was .952, again indicating good model fit. The SRMR increased to .060, which was higher than the threshold of .05.



*Figure 2.* Five factor, higher-order model.

The antisocial latent variable included items that were related to conduct problems and socially maladaptive behaviors. For example, the student’s tendency to have a short temper, lie to, steal from, and bully others, disregarding rules and authority, and destroying personal belongings. The internalizing latent variable included traditional behaviors that had been associated with internalizing problems in the literature and included anxiety, unhappiness, and feelings of worthlessness. Similarly, the externalizing latent variable included behaviors historically associated with externalizing problems such as unpredictable behavior, arguing with adults, having explosive behavior, and becoming angry easily.

The achievement latent variable was composed of the Peabody Picture Vocabulary Test standard score, WJIII Test 9 (Passage Comprehension) standard score,

and WJIII Test 10 (Applied Problems) standard score. The achievement variables were intended to answer the final research question related to educational need and differences among the subgroups within the sample. The last latent variable, prosocial behavior, was added to identify social behavior strengths of each subgroup. The prosocial behavior latent variable included items related to empathy, relationship skills, and respecting others. The achievement and prosocial behavior latent variables had a negative residual value on the overall Emotional Behavioral Index which was expected. This suggests as behavior problems increase, academic achievement and prosocial behaviors decrease.

To answer the first two research questions, a latent class analysis was conducted to identify the patterns of behavior in early childhood that could explain behavior problems in middle childhood. A latent class analysis was conducted using the year three internalizing and externalizing latent variables as listed above. Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC) were used to determine the most appropriate number of classes. The lowest values of the Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC) are said to be the best fit. The class solutions were requested in rote order until the program showed no convergence or the lowest BIC and AIC values were detected. Next, the same analysis was repeated to identify latent classes using the year five variables and then again using the year nine variables.

The second research question (Specifically, what, if any, behaviors significantly differentiate students with social maladjustment from those with an emotional impairment?) was answered with the latent class analysis for year nine. In this case, students who are potentially socially maladjusted are those who have characteristics

similar to oppositional defiant disorder or conduct disorder, which are more externalizing in nature.

The third research question asked, what are the educational implications of both groups and how do they differ? This question aimed at identifying which students could be eligible for special education services using academic achievement and variables related to special education. To identify whether a student was in special education, the variable U5RIEP 'Child has an IEP on file' was used. Third grade academic achievement variables rated the student's highest proficiency level reached in the areas of math and reading. The 3rd-grade reading variable measured the student's phonemic awareness, decoding skills, vocabulary, and reading comprehension. The 3rd-grade math variable measured the student's group means using academic achievement variables were compared with those corresponding variables of the behavioral classes identified. In addition, the achievement variables were used to compare means of special education students to non-special education students.

## CHAPTER IV

### RESULTS

Before data were analyzed in *MPlus*, basic demographics were retrieved using SPSS. Descriptive statistics for both Fragile Families and the Early Childhood Longitudinal Study, Kindergarten are listed in Table 8. Gender demographics were similar between the two groups. There were distinct differences in race when comparing the two groups. Of the 4,898 students in the Fragile Families dataset, 47.5% were African American while 21.0% and 27.3% were White and Hispanic, respectively. The largest race group in the ECLS-K data was White, which accounted for 55.1% of all 21,409 students. Special education eligibility was similar between the two groups. Based on the results below, slightly over 6% of students had an IEP. Primary disabilities were available in the Fragile Families data; however, that information was suppressed in the ECLS-K.

There were striking differences in income between the two groups. An overwhelming 42.2% of the Fragile Families students were primarily from low socioeconomic households, which was expected based on the sampling frame. For this study, low SES was identified earning an annual income of less than \$25,000. Only 27.1% were from families with an annual income between \$25,000 and \$75,000, and annual income was not documented for a relatively large percentage (27.1%) of the students at the baseline time point. The ECLS-K data set was more evenly distributed; however, the annual income for a quarter of the students was not listed at the Fall-Kindergarten time point. A majority of the ECLS-K students (58.3%) came from families with annual incomes between \$30,000 and \$75,000.

Table 8

*Descriptive Statistics for Datasets*

Descriptive Statistics	Fragile Families	ECLS-K
	Gender	
Boys	2,568 (52.4%)	10,950 (51.2%)
Girls	2,329 (47.6%)	10,446 (48.8%)
	Race	
White, Non-Hispanic	1,030 (21.0%)	11,788 (55.0%)
African American, Non-Hispanic	2,326 (47.5%)	3,224 (15.1%)
Hispanic	1,336 (27.3%)	3,826 (17.9%)
Asian	*	1,366 (6.4%)
Other	206 (4.2%)	1,205 (5.6%)
	Special Education	
Has IEP	300 (6.1%)	1,330 (6.2%)
Does Not Have IEP	1,931 (39.4%)	10,343 (48.3%)
Missing	2,667 (54.5%)	9,736 (45.5%)
	Income**	
Less than \$30,000	2,065 (42.2%)	5,680 (26.5%)
\$30,001-\$75,000	1,327 (27.1%)	6,809 (31.8%)
\$75,001-over \$200,000	324 (6.6%)	3,526 (16.5%)
Missing	1,182 (24.1%)	5,394 (25.2%)

\*Asian was listed in the 'other' category

\*\*ECLS-K income figures are based on Fall-Kindergarten data, Fragile Families income is based on baseline mother data

**Latent Class Analysis**

The first research question aimed to identify patterns of behavior in early childhood that could predict behavior problems in middle childhood. A latent class analysis was used to identify groups within the Fragile Families sample when the students were three, five, and nine years of age. Mixture modeling was the chosen analysis because it allows the statistical software to identify groups with a large,



representative sample size. The membership of each class is distinct from the next whether these observations are relatively narrow or broad.

**Latent Class Solutions for Fragile Families**

Using the year three internalizing and externalizing latent variables with the higher order factor, the mixture modeling command was added to the analysis, and model fit indices were evaluated to determine the number of classes. In addition to the basic model fit indices, which included the CFI, TLI, RMSEA, and chi-square test of model fit, the Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC) were used to determine the most appropriate number of classes. The number of classes increases until the software cannot compute additional information. The lowest values of the Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC) are said to be the best fit. BIC and AIC values for each requested class using year three variables are listed in Table 9.

Table 9

*Model Fit BIC-AIC Values for Year Three Latent Class Solutions*

# of Classes	BIC	AIC
1	61,120.10	60,966.26
2	61,159.68	60,976.26
3	61,199.26	60,986.26
4	61,238.84	60,996.26
5	61,278.43	61,006.26
6	61,318.02	61,016.26
7	61,357.60	61,026.26
8	61,397.18	61,036.23
9	61,436.77	61,046.26

Based on the values in Table 9, a single class was identified as the best fit model per Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) values. The model was requested a total of nine times for up to nine classes before the decision was made to terminate further requests. The values were expected to continue to increase and cease to provide meaningful data to interpret.

Next, the year five variables were analyzed in a latent class analysis to identify distinct groups. At this time point, the students were approximately five years old and, therefore, two years older than they were at the previous data collection time point. The students were in or about to enter kindergarten and their behavior was rated by their teachers as opposed to parents. BIC and AIC values for year five are listed in Table 10 below.

Table 10

*Model Fit BIC-AIC Values for Year Five Latent Class Solutions*

# of Classes	BIC	AIC
1	29,462.65	29,330.76
2	29,558.60	29,354.76
3	29,654.54	29,378.76
4	29,750.49	29,402.76
5	No Convergence	

Similar to the year three latent class analysis, the year five data did not show more than one class solution to be best fit per the BIC and AIC indicator values. Unlike the year three latent class analysis, the year five model did not run when five latent classes were requested. As a result, there was no convergence and model fit indices were not available.

In a final attempt to identify classes within the Fragile Families sample, year nine variables were analyzed using a latent class analysis similar to year three and year five. At this time point, the students in the sample were generally in 3rd grade at the age of nine. Their internalizing problem behaviors were rated by their parents or guardians while their externalizing problem behaviors were rated by their teachers. Achievement variables were also used and included standard scores for the Peabody Picture Vocabulary Test (Dunn & Dunn, 1997), Woodcock Johnson Passage Comprehension subtest (McGrew & Woodcock, 2001) and Woodcock Johnson Applied Problems subtest (McGrew & Woodcock, 2001). Table 11 shows AIC and BIC values for the year nine latent class solutions.

Table 11

*Model Fit BIC-AIC Values for Year Nine Latent Class Solutions*

# of Classes	BIC	AIC
1	76,135.44	75,931.76
2	76,273.28	75,967.76
3	76,411.12	76,003.76
4	76,548.96	76,039.76
5	76,686.79	76,075.76
6	76,824.63	76,111.76
7	76,962.47	76,147.76
8	77,100.31	76,183.76
9	77,238.15	76,219.76

Results from the year nine latent class analysis were consistent with previous findings from years three and five. The best fit class solution was a single class based on the model fit BIC and AIC values. Similar to year three, the year nine latent class analysis continued to run when nine classes were requested. The decision to cease the

analysis after nine requests was made because further data would not provide sufficient information for the purpose of this study. Instead, the single class solution was accepted as it replicated findings from the former latent class analyses.

All three waves of latent class analyses using the Fragile Families database were consistent in finding only one class solution as the best fit. To cross validate findings from the Fragile Families latent class analysis, data from the Early Childhood Longitudinal Study, Kindergarten (ECLS-K) were used. The first wave of available data in the Early Childhood Longitudinal Study, Kindergarten was collected in the fall semester of the students' kindergarten year, and the next set was from the spring semester of their kindergarten year. For the purpose of this study, data from the fall semester of kindergarten and spring semester of 3rd grade were compared to the year five and year nine data from Fragile Families. The rationale for this decision was based on the assumption that kindergarten-age students are generally five- or six-years-old while 3rd-grade students are generally eight- and nine-years-old.

The ECLS-K data were first analyzed using a one-way ANOVA to compare differences in behavior, special education services, and academic achievement across the overall sample. The one-way ANOVA was utilized to identified significant differences between students who received special education and those that did not as a way of broad comparison before classes were identified through the latent class analysis. The purpose of using the one-way ANOVA as opposed to the t-test was to minimize the likelihood of making a type one error which may lead to erroneous results indicating the differences between the groups were left to chance.

First, the internalizing and externalizing behaviors were compared across students that had an IEP through special education and those who did not. There was a statistically significant interaction between externalizing behaviors and special education eligibility,  $F(1, 10,266) = 167.05, p < .05$ . The group of students with an IEP had slightly more externalizing behaviors ( $M = 1.90, SD = .70$ ) than those who did not have an IEP ( $M = 1.66, SD = .58$ ). There was also a statistically significant interaction between internalizing behaviors and special education support,  $F(1, 10,177) = 287.01, p < .05$ . The group of students with an IEP also had slightly more internalizing problems ( $M = 1.88, SD = .60$ ) than the group of students without an IEP ( $M = 1.59, SD = .51$ ).

Next, math and reading proficiency levels were compared across students with and without an IEP through special education services. There was a significant interaction between reading proficiency and special education,  $F(1, 10,694) = 826.73, p < .05$ . Students without an IEP were more proficient in reading ( $M = 6.56, SD = 1.2$ ) than those who had an IEP ( $M = 5.45, SD = 1.40$ ). In addition, there was also a significant interaction between math proficiency and special education,  $F(1, 11,300) = 533.25, p < .05$ . Although math proficiency levels were lower than the reading for both groups, students without an IEP continued to have higher proficiency levels ( $M = 5.48, SD = 1.09$ ) than their peers with an IEP ( $M = 4.71, SD = 1.20$ ).

### **Latent Class Solutions for Early Childhood Longitudinal Study, Kindergarten**

Next, a latent class analysis, based on behavior, special education, and academic achievement variables, was conducted to identify specific groups. Demographic variables, such as gender, race, and socioeconomic status, were also used to identify other characteristics within each class. To compare the ECLS-K fall kindergarten data to the

Fragile Families year five data, the latent class analysis was replicated using the internalizing and externalizing composite variables collected from the kindergarten fall semester. Due to the way the ECLS-K data were organized, only the composite variables for internalizing and externalizing were available. Each variable was loaded onto the latent variable labeled Emotional and Behavioral Index. Table 12 shows BIC and AIC values for each latent class solution listed when the kindergarten fall semester data were used.

Table 12

*Model Fit BIC-AIC Values for ECLS-K Kindergarten Fall Latent Class Solutions*

# of Classes	BIC	AIC
1	64,607.36	64,568.106
2	62,078.45	62,023.49
3	62,098.16	62,027.49
4	61,663.13	61,576.76
5	61,682.83	61,580.76
6	61,113.77	60,996.00
7	61,145.61	61,012.13
8	No Convergence	

The latent class solutions for the ECLS-K kindergarten fall semester indicate six classes are the best fit for the data provided. The BIC and AIC values were lowest when six classes were identified. Latent class counts and percentages based on their most likely membership are listed in Table 13. These indicate the largest class contained 61% of the total sample and the smallest class contained less than 1%.

Table 13

*Class Counts and Percentages for Fall Kindergarten*

Latent Classes	Int Mean (SD)	Ext Mean (SD)	Number	Percentage
1: Elevated Behavior	3.800 (.03)	2.315 (1.06)	134	.71%
2: Moderate-High Behavior	3.234 (.17)	2.29 (.97)	221	1.16%
3: Fair Behavior	2.392 (.12)	2.173 (.80)	826	4.35%
4: Neurotypical Developing	1.202 (.19)	1.49 (.51)	11,674	61.48%
5: Low Behavior	1.909 (.19)	1.781 (.69)	5,696	30.00%
6: Moderate-Low Behavior	2.776 (.15)	2.054 (.94)	437	2.30%

A comparison of the class means for each variable was used to identify behavior patterns among the classes. Class 4, the largest class, was identified as the neurotypical behavior group because it had relatively low levels of internalizing and externalizing problem behaviors and majority of the students (61%) fell into this group. Class 1, identified as the elevated behavior group, had elevated levels of internalizing and externalizing behaviors compared to the other five classes. Class 2, moderate-high behavior, had slightly lower levels internalizing and externalizing behaviors compared to class 1. It is likely classes 1 and 2 are very similar and could be collapsed into one group.

Class 3, the fair behavior group, had similar levels of internalizing and externalizing problem behaviors that were both in the average range compared to the other five classes. Class 5 was similar to class 3, in that their average levels of both internalizing and externalizing behaviors were similar. However, the class 5 was identified as the low behavior group as its means were lower than those of class 3, but higher than those of class 1, particularly the internalizing mean. Lastly, class 6 was identified as the moderate-low group and had moderate levels of internalizing behaviors,

but still average externalizing behaviors. In general, the elevated (1), moderate-high (2), and moderate-low (6) groups had higher internalizing behaviors than the fair (3), neurotypical (4), and low (5) behavior groups. The elevated (1), moderate-high (2), and fair (3) groups had slightly higher externalizing behaviors compared to the neurotypical (4), moderate-low (6), and low (5) behavior groups.

When gender was taken into consideration, girls were significantly more likely to fall into the fair behavior group, which was characterized as having average to high average internalizing behaviors and average externalizing behaviors. Boys were more likely to be in the moderate-high behavior group with higher internalizing behaviors than the fair behavior group and average externalizing behaviors. Gender did not show significant differences between the elevated, neurotypical, moderate-low, and low behavior groups which were classes 1, 4, 6, and 5, respectively.

Lastly, socioeconomic status was examined to compare differences between the six classes. Students from higher socioeconomic status (\$75k and higher) were more likely to be in the fair behavior group whereas students from lower socioeconomic status (less than \$30k) were more likely to be in the low behavior group. There were little to no differences in socioeconomic statuses in the elevated, moderate-high, neurotypical, and moderate-low groups.

After six classes were identified in the fall-kindergarten data, ECLS-K spring 3rd-grade data were analyzed using a latent class analysis. A total of four classes were identified as best fit based on the lowest BIC-AIC model fit values. These values are listed in Table 14 for each number of classes requested.



Table 14

*Model Fit BIC-AIC Values for ECLS-K 3rd-Grade Spring Latent Class Solutions*

# of Classes	BIC	AIC
1	38,384.13	38,347.31
2	36,759.46	36,707.91
3	36,778.19	36,711.91
4	36,455.15	36,374.14
5	36,473.88	36,378.14
6	No Convergence	

The four class solutions placed the 3rd-grade students into one of four classes. Each class label concludes with a '3' signifying the third grade classes to differentiate from the kindergarten classes. Class 1 accounted for 52.3% of the students and was identified as the neurotypical-3 group with the lowest internalizing and externalizing behavior problems. Class 2, labeled moderate-low-3, was the next largest group with moderate levels of internalizing and externalizing behavior problems. Class 3, moderate-high, was a smaller group and had moderate internalizing problem behaviors, but higher externalizing behavior problems than the moderate-low group (2). Class 4 was the smallest group and appeared to be the most externalizing problematic group, but had elevated levels of internalizing problems was identified as the elevated-3 group. Table 15 shows the four class descriptions with the number and percentage of each group.

Table 15

*Summary for Spring 3rd-Grade Based on Most Likelihood Membership*

Latent Classes	Int Mean (SD)	Ext Mean (SD)	Number	Percentage
1: Neurotypical-3 Behavior	1.493 (.46)	1.235 (.20)	5,647	52.3%
2: Moderate-Low-3 Behavior	1.670 (.50)	1.930 (.21)	3,904	36.1%
3: Moderate-High-3 Behavior	1.968(.631)	2.696 (.22)	920	8.5%
4: Elevated-3 Behavior	2.327(.71)	3.506 (.27)	331	3.1%

Girls were slightly more likely than boys to be in the neurotypical-3 group (class 1) with low internalizing and externalizing problem behaviors and accounted for 59.89% of the students in the group. Boys were more likely than girls to be in the moderate-low-3 group (class 2) with moderate levels of internalizing and externalizing problem behaviors and accounted for 58.91% of the students in the class. Boys accounted for 68.7% of the students in the moderate-high-3 group (class 3), which was the moderate internalizing behaviors and high externalizing behaviors class. Finally, the elevated-3 group (class 4) was the moderate-high internalizing and high externalizing behavior class and had significantly more boys (71.3%) than girls (28.7%).

Comparing the four classes against the race covariate showed minimal differences. Elevated-3 (4) was the only class that appeared to have a slightly higher percentage of African American students, which was demonstrated by a decrease in percentage of White students compared to the control group. More specifically, the neurotypical-3 (1) was comprised of 65.49% White students, whereas the elevated-3 group only had 46.22%. The moderate-high-3 group (3) also had a slight increase of African American students, but less than the elevated-3 group. Hispanics and the smaller racial groups' percentages remained relatively constant across the four classes.

When socioeconomic status was considered, students from lower income families had higher likelihood of being in the moderate-high-3 and elevated-3 groups as opposed to their more affluent counterparts. Low SES students were just as likely to be in the moderate-high-3 group as their middle class counterparts. Middle class students were most likely to be in the neurotypical-3 and moderate-low-3 groups. Students in higher income households were most likely to be in the neurotypical-3 group and least likely to be in the elevated-3 group, but had a similar probability of being in either moderate group, high and low.

The second research question was answered using the latent class analysis of the ECLS-K data from the spring semester of 3rd grade. What, if any, behaviors significantly differentiate students with social maladjustment from those with an emotional impairment? Elevated-3 was a relatively small class with 331 students. These students appear to have high externalizing and internalizing behaviors that may be consistent with behaviors related to social maladjustment. It is difficult to evaluate the types of behaviors these students had due to the copyright protection on questions used from the Social Skills Rating Scale (Gresham & Elliott, 1990). Nonetheless, this small portion of only 3.1% of the sample was unique enough for the statistical software to group them into one class and it was likely due to their high externalizing scores compared to the majority of the sample.

### **Academic Achievement and Special Education**

To answer the final research question, special education and academic achievement variables were considered across groups. First, the reading and math proficiency variables were used to identify academic achievement patterns across the four

classes. Neurotypical-3 had the highest proficiency levels in both subjects indicating students in this class were the highest academic performers among the four classes. Students in the elevated-3 group were the lower academic performers and received the lowest proficiency levels of the four classes. The moderate-high group proficiency scores were slightly higher than those of elevated-3, but lower than those of the moderate-low group. Results are indicated in Table 16.

Table 16

*Summary for Spring 3rd-Grade Academic Achievement Variables*

Latent Classes	Math Proficiency (SD)	Reading Proficiency (SD)	Special Education (%)
1: Neurotypical-3 Behavior	5.65 (1.08)	6.78 (1.15)	6.5%
2: Moderate-Low-3 Behavior	5.21 (1.15)	6.19 (1.27)	13.38%
3: Moderate-High-3 Behavior	4.99 (1.11)	5.88 (1.25)	28.94%
4: Elevated-3 Behavior	4.91 (1.09)	5.83 (1.26)	21.17%

Next, the four classes were compared using the special education variable, “Does the student have an individual education program (IEP)?” Students in the neurotypical-3 group were least likely to have an IEP and only 6.5% of students in this class received services for special education. Only 13.38% of students in the moderate-low-3 group and 28.94% of students in moderate-high-3 group had an IEP. Despite their more problematic behaviors and lower proficiency levels, only 21.17% of students in the elevated-3 group received special education services and had an IEP.

## Chapter V

### DISCUSSION

A discussion regarding the findings of this study are discussed in this final chapter. An overview of the results from the Fragile Families data analyses are reviewed first with possible explanations for the finding. Next, the Early Childhood Longitudinal Study, Kindergarten results are discussed in further detail with a review of support and contrast from previous literature. Lastly, implications and suggestions for future research studies are identified.

Former research indicated the emotional and behavioral profiles of students with an emotional disturbance and students with a social maladjustment often overlap one another (Gage, 2013; Hong et al., 2015; Mantymaa et al., 2011; Morgan et al., 2015) and others further demonstrate the two groups can be virtually indistinguishable (Costenbader & Buntaine, 1999; López-Romero et al., 2015). Before analyzing how students with an emotional disturbance differ from students who are socially maladjusted, there must be an operational definition of what behaviors are associated with social maladjustment. Typically, behaviors related to conduct disorder and oppositional defiant disorder have been associated with social maladjustment, but there is not a consensus across the United States (Merrell & Walker, 2004).

Former studies have explored early behaviors in relation to behaviors in the adolescence period (Lopez-Romero et al., 2015; Morgan et al., 2015) and the results of the first research question of this study are relatively consistent with those findings from the ECLS-K data analysis. The results from the analysis of the Fragile Families data did

not provide the answer to the first research question. The Fragile Families dataset did not identify distinct behavioral groups at ages three, five, or nine that differentiated them from the whole group, and there are a number of possible explanations for this.

### **Fragile Families**

The sample used in the Fragile Families was generally homogenous in their socioeconomic status. Over 40% of the students included in the Fragile Families Child and Wellbeing Study were from low income households with a family annual income of less than \$25,000. Only 6.6% of the students came from a middle to higher income family, which was intended to serve as a small comparison group by the original study investigators (FFCWS, 2001). The literature on low socioeconomic student representation identified within special education eligibility appears to be mixed and dependent on several factors including race and community (Sullivan & Artiles, 2011). Sullivan and Bal (2013) indicated students from low income families, as identified in their study by receiving free or reduced lunch, were more likely to be identified for special education in the eligibilities of specific learning disability, emotional disturbance, intellectual disability, and other health impairment.

Hanchon and Allen (2013) also reported students from lower income and nontraditional families, such as single parent households, are more likely to be identified as having an emotional disturbance. The students included in the Fragile Families and Child Wellbeing Study were purposely chosen to participate in the study due to their nontraditional family make up. Particularly, these students face the threat of being raised by single parents or families at risk for being 'fragile,' living in poverty with a lack of resources (Fragile Families, 2001).

African American students are more likely than their White counterparts to live in poverty, which may increase their likelihood of exhibiting externalizing problem behaviors. Bean (2013) indicated while there is supporting evidence for the ‘poverty hypothesis’ related to minority students and behavior disorders, it may not explain the whole picture. African American students comprised 47.5% of the total Fragile Families sample whereas non-Hispanic White and Hispanic students combined accounted for 48.3% of the total students.

This statistic is worthwhile in reporting for this dissertation study because previous literature indicates African American students are generally overrepresented in special education, but under the eligibility of emotional disturbance in particular (Bean, 2013; Herzik, 2015; Zhang, Katsiyannis, Ju, & Roberts, 2014). African American students have historically been over twice as likely to be identified as having an emotional and/or behavioral disorder than any other racial group. In addition, they are more likely to be targeted by their teachers as having higher incident rates of externalizing problem behaviors, such as conduct problems, aggression, and hyperactivity (Bean, 2013; Bryan et al., 2012), which may eventually lead to alternative education placement and poor academic success (Wagner, 1995; Wagner & Newman, 2012).

In the unweighted sample, there were only 300 students out of the 3,630 used for this study who had been receiving special education services in 3rd grade, which was highest grade level available in the Fragile Families study to date. This limited number may be due to not only the small sample size, but also the timing of when students are typically referred for a special education evaluation. As with any disability, early intervention is key and available through resources, such as Early Childhood Intervention

and Preschool Programs for Children with Disabilities (PPCD), but students must qualify for these services.

Traditionally, students are often referred for a suspected specific learning disability around 2nd or 3rd grade to demonstrate the student is performing multiple grade levels behind, despite Response to Intervention efforts. If there is suspicion of a developmental delay in motor or speech development, students are able to receive services through Early Childhood Intervention (ECI), which can then be transitioned into the public school setting if they qualify, based on an additional evaluation through special education.

There is limited data on when it is acceptable and appropriate to identify students with an emotional disturbance. Young elementary school-age students may exhibit internalizing and/or externalizing behavior problems, but it is not until the teacher notices the behavior continuously disrupts the class to the degree that the behavior impedes the education of the student or other students that it becomes problematic. Even so, quick fixes, such as sending the child to the office, in school suspension, or out of school suspension, may be utilized before a referral to special education is made.

There is not a specific criterion, with respect to age or grade level, for evaluating a student for an emotional disturbance; however, some sources have indicated students with an emotional disturbance may be the least likely to receive early intervention services by as much as a year compared to students with any other eligible disability (Hanchon & Allen 2013; Wagner et al., 2005). In practice, professionals, such as school psychologists, may be more reluctant to place the emotional disturbance eligibility on a young student and, instead, may refer the student to a medical physician to determine if



the student has attention deficit/hyperactivity disorder. If the student is diagnosed with attention deficit/hyperactivity disorder, the student may qualify for special education under the eligibility of “other health impairment,” which is much less stigmatizing than a diagnosis of emotional disturbance. Regardless of what professionals identify the eligibility to be, the student’s behavior should be targeted for intervention, which is independent of the eligibility label but the function it serves for the student.

The results from the Fragile Families data raise questions to whether behaviors historically associated with social maladjustment are appropriate when considering cultural backgrounds of minorities such as African Americans. As aforementioned, African Americans have been overrepresented in special education under the eligibility of emotional disturbance, which has been largely attributed to behaviors that are not consistent with the traditional White culture in the schools (Bean, 2013; Hanchon & Allen, 2013; Sullivan & Artiles, 2011). Based on the results, or lack thereof, from the Fragile Families data, behaviors related to social maladjustment may not be apparent or even different from the behaviors of other students in the study around the age of nine. Social maladjustment in terms of behaviors related to oppositional defiant disorder, such as arguing, defying authority, and acting out of social norms, may not be manifested through externalizing behaviors at this age. If these externalizing behaviors are evident, the population of students with social maladjustment may be minuscule and virtually undetectable at such a young age, particularly for racial minority groups.

### **Emotional and Behavioral Problems during Early Childhood**

The Early Childhood Longitudinal Study, Kindergarten data were used to answer the research questions presented for this study. First, the kindergarten fall data were used

to answer the first research question, which aimed to identify early patterns of behavior. Contrary to the results from the Fragile Families data, groups were identified in the data from the Early Childhood Longitudinal Study, Kindergarten. Six behavior classes were identified at the kindergarten level. Class 4 was identified as the neurotypical behavior group because it accounted for 61% of the total sample and these students appeared to have low levels of internalizing and externalizing problem behaviors. Class 5, the low behavior group, was the next largest group making up 30% of the total sample. Class 5 behaviors, both internalizing and externalizing, were relatively low but slightly higher than the control group levels. Class 3, identified as the fair behavior group, behaviors included moderate intensity internalizing and externalizing problem behaviors and double the size of combined elevated (1) and moderate-high (2) groups. Class 6, moderate-low behavior, was another small group that included 2.3% of the sample and characterized by moderate levels of internalizing behaviors with low externalizing problem behaviors. The fair (3) and moderate-low (6) groups were very similar in their behavior profiles; however, the moderate-low group had higher levels of internalizing problems and lower levels of externalizing problems.

The behavior profiles of the elevated and moderate-high groups were of upmost interest as they were the focus of this dissertation study. Both groups were small classes accounting for less than 2% of the total sample combined. Their behaviors appeared to be high intensity internalizing problems with moderate intensity externalizing problems. The fact the statistical software identified these two small subgroups of students suggests there are students who experience high degrees of behavior problems at an early age and

should be tracked over time to identify how these behaviors evolve and affect later academic achievement into later childhood.

### **Emotional and Behavioral Problems during Middle Childhood**

The second half of the first research question was answered using the 3rd-grade ECLS-K data. How do early childhood behavior patterns change over time? When the 3rd-grade variables were analyzed in the latent class analysis, four classes emerged from the data. Class 1 was identified as the neurotypical behavior group because it contained the largest percentage of students who had low levels of internalizing and externalizing behaviors compared to the other three groups. Class 2 was identified as moderate-low-3 and was next largest class and had moderate levels of both internalizing and externalizing behaviors. Class 3 was identified as moderate-high-3 and was a smaller group with moderate internalizing behaviors and high externalizing behaviors. Lastly, class 4 was identified as the elevated-3 group and was by far the smallest group accounting for 3.1% of the total sample with high intensity levels of internalizing and externalizing behaviors relative to the other three groups. The high intensity behavior levels may indicate behaviors related to social maladjustment or emotional disturbance.

Comparing the fall kindergarten classes with the spring 3rd-grade classes may identify developmental patterns in behavior profiles. The elevated and moderate-high groups from kindergarten and elevated-3 from 3rd grade appear to have the most significant behavior problems as rated by the student's teacher. For instance, the two high internalizing, moderate externalizing classes from kindergarten (classes 1 and 2) may be combined into one class that turned into elevated-3 in 3rd grade, which was the moderate-high internalizing and high externalizing behavior group. This would suggest

the internalizing problems decreased but the externalizing problems increased, as the students grew older and approached 3rd grade.

Behavior groups fair (3) and moderate-low (6) in the kindergarten set were identified with fairly similar behavior problems. Groups fair and moderate-low both had moderate levels of internalizing behaviors but low to moderate levels of externalizing behaviors. Moderate-High-3 (3) in the 3rd-grade set was classified with moderate internalizing problems and high externalizing problems. It could be plausible for students who were in either kindergarten fair or moderate-low to be later identified in 3rd grade in the moderate-high-3 group, which was class 3. If this were true, these students likely experienced a decrease in internalizing behaviors, but a slight increase in externalizing problem behaviors.

The kindergarten low behavior group (5) had low intensity levels of internalizing and externalizing behavior problems that were slightly higher than the neurotypical group. It is likely these students were placed in the 3rd grade moderate-low-3 group (2), which had similar patterns of internalizing and externalizing behaviors and both groups accounted for approximately 30% of the total sample at their respective time period. Similarly, some of the students from the kindergarten low behavior group may have been placed into the neurotypical-3 group, class 1, in 3rd grade which had the lowest intensity of behaviors. The findings of this study are somewhat consistent with the results from the López-Romero et al. (2015) study, which found three groups of behavior problems across a 6-year time span. López-Romero and colleagues identified three classes of behaviors, which included a stable low, stable high, and decreasing problem behaviors. While the current study did not identify an overall decreasing behavior problems group,

internalizing behavior problems seemed to decrease but externalizing behaviors seemed to increase across all classes identified. The current study was consistent in finding high, moderate, and low intensity behavior profiles.

It is interesting to note the neurotypical groups for each time period. In kindergarten, 61.48% of the total sample fell within the neurotypical group; however, the percentage in the 3rd-grade neurotypical group dropped to 52.3%, indicating students in the neurotypical sample had an increase in behavior problems, particularly in internalizing behaviors. There was an increase of .29% in internalizing problems but a .26% decrease in externalizing problem behaviors. The low behavior group accounted for 30% of the kindergarten sample, whereas the moderate-low-3 group, the comparable 3rd-grade group, had 6.1% more students. It is probable the 6.1% increase in the moderate-low-3 group may be from students who were formerly in the kindergarten neurotypical group, which suggests there is a small group of students who experienced an increase in internalizing problem behaviors between kindergarten and 3rd grade. This small group is unique because it was the only group that had an increase in internalizing problem behaviors when all other classes experienced an increase in externalizing problem behaviors.

The ECLS-K 3rd-grade data were further analyzed using demographic variables such as race, gender, socioeconomic status. White girls from higher income households were more likely than African American boys from lower income households to be in the neurotypical-3 group with low intensity levels of internalizing and externalizing problem behaviors. There were minimal racial differences between classes except in the elevated-3, which was identified as having high externalizing and moderate-high internalizing

problem behaviors. The elevated-3 behavior group was overrepresented by African American students and boys. These statistics are consistent with former research findings that suggest African American students are more than two times likely to be identified as having an emotional disturbance or significant externalizing problem behaviors (Bean, 2013; Hanchon & Allen, 2013; Herzik, 2015; Wagner et al., 2005; Zhang, Katsiyannis, Ju, & Roberts, 2014).

Over two-thirds of the students in the moderate-high-3 group were boys, and these students were more likely to be from lower to middle income households. While there was a slight increase in the percentage of African American students in this group, percentages of White, Hispanic, and other students remained relatively consistent with low intensity to moderate internalizing and externalizing problem behaviors. Boys from middle income households were more likely to exhibit moderate levels of internalizing and externalizing behavior problems regardless of race.

### **Academic Performance and Emotional/Behavioral Problems**

The third and final research question aimed to identify the academic performance of students in each 3rd-grade class. All classes were more proficient in reading than math, as reading scores were higher for each of the four classes identified. The neurotypical-3 group had the highest proficiency scores in both subjects, which indicates they are performing relatively on par with their grade level curriculum. The moderate-low-3 group had the next highest proficiency levels in both subject areas. The moderate-high-3 group had similar proficiency scores compared to scores in the elevated-3. Although their scores were similar, the moderate-high scores were slightly higher than those of elevated-3.

Based on these results, a trend emerged from the data. As problem behaviors increased, the academic proficiency scores decreased. It is difficult to determine if the behaviors caused a decrease in academic performance or if the academic deficits were in place before the behavior began to escalate. Referring back to the kindergarten latent class analysis, the neurotypical group was the only group that had an increase in internalizing behaviors, but the externalizing behaviors decreased in 3rd grade.

There are several possible explanations for an increase in internalizing problems but a decrease in externalizing problems. First, although the students are still relatively young at the age of nine, they likely matured in behavior since the beginning of kindergarten. They are accustomed to the rules and regulations of the school and classroom environment and likely understand the consequences of misbehavior such as arguing with the teacher, talking out of turn, and defying classroom rules. Classroom management strategies, such as positive reinforcement (e.g., earning rewards, special incentives, bonus points on assignments) and positive punishment (e.g., losing part of recess, 'pulling a stick,' withholding privileges), are put in place to discourage externalizing behaviors, and students generally abide by such strategies. However, there is a small percentage of students, such as those in 3rd grade in class 4, who do not comply with classroom rules and may need more intensive behavior intervention strategies.

Another explanation for an increase in internalizing behaviors is that the academic curriculum and standards become more stringent as grade levels increase. There may be an effect between increased academic demands and internalizing problems such as anxiety, sense of inadequacy, and even depression. van Lier et al. (2012) confirmed

previous findings that poor social skills in addition to academic difficulty in early grades increase the likelihood of internalizing problems such as low self-esteem, school dissatisfaction, and feeling inadequate compared to peers during middle childhood. They also found early externalizing behavior problems may fuel poor social skills due to negative social experiences, which then increase the likelihood of internalizing problems and academic difficulties (van Lier et al., 2012).

Willcutt and Pennington (2000) reported higher levels of anxiety and depression in students identified with academic deficits. They claimed students who had reading difficulties are likely to experience stress when presented with academic tasks related to reading. In addition, they found boys were more likely to have increased externalizing problems and girls more internalizing problems when faced with reading demands. A follow-up study by Wu, Willcutt, Escovar, and Menon (2012) indicated math difficulties may increase problem behaviors in girls while reading difficulties may increase problem behaviors in boys.

The remaining three classes, moderate-low-3, moderate-high-3, and elevated-3, showed a decrease in internalizing problems and increase in externalizing problems between kindergarten and 3rd grade. These three classes combined made up 47.7% of the sample, with the bulk of these students in the moderate-low-3 group, which had moderate levels of internalizing and externalizing behavior problems. The students in the moderate-low-3 group had slightly lower proficiency scores in math and reading than the control group, with the discrepancy being smaller in math than in reading. This suggests that although students in the moderate-low-3 group did not perform as well on math tasks



as reading, as a whole they did not perform as well in reading as their peers did in the neurotypical behavior group.

The results from the moderate-high-3 and elevated-3 were interesting in the sense that their achievement scores were nearly identical and lower than the achievement scores of the moderate-low-3 group. This again demonstrates academic achievement, in terms of proficiency, may be hindered by the presence of behavior problems. Wu et al. (2014) reported similar results. While the Wu et al. (2014) study focused primarily on math achievement and behavior problems, both internalizing and externalizing, reading difficulties were noted to be comorbid with behaviors related to attention deficit hyperactivity disorder as well as oppositional defiant disorder and conduct disorder.

### **Educational Need for Special Education Services**

As the data show academic achievement decreases as behavior problems increase, one would question if the behavior significantly impedes the student's educational performance to the degree special education services are necessary. For this study, the final variable for identifying the percentage of students with an IEP within each class was considered. As expected, the percentage of students with an IEP increased as the behavior problems increased and academic proficiency scores decreased. This suggests that the likelihood of the student needing specialized services increases as the educational need increases.

The neurotypical-3 group had the fewest number of students with an IEP, which was anticipated due to their on par academic proficiency scores and low behavior problems. Their math and reading proficiency scores indicate they are academically on

track and, therefore, there may not be an educational need for specialized services. Those who had an IEP may have a disability that can be supported through accommodations such as extended time, small group and/or oral administration of tests, and repeated review. With appropriate accommodations, students with disabilities in the neurotypical-3 group may be able to perform just as well as their general education peers to the degree they would be unnoticeably different in the absence of prior knowledge of the disability.

The students in the moderate-low-3 group had double the percentage of students with an IEP compared to the neurotypical-3 group. Although a relatively small percentage of students had an IEP in this group, these students had moderate levels of internalizing and externalizing problem behaviors. Again, this particular group experienced a decrease in internalizing problems, but an increase in externalizing problems. Combined with their academic proficiency scores, they did not perform as well as their control group counterparts both academically and behaviorally.

As aforementioned, there were similarities between the moderate-high-3 and elevated-3 groups in academic proficiency scores as well as behavior. Both groups did not perform as well as the neurotypical-3 and moderate-low-3 and, not surprisingly, had more students identifies as eligible for special education services. The data suggest that while students in the moderate-high-3 performed slightly better in math and reading, they had almost 8% more students with an IEP than in the elevated-3 group. It is questionable why the group of students with the lowest proficiency scores and greatest likelihood of educational need for services had a lower percentage of students with an IEP than the group with higher proficiency scores. There are few plausible explanations.

### **Social Maladjustment Group**

The first explanation, as related to the purpose of this study, could be that students identified as socially maladjusted were placed into elevated-3. These students had significantly higher intensity behavior problems, both internalizing and externalizing, compared to the students in the remaining three groups (neurotypical-3, moderate-low-3 and moderate-high-3). Due to the acceptance of the social maladjustment clause, these students are withheld special education services because their behaviors are generally not recognized as a concern related to educational or academic issues (Merrell & Walker, 2004). Further, supporters of the social maladjustment clause have argued students identified as socially maladjusted deliberately misbehave, feel the rules of society do not apply to them, and, lastly, do not have a true mental disorder (Cloth et al., 2014). Eventually, the lack of intervention has been shown to lead to unfortunate outcomes such as school failure, social exclusion, and increased arrest rates (Gage et al., 2012; Wagner, 1995; Wagner & Newman, 2012).

### **Lack of Educational Opportunity**

Another possible reason students fell into elevated-3 instead of moderate-high-3 may be due to the lack of educational opportunity. Lane, Barton-Arwood, Nelson, and Wehby (2008) suggested students with emotional and behavioral problems are much more susceptible to frequent interruptions in their educational program due to moving, out-of-placement changes, and absenteeism. Students with behavior problems are much more likely to move out of one school district and into another due to a discipline history. Not to be confused with being expelled, but parents of students with emotional and behavioral problems may be more willing to change schools in hopes of escaping a negative history with school faculty and administration due to frequent discipline

referrals. The rationale of transferring to another school may aid in helping their student ‘start over’ in a new environment, but unfortunately the behavior problems continue at the new school or district. Not only do the behavior problems continue, but the student may also miss imperative instruction, should the sequence and schedule of the curriculum at the new school district vary from those at the former district, which would decrease the likelihood of addressing academic deficits.

In addition, if the student moves before a referral for special education services can be made, the new school district would start the Response to Intervention (RtI) process over, delaying the onset of the services. The RtI process is lengthy, as it requires teachers and other school personnel, such as counselors, to collect sufficient data to substantiate that the student is not responding to the available interventions. Each phase of the RtI process can last several weeks, even months; all the while, the student may continue to receive discipline referrals due to misbehavior. If the student remains in the school long enough, he may eventually be referred for special education services, but there is no guarantee the student will remain in the school until the evaluation process is complete. As a result, the students in elevated-3 may include those who have not been identified due to circumstances out of the school’s immediate control.

### **Intervention as a Protective Factor**

Despite similar proficiency scores of moderate-high-3 and elevated-3, perhaps the intervention of special education services aided as a protective factor for students who would otherwise fall into elevated-3 with lower proficiency scores and higher behavior problems. It may be that as students are identified through special education they receive services, accommodations, and interventions that are specifically tailored to their

educational needs. These services may include behavioral interventions, such as a behavior intervention plan, preferential seating, positive reinforcers, and even counseling, as a related service to target issues such as anxiety, depression, and anger management. In addition, services may also provide academic supports, such as small-group instruction with lower staff-to-student ratios, to help target individual academic deficits.

A study conducted by Lane et al. (2008) indicated that overall school adjustment was more predictive of academic performance and success rather than behavior problems. It appears as though skills, such as attention to schoolwork, good listening skills, cooperation with peers and teachers, and positive work ethic, are more indicative of high academic achievement in school. Several of the school adjustment examples in the Lane et al. (2008) study focused on the internalizing and externalizing behaviors of students who were successful instead of those behaviors that prevented their success. The researchers suggested students with emotional behavioral disorders be provided interventions that help facilitate school adjustment skills that can be used in a variety of settings.

Wagner (1995) reported students with an emotional disturbance are more likely to perform poorly in their academics; however, they seemed to be just as competent as their general education counterparts. Instead, their academic discrepancy was attributed to their disengagement, absenteeism, and behavior problems, such as not completing work, not asking for help when needed, and not participating appropriately in class with others. These examples are consistent to the protective skills identified as intervention areas in the Lane et al. (2008) study.

### **Limitations of the Study**

Despite this researcher's best efforts to identify early patterns of behavior in early childhood and their implications on middle childhood academic achievement, there are limitations to the study. First, the Fragile Families data were collected primarily from students who resided in urban cities across the United States. Generalizations may be limited to students who attend relatively larger schools, and findings may not accurately represent students in more rural districts.

Second, this study did not take into consideration the state in which each student attended school. As aforementioned, the definition of emotional disturbance varies among the states and, therefore, the identification of students with a disability related to emotional or behavioral problems may not be the same. Nonetheless, the sample is said to be nationally representative and should reflect consistent prevalence rates.

Lastly, only the internalizing and externalizing behavior composite scores for each student, from the ECLS-K data, were analyzed in this study. There were several other variables within the data, such as information from the student's parents (e.g., behavior concerns, emotional disorder diagnosis, and year of diagnosis). Special education eligibility variables were not utilized, as their use was restricted.

### **Future Research**

The results of the current dissertation study reveal there are early patterns of behavior that are likely to predict behavior problems in middle childhood. Further, the results suggest as behavior problems increase, academic achievement is likely to decrease. Future studies should include data to evaluate the emotional and behavioral outcomes of students who received services through programs such as Early Childhood

Intervention and Head Start. The use of these data may depict a more accurate picture of how early intervention strategies and programs affect student emotional and behavioral development from an early onset of services.

This particular study did not yield the anticipated results when the Fragile Families data were used. The results from the Fragile Families data indicated there were little to no observable differences within the sample used. It is recommended future studies continue to analyze data from the Fragile Families Child and Wellbeing Study using different variables that may discriminate different groups within the sample. The year 15 data are anticipated to be released in 2017 and will include biological data from gene sampling. It would be interesting if genetic markers could predict predisposition of certain behaviors.

In addition, future studies should consider whether early behavior problems stem from skill deficits related to school readiness. To name a few, these skills may include attending to tasks, short-term working memory, early communication skills, and problem solving. It would be intriguing to replicate this study to compare to achievement variables used in this study in addition to middle school achievement to identify the academic behavior across an extended period of time. Further, the academic trajectories should be considered parallel to the behavior trajectories of students in special education under eligibilities such as specific learning disabilities, other health impairment, and emotional disturbance.

This study focused on early indicators of social maladjustment and emotional disturbance; however, outcomes and trajectories of each group were briefly explored. Future studies may also find it worthwhile to replicate this study using data from other

data sets, such as the National Crime Victimization Survey, Youth Risk Behavior Surveillance System, and the National Survey of Youth in Custody, to identify patterns of behavior that eventually lead to involvement in the judicial system. Providing more information on the outcomes of students with emotional and behavioral disorders may shine light on the types of interventions that appear to be most beneficial in curbing behaviors that could lead to arrest and crime.

At the time of this study, restorative discipline practices were initiated by the Institute for Restorative Justice and Restorative Dialogue through the University of Texas in Austin. Simply stated, the premise of restorative discipline is that accountability and open communication will resolve school conflicts and behavior problems. Future studies may consider exploring the effects of restorative practices in addition to traditional discipline practices, as whole-school intervention to target emotional and behavioral problems. As the utilization of restorative discipline practices increases, there should be an abundance of opportunities to explore them and how they impact the emotional disturbance identification rates, behavior problems in general, and the effect of those practices on academic outcomes.

## **Conclusion**

Perhaps one could argue regardless of what legislators, administrators, and practitioners name the issue, there is no doubt students with emotional and behavioral problems fare worse than students with any other special education eligibility. Across the literature, there appears to be little difference in the trajectories of students in special education who have been identified with an emotional disturbance and students who have been identified as socially maladjusted and denied special education services. Identifying



an emotional disturbance affords students the opportunity for intervention; however, it is questionable how effective the available interventions are if students identified with an emotional disturbance fare just as poorly as students who do not receive services.

Unfortunately, a much need revision of the definition of emotional disturbance under the federal guidelines is unlikely to occur in the near future. Instead of identifying differences between behaviors related to social maladjustment and emotional disturbance, perhaps it would be more important to identify and utilize whole-school interventions for students who have emotional and/or behavior problems in general. Promoting proactive emotional and behavioral interventions for all students may help decrease the number of referrals to special education specifically for behavior concerns that would essentially place little emphasis on the social maladjustment clause.

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APPENDICES

IRB EXEMPTIONS



Mar 14, 2016 1:19 PM CDT

Tara Stevens  
Educational Psychology Leaders

Re: IRB2016-185 Operational Differences and Early Indicators of Emotional Impairment and Social Maladjustment

**Findings:** *Approved*

Dear Dr. Tara Stevens:

A Texas Tech University IRB reviewer has approved the proposal referenced above. The approval is effective from Mar 11, 2016 within the exempt category number of:

Category 4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Exempt research is not subject to annual review by the IRB. Any change to your protocol requires a **Modification Submission** for review and approval prior to implementation.

Your study may be selected for a Post-Approval Review (PAR). A PAR investigator may contact you to observe your data collection procedures, including the consent process. You will be notified if your study has been chosen for a PAR.

Should a subject be harmed or a deviation occur from either the approved protocol or federal regulations (45 CFR 46), please complete an **Incident Submission** form.

Once your research is completed, please use a **Closure Submission** to terminate this protocol.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kelly C. Cukrowicz'. The signature is fluid and cursive.

Kelly C. Cukrowicz, Ph.D.  
Chair, Texas Tech University Institutional Review Board  
Associate Professor, Department of Psychological Sciences  
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May 5, 2016 3:14 PM CDT

Tara Stevens  
Educational Psychology Leaders

Re: IRB2016-185 Operational Differences and Early Indicators of Emotional Impairment and Social Maladjustment Findings:

Dear Dr. Tara Stevens:

A Texas Tech University IRB reviewer has approved your proposed modification to the protocol referenced above within the exempt category of:

Category 4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Exempt research is not subject to annual review by the IRB. Any change to your protocol requires a **Modification Submission** for review and approval prior to implementation.

Your study may be selected for a Post-Approval Review (PAR). A PAR investigator may contact you to observe your data collection procedures, including the consent process. You will be notified if your study has been chosen for a PAR.

Should a subject be harmed or a deviation occur from either the approved protocol or federal regulations (45 CFR 46), please complete an **Incident Submission** form.

Once your research is complete, please use a **Closure Submission** to terminate this protocol.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kelly C. Cukrowicz'.

Kelly C. Cukrowicz, Ph.D.  
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