

SELF-MONITORING STRATEGY WITH A CROSS-AGE PEER MENTORING
COMPONENT FOR THE DISRUPTIVE BEHAVIORS OF YOUNG STUDENTS
WITH EMOTIONAL AND BEHAVIORAL DISABILITIES

by

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Dedication

This is dedicated to my amazing wife and best friend Molly, my parents, Craig and Denise, my siblings Jason, Ashleigh, Jeannie, Meghan and Darryl and my wonderful nieces and nephews. My in-laws Scott and Kris McCormick. I also dedicate this to all of the students and staff that I have worked with during my career who have shaped the way I view education. Thank you.

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List of Abbreviations and Symbols

Individuals with Disabilities Educational Act	IDEA
Special Education Elementary Study.....	SEELS
National Longitudinal Transition Study-2	NLTS-2
Emotional and/or Behavioral Disorder	EBD
Attention Deficit Hyperactive Disorder.....	ADHD
National Center of Education Statistics	NCES
Multi-Tiered System of Supports.....	MTSS
School-Wide Positive Behavior Interventions and Supports.....	SWPBIS
Check-in Check-Out	CICO
Free Appropriate Public Education.....	FAPE
Individualized Educational Program.....	IEP
Least Restrictive Environment.....	LRE
No Child Left Behind.....	NCLB
Institutional Review Board	IRB
Kennedy Lou-Ellen School.....	KLS
Emotional Support	ES
Local Educational Agency.....	LEA
Ryder Elementary School	RES
Oppositional Defiant Disorder.....	ODD
Post-Traumatic Stress Disorder	PTSD
To Be Determined.....	TBD
Differential Ability Scale-II.....	DAS-II
Wechler Individual Achievement Test Third Edition.....	WIAT-III
Other Health Impairment	OHI
Nicholas Elementary School.....	NES
Speech and Language Disability.....	SL
Intelligence Quotient.....	IQ
Emotional Disability	ED
Wechler Individual Achievement Test Second Edition.....	WIAT-II
Interobserver Agreement	IOA
Mean	<i>M</i>
Standard Deviation.....	<i>SD</i>

Percentage of Data Points Exceeding Median PEM

Abstract

SELF-MONITORING STRATEGY WITH A CROSS-AGE PEER MENTORING COMPONENT FOR THE DISRUPTIVE BEHAVIORS OF YOUNG STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISABILITIES

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George Mason University, 2016

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Students receiving special education services for an emotional and/or behavioral disorder (EBD) have shown minimal gains academically and behaviorally in longitudinal studies conducted since the 1980's (Bradley, Doolittle, & Bartolotta, 2008). The purpose of this study was to investigate the functional relation of a self-monitoring strategy with a cross-aged peer-mentoring intervention on the disruptive behaviors of elementary students with EBD who struggle to regulate their behaviors in the classroom. This study used a multiple-baseline across participants and changing conditions combined design to investigate the functional relation of self-monitoring with a cross-age peer mentor component for students with EBD. The results from this study did not indicate a functional relation between the use of a self-monitoring checklist and the use of a self-monitoring checklist with a cross-age peer mentoring component. However, there were

promising components to continue to build on intervention research for students with EBD.

Chapter One: Introduction

Students receiving special education services for an emotional and/or behavioral disorder (EBD) have shown minimal gains academically and behaviorally in longitudinal studies conducted since the 1980's (Bradley, Doolittle, & Bartolotta, 2008). Students with EBD have consistently performed poorly on measurements of educational achievement and school outcomes (Nelson, Benner, Lane, & Smith, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). The nature of the disability often leads to negative outcomes such as more restrictive educational placements, a lack of academic achievement, inconsistent services, and school suspensions (Vernberg, Jacobs, Nyre, Puddy, & Roberts, 2004; Walker, Clancy, Tsai, & Cheney, 2013). The lack of behavioral and academic improvement along with struggles throughout the school tenure of many students with EBD is not astounding since their behaviors often interfere with the teacher's ability to manage the classroom (Cheney et al., 2010; Gulchak, 2008). However, the challenges faced by students with EBD are not only an issue during their term in the classroom; struggles tend to occur across the student's lifespan (Fitzpatrick & Knowlton, 2009). Students with EBD face challenges outside of school that negatively impact their educational outcomes (Cheney et al., 2010; Wagner et al., 2005). In fact, the educational outcomes of students with EBD are dismal when compared to other special education categories (Hehir, 2005; Kutash, Duchnowski, Sumi, Rudo, & Harris, 2002).

The struggles that occur during the lifespan of many students with EBD include but are not limited to a lack of post-secondary education success and high rates of incarceration (Chen, Symons, & Reynolds, 2011; Lane, Carter, Pierson, & Glaeser, 2006; Lewis & Sugai, 1999). Additionally, the dropout rate for students with EBD is near 50% (Walker, Clancy, Tsai, & Cheney, 2013). Thus, this population has continuously been a concern for American schools and communities (Cheney et al., 2010; Lewis & Sugai, 1999).

The lack of success for many students with EBD, across multiple systems such as school and community suggest that their challenge goes beyond the scope of a student centered classroom-based intervention. Therefore, it is valuable to consider how multiple systems (i.e., classroom and whole-school, home and school) may interact in order to build the necessary skills for youth with EBD. To establish the context, a characterization of students with EBD will first be provided, including student demographics and their educational settings. Then, effective interventions for students with EBD will be provided.

Characteristics of Students with EBD

Developing a clear and consistent definition of EBD without criticism has been a challenge dating back to the Education for All Handicapped Children Act of 1974 (Hallahan & Kauffman, 2005; Merrell & Walker, 2004). The federal definition is identified as “Emotionally Disturbed.” Emotionally Disturbed is described in the Individuals with Disabilities Educational Act (IDEA) as: *a condition exhibiting one or more of the following characteristics over a long period of time and to a marked extent, which adversely affects educational performance: (a) an inability to learn that cannot be*

explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory relationships with peers and teacher; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; or (e) a tendency to develop physical symptoms or fears associated with personal or school problems.

ii. The term includes children who are schizophrenic. The term does not include children who are socially maladjusted unless it is determined that they are emotionally disturbed.” (Hallahan & Kauffman, 2005, p.250)

The IDEA definition includes the term “emotionally disturbed;” however, this study will use emotional and behavioral disorders (EBD) aligned with the *Journal of Emotional and Behavioral Disorders*.

By definition, the disability clearly impacts academic and behavioral performance. However, it is not always clear and specific which behaviors are the most impactful towards the student’s ability to access the general education curriculum (Lane et al, 2006). Wagner and colleagues (2005) gathered parent survey and interview data from the *Special Education Elementary Longitudinal Study* (SEELS) and the *National Longitudinal Transition Study-2* (NLTS2) that indicated the core disability for students with EBD can vary from anxiety, to depression, to attention deficits. Also, approximately 1,534 parent reports of students with EBD from the SEELS and NLTS2 revealed that over 60% of their children with EBD also had a diagnosis of Attention Deficit Disorder (ADD) or Attention Deficit/Hyperactive Disorder (ADHD) across grade levels (Wagner et al.).

Students with EBD are described by Kauffman (2005) as “having school learning difficulties, unsatisfactory interpersonal relationships, inappropriate behaviors and feelings, pervasive unhappiness or depression, and physical symptoms or fears associated with school or personal problems” (p. 21). These characteristics often impede their ability to access the general education curriculum and to have positive social opportunities alongside peers without disabilities (Menzies, Lane, & Lee, 2009). Students with EBD have difficulty identifying inappropriate behaviors and choosing replacement behaviors that may improve their social interactions with peers and staff (Menzies et al.). The nature of the disability often makes maintaining and creating appropriate relationships difficult for students with EBD. These struggles can have an impact on their ability to access the general education curriculum and to build healthy relationships. Furthermore, students with EBD across grade levels are often impulsive and struggle with self-control when compared to peers without a disability (Wagner et al., 2005). In addition to the behavioral and academic characteristics of students with EBD, the demographic trends of students with EBD provide further understanding of the unique context of the field.

Demographic trends. Males heavily represent the population of students with EBD. Wagner et al. (2005) found that 75% of the population representing students with EBD is male. Girls are underrepresented as students with EBD when compared to the proportion of the general population of school aged students (Lewis & Sugai, 1999). African-American and Hispanic students are represented with EBD at a disproportionate rate when compared to their representation in the general education across grade levels (Wagner et al.). African-Americans are represented at a higher proportion and Hispanic

students are represented at a lower proportion when compared to their representation in the general education population (Wagner et al.).

It is well noted that African-American males are placed in special education classrooms at a disproportionate rate (Bonner & Jennings, 2007; Wagner et al., 2005). Raines, Dever, Kamphaus, and Roach (2012) described disproportionality as it relates to African-American males in special education as "...the disproportionate or "unequal" number of students of color in special education programs" (p.284). More specifically, African-American students are disproportionately represented in the special education category of emotional and behavioral disability (Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2006), and African-American students are not achieving at the same rate as their white peers (Schott, 2010). In 2006, African-Americans represented 9% of the population, yet 21% of the general student population of students with EBD (Adkison-Bradley et al., 2006). Moreover, in 2005, African American students made up 27% of the EBD (elementary and middle school) population, but only 17.1% of the general education (elementary and middle school) population (Wagner et al., 2005).

Many factors contribute to the difficulties students with EBD face when accessing the general population in schools. Factors such as poverty, single-parent households, employment and education are recognized as areas of risk (Wagner et al., 2005). Many African-American males have a unique cultural background that is different from their experiences at school, which may require many to need additional support in order to find success in the classroom (Anderson & Mohr, 2003; Bonner & Jennings, 2007). For example, African-Americans are raised in a single parent household at a much higher rate

when compared to other races (Coley & Baker, 2013). Additionally, African-American's in the United States comprise 27.6 % of the population living below the poverty rate (Coley & Baker). A lack of financial resources impact educational achievement due to factors outside of a student's control such as food insecurity and exposure to tobacco and lead (Coley & Baker). However, this certainly should not imply that all African-Americans have the same experiences.

African Americans are over-represented in more restrictive school placements than peers with the same disability identification (Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006). Therefore, not only are African American students disproportionately represented in special education, they are also overrepresented in more restrictive placements. When looking at public school data from the 2001-2002 school year in Indiana, Skiba et al. found that African Americans made up over 27% of the special education population served in self-contained classrooms and only 8.4% of the special education population served in general education settings. Students in self-contained classrooms lose the opportunity to learn alongside students without disabilities when they are separated in more restrictive classrooms. When considering the decision of Brown vs. Board of Education and the efforts of special education law, IDEA, to include students of all races and abilities together to the maximum extent possible, it is concerning to realize that African-American males are being excluded from this opportunity at a higher rate than any other race when considering special education.

Educational placement. The placement of students with EBD varies based on the severity of the disability. In today's classroom, 3 % of all students with disabilities are

educated in self-contained schools for students with disabilities; however, 13.2 % of students with EBD are served in self-contained schools (National Center of Education Statistics (NCES), 2012). Furthermore, 43.2% of students with EBD are provided services in the general education classroom for 80% or more of their total educational time which is less time when compared to students with Visual Impairments, Developmental Delays, Speech or Language Impairments, Traumatic Brain Injury, Other Health Impairments, Specific Learning Disabilities, Orthopedic Impairments, and Hearing Impairments (NCES, 2012). Additionally, the percentage of students with EBD (13.2%) that are placed in self-contained schools is almost twice the percentage rate of students with Autism (7.7%) that are placed at a self-contained school.

Students with EBD who display more aggressive behaviors or intense emotional needs are often educated in more restrictive environments than that within their community or base school (Vernberg et al., 2004). Often the nature of the disability results in students with EBD being educated away from their peers without disabilities more frequently than any other special education classification (Bradley, Doolittle, Bartolotta, 2008; Vernberg et al.). A self-contained school includes students who were not successful in the typical school they would otherwise attend due to their disability. Bradley et al. also noted that students with EBD are educated in settings populated by peers with similar disabilities in these more restrictive environments. Educating students with EBD in more restrictive settings allows them to access clinical staff, intensive behavioral supports, and to participate in classrooms with low student to teacher ratios. However, an unfortunate reality is that students educated in more restrictive

environments tend to have less desirable life outcomes (Anderson & Mohr, 2003; Bradley et al.). Therefore, students placed in self-contained settings may require more targeted interventions.

Effective Interventions for Students with EBD

While additional empirical support is needed to identify the key behavioral deficits of students with EBD, teachers of students with EBD have identified persistent deficits in their relationships, displays of inappropriate behavior, and social maladjustment (Lane et al.). Students with EBD often exhibit behaviors that impact their ability to achieve in the classroom such as being out of their assigned area, disrespecting others, and using profanity (Gulchak, 2008). These types of behaviors make it difficult for teachers to deliver instruction in the classroom (Cheney et al., 2010; Gulchak). These deficits in behavior have led to many interventions that focus on improving relationships and the use of self-regulatory practices for all students with EBD.

Jull (2006) illustrated how the behavioral deficits displayed by students with EBD may be a result of an inability to self-regulate. Self-regulation can be defined as "...the primarily volitional cognitive and behavioral processes through which an individual maintains levels of emotional, motivational, and cognitive arousal that are conducive to positive adjustment and adaptations, as reflected in positive social relationships, productivity, achievements, and a positive sense of self" (Blair & Diamond, 2008, p. 900). It is imperative to teach students with EBD skills to self-regulate in the classroom. If students with EBD are able to better self-regulate, this may increase their opportunities for success within the general education curriculum and in settings with their non-

disabled peers. An increased access to the curriculum and education experienced alongside peers without disabilities may also contribute to more success in the larger school environment and community.

Self-monitoring. Research has suggested that a specific self-regulatory skill, self-monitoring, is an effective practice for students with EBD (Bruhn, McDaniel, & Kreigh, 2015; Gulchak, 2008; Gumpel, 2007; Menzies et al., 2009). Self-monitoring can be defined as “recording or rating one’s own behavior (Webber, Scheuermann, McCall, & Coleman, p.38, 1993). In a review of studies using self-monitoring interventions, Sheffield and Waller (2010) defined self-monitoring as “monitoring one’s behavior by keeping track of how often a target behavior occurs by making a mark on a form at predetermined times during a designated class period as an intervention strategy to reduce problematic classroom behavior (p.7).” Goal setting is a process that requires students to set a behavioral target for monitoring (Menzies et al.) Menzies et al. note that the pairing of self-monitoring with goal setting can be used to support students with behavioral challenges.

Self-monitoring is one behavioral intervention that falls within a framework of prevention strategies proposed at a school wide level known as a Multi-Tiered System of Supports (MTSS), or as often referred to, school-wide positive behavior interventions and supports (SWPBIS) (Gage, 2015; Sugai & Horner, 2002). The framework for SWPBIS prevention and interventions provide three tiers of support: primary, secondary and tertiary (Gage, 2015). SWPBIS has demonstrated positive outcomes for all students (Simonsen & Sugai, 2013; Sugai, Simonsen, & Horner, 2008; Taylor-Greene, Brown,

Nelson, Longton, Gasman, Cohen, Swartz, Horner, Sugai, & Hall, 1997). SWPBIS provides universal school-wide interventions as well as individualized behavioral supports for students with and without disabilities (Sugai et al., 2008). While many public schools have adopted the use of SWPBIS, Simonsen and Sugai suggest that alternative sites such as self-contained schools could also benefit from the use of SWPBIS.

Components of SWPBIS such as positive and preventative practices, system features, and a focus on data are effective for not only general education students but also students with disabilities (Simonsen & Sugai; Sugai et al., 2008). Students with behavioral concerns and disabilities educated in alternative settings can still benefit from a three tier model as long as each tier is adapted to meet the needs of the students (Simonsen & Sugai).

The primary tier contains supports such as school-wide behavioral expectations and preventative interventions that are implemented by all staff to all students within a school (Sugai et al.). Interventions such as a token economy and explicitly taught expectations for all settings in a school are considered primary tier supports (Gage, 2015). Secondary interventions support students who are not responsive to the primary tier level of supports, and tertiary tier supports students who are not responding to the primary and secondary tiers of supports (Sugai et al.). Secondary supports include but are not limited to self-monitoring, mentoring, check-in and checkout systems (CICO), individualized goals, and social skills instruction (Gage, 2015; Simonsen and Sugai). The mentoring process in CICO is typically an adult or mentor for the student (Horner, Sugai, & Anderson, 2010). The tertiary tier that is designated for a small number of students

includes interventions such as functional-behavioral assessments, antecedent strategies, and behavior plans (Simonsen & Sugai).

Mentoring. As one component of the CICO strategy and secondary tier interventions, mentoring programs have shown to be an effective intervention for positively impacting the self-esteem of African-American males (Burrell, Wood, Pikes, & Holliday, 2001). Also, mentoring has provided African-American males with authentic leadership opportunities while building resiliency (Anderson, 2007; Bonner & Jennings, 2007).

Mentoring interventions have shown to have social and academic benefits for students with EBD, but the process of acquiring mentors and matching them with students can require a great deal of time and resources (Vannest et al., 2008). Using peers within the school could eliminate the resource intensive process of bringing in mentors from the community. Cross-age peer mentoring is a mentoring program that takes place between individuals with at least two years age difference or across different school levels (i.e., middle and high school) (Karcher, 2007). Cross-age peer mentoring programs “utilize structure, meet for more than ten meetings, do not focus primarily on deficit or problem reduction, and require an age span of at least two years (Karcher, p. 6, 2007).” Smith (2011) identifies the advantage of cross-age peer mentoring over traditional mentoring as “enhanced learning and support for behavioral change that result from the perceived social support and psychological safety for young children that is promoted by using teens as mentors (p.221).” When involved in cross-aged peer mentoring the mentee also has the added benefit of being in a position to mimic the older sibling, which can

enhance learning (Smith). Cross-aged peer mentoring can have a dynamic impact on the school environment as a whole by providing support to the mentee, empowering the mentor, and establishing a safe environment for the school promoting positive, older mentors and role models (Smith). However, without further empirical evidence of mentoring programs, it is difficult to demonstrate that mentoring programs are effective for students with EBD. More evaluation on the impact a school-based mentoring program is needed (Calderella, Adams, Valentine, & Young, 2009; Karcher, Davidson, Rhodes, & Herrera, 2010).

Ecological Systems Theory

In an effort to ensure that African-American males are not being viewed solely as having a deficit that lies within their nature, the ecological systems theory can inform how the field of special education can positively respond to the unique needs of African-American males identified as having an EBD. Specifically, Bronfenbrenner's (1977) ecological theory suggests that multiple systems impact a student's development and behavior. A child's home environment, community environment, school environment, and the interactions between these environments play a role for the development of students with disabilities. Additionally, policies and the structure of special education itself influence these environments as well. The ecological systems theory can inform the development of a behavioral intervention intended to improve the lives of African American students with EBD who are placed in self-contained settings. This model and its relevance to the proposed study will be further explained in Chapter Two.

Statement of the Problem

African-American males with EBD need targeted interventions. This is not to suggest that African-American males with EBD need to be “targeted” in education. Instead, it is a realization that African-American males are being identified and placed in special education classes for students with EBD at a rate disproportionate to their representation in the general population (Wagner et al., 2006). Additionally, African-American students as a whole are not achieving at the same rate as their white peers (Schott, 2010).

Students with EBD may continue to struggle to succeed in school without proactive strategies in place to assist in identifying and managing their behavior (Menzies, Lane, & Lee, 2009). Self-monitoring helps students with EBD to become more aware of their behaviors and places the locus of control within the child which may help their ability to self-regulate and take responsibility for their behavior (Menzies et al., 2009). Continued research on the aspects of self-monitoring that promote success for students with EBD is imperative (Mathur, 2007). Second, it is important to understand more about how mentoring relationships can support the unique needs of students with EBD. Third, more specific research of interventions for African-American students with EBD (e.g., mentoring; Burrell, Wood, Pikes, & Holliday, 2001; Bonner & Jennings, 2007) is necessary due to the disproportionate placement of students of African-American students identified as having EBD.

Purpose

Research suggests positive outcomes for students with EBD who self-monitor and research has suggested that students and schools can benefit from having a peer mentoring program. However, research has yet to determine if these practices are effective for African-American students with EBD in a self-contained school for students with EBD. It is important to research interventions for African-American students placed in self-contained settings for special education, since African-American students are disproportionately represented in these settings (Wagner et al., 2006). Therefore, the purpose of the current study was to investigate the effects of a self-monitoring strategy with a cross-aged peer-mentoring intervention on the disruptive behaviors of elementary students with EBD who struggle to regulate their behaviors in the classroom. Specifically, this study targeted male students with EBD who are African-American and serviced in a self-contained school. The participants were taught to use a self-monitoring strategy and older students with EBD, within the same self-contained setting, acted as peer mentors for the younger children with EBD.

Research Questions

1) Is there a functional relation between a self-monitoring intervention and the frequency of disruptive behaviors for 2nd - 3rd grade, African-American male students with emotional and behavioral disabilities (EBD) in a self-contained setting?

2) Is there a functional relation between self-monitoring with a cross-age peer mentoring component and the frequency of disruptive behaviors for 2nd – 3rd grade, African-American male students with EBD in a self-contained school setting?

3) How do African-American male students with EBD in a self-contained school, perceive their behavioral improvements after using a self-monitoring strategy and meeting with a cross-age peer mentor?

4) How do African-American male students with EBD perceive their ability to mentor younger students with EBD in a self-contained school following an opportunity to mentor peers, two to three grade levels younger?

Definition of Terms

Self-monitoring: Fitzpatrick and Knowlton (2009) define self-monitoring as “...the student’s recognizing and recording designated target behavior(s) (p.256).” Menzies et al. (2009) identify the two stages involved with self-monitoring as observing and recording.

Mentoring: Townsel (1997) defined mentoring as “...one to one relationships between individuals of different ages [or status] who interact regularly and share a commitment or bond” (p.51).

Cross-age peer mentoring: A mentoring program that takes place between individuals with at least two years age difference or in different school levels (i.e., middle and high school) (Karcher, 2007).

Chapter Two: Literature Review

In the early twentieth century, many children with EBD were educated in separate facilities and demonstrated minimal behavioral or educational improvement (Handler, 2011). The idea that all children and youth with disabilities should receive a free appropriate public education (FAPE) became a reality with the passing of PL 94-142 (Dunlap, Hemmeter, Kaiser & Wolery, 2011). Current policy based on PL 94-142 focuses on providing a “free and appropriate public education, nondiscriminatory evaluations, individualized educational programming, least restrictive environment, parent and student participation in decision making, and procedural safeguards” (Handler, 2011, p. 189). The focus on collaboration and inclusion of students with disabilities is a positive element in current policy. Nevertheless, the Individuals with Disabilities Act (IDEA) in the United States acknowledged that students with special needs may not always benefit from being educated in a general education classroom (Wong-Ratcliff & Ho, 2011). Therefore, schools are required to provide a continuum of services to students with disabilities that allow students with disabilities to experience educational experiences most like a regular class with students without disabilities to the maximum extent possible (Handler, 2011; Wong-Ratcliff & Ho, 2011). The indication is that a

continuum of services will allow each student with an Individualized Educational Program (IEP) to have the opportunity to be educated in the best environment to meet his/her individual needs since placement in a general education classroom does not guarantee success (Wong-Ratcliff & Ho, 2011). Therefore, current educational law ensures that schools must provide a continuum of services for students with EBD. These services help students with EBD access the general education curriculum and peers without disabilities to the maximum extent deemed appropriate by the IEP team.

While the emphasis on the least restrictive environment (LRE) and IEPs protect the special needs of students, there are several potential pitfalls of being identified for special education for all students. For example, students in special education can potentially be held to lower academic standards and a modified curriculum when compared to their general education counterparts (Raines et al., 2012). Potential unintended outcomes of being identified for special education also include high drop-out rates, limited career preparation and employability and potentially, an increased chance of becoming incarcerated (Adkison-Bradley et al., 2006).

In 2012-2013, 13% of the public school enrollment received special education services under IDEA (National Center of Educational Statistics (NCES), 2016). During the same time period, African-Americans made up 15% of students in special education enrolled in public school education (NCES, 2016). Additionally, 6% of students receiving specialized services received services for EBD, but 8% of African-American children receiving specialized services were receiving services for EBD (NCES, 2016).

African-Americans and Special Education

The challenges faced by African-American's throughout the history of America, as well as within the educational system, are multilayered and complex. The long history of labeling associated with African-Americans can have negative consequences, which may consist of poor treatment (Gold & Richards, 2012). This pattern of labeling that has ranged from words such as the "N" word to Negro has negative connotations along with a lack of value (Gold & Richards). It can be argued that this pattern continues with the disproportionate labeling of African-Americans in special education. As stated by Raines et al. (2012) "...the practice of placing a disproportionate number of minority students in special education classes places them on a trajectory for diminished life opportunities." (p.284) Additionally, Raines et al. stated that African American males as well as their families and communities are at risk for harmful consequences due to the negative outcomes associated with being labeled as a student with EBD. This aligns with the potential negative outcomes for all students placed in more restrictive environments, but the disproportionate rate, in which African-American males are placed in special education, in addition to the historical context, presents a complex scenario in need of further investigation.

Thus, the labeling or identification process can potentially have a different impact on African-American males as opposed to other races based on the race history in America (Gold & Richards). "By design, a label can serve the discriminatory purpose of distinguishing the individual (and others similarly labeled) from the rest of society and

provide information about the individual regardless of its accuracy” (Gold & Richards, p. 144).

Furthermore, misplacement of African-American males in special education can have a negative impact on their self-concept (Adkison-Bradley et al.). This is a concern and potential factor attributing to the achievement gaps in education African-Americans face, since the referral and identification process of being identified as a student with EBD involves subjective data such as teacher referrals (Adkison-Bradley et al.; Gold & Richards, 2012). The high percentage (17%) of African American males incarcerated between the ages of 18-29, can be attributed to the high dropout rates and increased chances of incarceration possibly resulting from special education identification (Adkison-Bradley et al.). Gold and Richards noted that school-age African-Americans who are labeled as special education students have the lowest high school completion rate when compared to other racial ethnicities. Furthermore, the environmental factors outside of school in which many African-American students experience are challenging. Risk areas include a lack of financial resources, single parent households, and living in poverty (Coley & Baker, 2013).

While pitfalls exist when students are identified for special education, research has identified behavioral interventions for students with EBD that provide support to those areas identified in the definition of the disability. With the history of challenges faced by African-American’s in the educational system it is important to employ interventions that meet the needs of this population, specifically. It is also important to note that the targeting of this population does not indicate a deficit inherent within the

population, but rather a necessity to provide a Free and Appropriate Public Education (FAPE) to all students.

To understand the context of this problem, Urie Bronfenbrenner's ecological theory will first be presented in this chapter. Then, an overview of behavioral interventions for students with EBD (school wide and classroom) will be provided. A specific review of the literature regarding self-monitoring will follow and then, a specific review of the literature regarding mentoring programs for students with disabilities will be presented. The chapter will end with a summary.

Bronfenbrenner's Ecological Theory

By looking through the lens of Urie Bronfenbrenner's (1977) ecological model, we can attempt to deconstruct a larger issue into a manageable problem that educators can begin to address. The ecological theory developed by Bronfenbrenner focuses on the ecology of human development. The concept of ecology of human development is often used when designing models that incorporate different services in multiple environments and fields (Fusarelli & Lindle, 2011). Bronfenbrenner's theory looks at how multiple systems impact a student's development and behavior. Students live and interact in multiple systems such as school, home and other community settings that shape the development and behavior of a child (Bronfenbrenner). There are four systems that interact to impact the educational success of a student. Bronfenbrenner's ecological systems theory includes the following systems: microsystem, mesosystem, exosystem, and macrosystem.

Microsystem. The microsystem involves the interactions that take place between an individual and his immediate environment (Bronfenbrenner, 1977). This can refer to the student and their school environment and the student and their home environment separately. They may have different roles in each of these environments, but both systems can have an impact on their educational development and behavior across both settings. Investigating variables that impact a child inside and outside of school is important (Odgers, Tach, Sampson, Moffitt, Taylor, Matthews, & Caspi, 2009). The achievement of students with EBD is influenced by what takes place in their lives outside of school. A better understanding of how each microsystem impacts student achievement is important, but often difficult to make sense of due to the variance in families and classrooms.

Mesosystem. Interactions between microsystems are referred to as a mesosystem (Bronfenbrenner, 1977). The interactions between the home and school microsystems can shape how a student develops. If schools can find effective ways to provide productive interactions between microsystems, it may improve the success of students with EBD in school. A collaborative effort between school and home could potentially help students to access less restrictive learning environments. Conflicts between home and school, as well as conflicts between parent and child are roadblocks to collaborative efforts (Lake & Billingsley, 2000; Meadows, 1996; Morningstar, Turnbull, & Turnbull III, 1995). Failed efforts in collaboration do not put students with EBD in a position for success. Despite research support for family involvement, there are minimal programs that incorporate families in schools (Kutash et al., 2002). Additionally, families of students with EBD

have reported feeling socially excluded due to their child's difficulties with daycare providers and school (Crawford & Simonoff, 2003). While parents of children with EBD have reported an appreciation of collaborative efforts from service providers including schools, parents also feel powerless when dealing with large agencies (Crawford & Simonoff). If school leaders can provide opportunities for all families to interact or receive services that are school-based, this may provide families with an opportunity to feel like they are part of the community as a whole.

Exosystem. Bronfenbrenner (1977) referred to the exosystem as a layer that involves the context outside of immediate settings that are both formal and informal. This layer includes interactions between school and community (Bronfenbrenner). When attempting to reach the No Child Left Behind (NCLB) mandate of academic proficiency for all students, it is important to recognize the community aspect of a student with EBD's life. If practitioners and scholars can bring the community and school closer together, we may find creative ways to improve the educational and social success rate of students with EBD. Strengthening community involvement can potentially lead to improved student achievement (Fusarelli & Lindle, 2011; Nelson, McMahan, & Torres, 2012).

Children in deprived neighborhoods have higher rates of antisocial behavior with a slow rate of decline in comparison to children from affluent neighborhoods (Odgers et al., 2009). In a similar vein, Meier, Slutske, Arndt, and Cadoret (2008) found that children with callous and impulsive behaviors living in at-risk neighborhoods had a propensity to engage in delinquent behaviors. Neighborhoods at-risk of or deprived of

resources can impact all individuals who are a part of that system. However, students with EBD from at-risk communities may need more support to reach academic and behavioral success. In order to reach academic proficiency for all students, there may need to be different considerations made for students from deprived neighborhoods. This holds especially true for students with EBD.

Macrosystem. According to Bronfenbrenner (1977), the macrosystem includes institutional ideologies and structures. IDEA falls under this system. Policy, placement, and educational practices have an impact on student achievement. For example, parent participation in the decision-making process and procedural due process are two components of the Individuals with Disabilities Education Act (Handler, 2011; Lake & Billingsley, 2000). With this policy in place, the hope is that families feel more involved in their child's educational plan. However, if families are only involved in school-based practices and decisions, it may not truly bridge the gap between school and home.

Summary. Rhodes (1967) noted that historically, educational systems have looked at the driving force of a disability as resting within the child. The ecological model places an emphasis on the ecological theory of examining students with EBD's entire ecosystem, and not identifying the disability as solely a manifestation of the child (Apter, 1977; Hobbs, 1966; Kauffman, 2005). Fusarelli and Lindle (2011) noted that competing norms amongst these systems might cause inconsistencies in actions; therefore, alignment across the multiple systems of support is needed for students to reach their full potential (Fusarelli & Lindle). With more collaboration between different systems, the hope is that schools can help close some of the differentiated norms and

rules that can impede student achievement. Students who encounter challenges in school are impacted by an array of factors and schools tend to place a higher emphasis on the medical model over environmental factors towards student development (Williams & Greenleaf, 2012). The medical model suggests that the source of the problem is nested within the individual (Williams & Greenleaf). If schools provide more support to the multiple systems that students interact with, as opposed to focusing on the present behaviors, we may be able to make gains in academic and behavioral achievement. Apter (1977) noted that when educators leave out the community and environment, attempted interventions often fail. An improved ecological system could potentially improve students' capacity to be available for learning in school. The focus should rather be how to improve student behavior while considering the multiple environments and systems that influence student behavior.

In this study, the ecological model (Bronfenbrenner, 1977) provides a framework to develop interventions for a population of students that interact with several systems that shape their outcomes. Under least restrictive environment (LRE) students with disabilities are to receive their education alongside students without disabilities to the maximum extent possible (Raines et al., 2012). Therefore, students with EBD receiving their education in self-contained settings are being educated appropriately based on the law but as previously mentioned without great success historically. Additionally students with EBD have a disability that impacts relationships across settings, therefore it may be beneficial to develop an intervention that addresses the function of the disability across settings (microsystems, mesosystems and exosystems).

Behavioral Interventions for Students with EBD

Lewis and Sugai (1999) expressed that students who exhibit challenging behavior need to be taught specific social skills to combat their previous experiences encountered in the community, home and/or school. It is important for students to acquire the prerequisite skills for appropriate social behavior to find success in society (Lewis and Sugai). Over 15 years ago, Lewis and Sugai stated that schools need to build their capacity to manage and address behavioral concerns of students. As stated by Gumpel (2007) “There may be no greater predictor of mental health than an individual’s ability to interact with his or her social environment and develop a network of friends, associates, and peers (p.351).” This quote illuminates the need for schools to build capacity and promote positive interactions across different settings throughout the school. While students with EBD continually need support building and maintaining relationships, school-wide interventions for all students that target skill deficits can promote successful interactions throughout the day. School-wide interventions may occur at various locations in the school (i.e., cafeteria, hallway, and class). One model of support is School-Wide Positive Behavior Supports (SWPBIS) a form of Positive Behavior Supports and Interventions (PBIS) when applied school-wide (Positive Behavior Interventions & Supports, 2016).

SWPBIS model. SWPBIS is a school-wide Multi-Tiered System of Supports (MTSS) (Gage, 2015). SWPBIS is a three-tiered system that provides a continuum of services that best supports the diverse needs of students through data driven decisions (Simonsen & Sugai, 2013; Sugai, Simonsen & Horner, 2008). Each tier (primary-tier 1,

secondary-tier 2, and tertiary-tier 3) provides different evidence based practices, systems, data sources and outcomes unique to the needs of the students who require each tiered level of support (Simonsen & Sugai).

Tier one is a universal tier that supports all students across different environments in the school (Sugai et al., 2008). The level of support required for the students in each tier intensifies beginning with the primary tier (Simonsen & Sugai). Tier one interventions and supports should meet the needs of 80% to 90% of all students, tier two interventions and supports should meet the needs of about 5% to 15% of students, and tier three interventions target the final 1%-5% of students (Scheuermann & Hall, 2012; Sugai & Horner, 2002). Overall in SWPBIS, interventions begin school-wide (tier 1) and become more individualized (tier 2 & 3) (Scheuermann & Hall, 2012).

Positive aspects and benefits of SWPBIS include but are not limited to: data-driven decisions, preventative practices, a continuum of supports that can reduce the levels of problem behavior, and an elevated perception of safety and satisfaction (Horner, Sugai, & Anderson, 2010). Overall, SWPBIS has been successful in general education settings, and it has shown promises towards increased academic engagement and perception of school safety in alternative schools (Simonsen & Sugai; Swain-Bradway, Swoszowski, Boden, & Sprague, 2013).

SWPBIS in alternative settings. While the number of studies investigating SWPBIS in alternative settings is relatively low and the number of alternative schools using SWPBIS is low (approximately 2%), there is promise in using SWPBIS in alternative settings (Swain-Bradway, Swoszowski, Boden, & Sprague, 2013). Simonsen

and Sugai (2013) noted a decrease in crisis-emergency responses, increases in appropriate behavior and a decrease in negative behavior as potential benefits of using the SWPBIS model in schools for youth with disruptive behaviors. Additionally, implementing SWPBIS in alternative settings can be valuable due to similarities in challenges faced in general education settings, effectiveness in general education settings (implemented in over 20,000 schools), and burgeoning evidence that highlights the effectiveness of SWPBIS in alternative settings (Simonsen & Sugai). In fact due to the nature of the behavioral intensity of many students in alternative settings, schools should use more fruitful and preventative approaches to ensure that ethical lines are kept and students are not re-traumatized or further escalated due to reactive practices (Simonsen & Sugai). Simonsen and Sugai also stated that alternative schools can use the three tiered system that is implemented in general education settings with modifications to meet the needs of their students. For example, mentoring would be considered a tier two SWPBIS support in an alternative school since it would not be assumed that all students would require a mentor, but 5-15% of the students could potentially benefit from mentorship. The intervention would be an additional support to students whom require more support beyond tier one interventions; however, not in need of a tier three support which could include but would not be limited to 1:1 student to teacher ratio (Simonsen and Sugai). Evidence suggests that providing the principles of SWPBIS adjusted to meet the needs of the setting can supports students in alternative schools (Brenner, Kutash, Nelson, Fisher, 2013; Simonsen & Sugai).

An additional behavioral support used by schools to support students with EBD is level systems. Level systems provide structures to manage behavior through a complete environmental context that also can support student and staff interactions (Farrell, Smith, & Brownell, 1998). As stated by Farrell and colleagues, “A level system is designed to be an organizational framework based on token economies within which a teacher can shape desired student behaviors by systematically applying behavioral principles (p.89). The behavioral structure is based on a series of steps with specific behavioral requirements that are aligned with privileges, consequences and rewards (Farrell et al).

Effective Interventions for Students with EBD

Even with the promise of adapting SWPBIS to meet the needs of students with challenging behaviors, Lewis and Sugai stated “universal school wide interventions have little impact on the behaviors of students with EBD or students who display chronic challenging behavior whose behavioral histories are more intractable and require more specialized and individualized behavioral supports” (p. 17). More focused classroom and student-centered interventions are needed to meet the specific needs of students with EBD. Furthermore, due to the complexity of the behaviors exhibited by students with EBD and the impact of their behaviors on the learning environment, classroom based interventions are needed to help students with EBD manage their off task behaviors (Blood, Johnson, Ridenour, Simmons, & Crouch, 2011; Fitzpatrick & Knowlton, 2009). Additionally, interventions that can be accessed in the classroom can hopefully keep students with EBD in the least restrictive environment to provide more opportunities to interact with peers without disabilities and access the general education classroom.

For students with EBD, two behavioral areas of need include the following: (a) regulating classroom behaviors and (b) developing positive social relationships. An evidence-based practice for students with disabilities that is used to regulate behaviors is self-monitoring (Fitzpatrick & Knowlton). Self-monitoring as defined by Webber and colleagues (1993) is the “recording or rating one’s own behavior” (p. 38). Second, exposure to positive role models in the form of mentorships is also a promising strategy for supporting individuals with EBD (Vannest, Parker, Park, Sanchez-Fowler, Devore, Mohan, & Ballous, 2008). A review of literature regarding the practice of self-monitoring for students with EBD will be provided followed by a review of mentoring programs.

Literature Search Procedures

A literature search was conducted for self-monitoring interventions for students with emotional and behavioral disabilities (EBD). The databases, *Eric*, *Psychinfo*, and *Web of Science* were searched using the key words “Self-monitoring,” “behavior” and “EBD” in combination between the years 1980-2016. A total of nine articles met the criteria for the original search.

Criteria for inclusion and exclusion. To be included in the final sample, the studies needed to include a dependent measure that involved student behavior such as on/off-task and disruptive behavior (e.g., Denune, Hawkins, Donovan, McCoy, Hall, & Moeder, 2015; Gulchak, 2008). Also, self-monitoring was the required intervention for the study. Additionally to be included in the final sample the study needed to include a sample of students identified with EBD. For example, articles by Menzies, Lane and Lee

(2009) and Fitzpatrick and Knowlton (2009) were not included in the final sample because they were theoretical. Also, an article by Mulcahy and Krezmien (2009) was not included in the final sample because the dependent measure was academic improvement. Additionally, Jull (2006) was not included since it was an exploratory study without a clearly defined dependent variable.

Final sample. Three articles met the inclusion criteria (see table 1). The final sample included two articles from Psychology in Schools and one article from the Education and Treatment of Children. The studies were published from 2007-2015. The research designs used included an A-B-A-B withdrawal single subject, ABCBC withdrawal design, an ABAC multiple baseline across participants, and qualitative interviews. The studies included students from third through sixth grade, male and female students with EBD.

Table 1

Relevant Self-Monitoring Articles

Author (Year)	N/Grade/ Age	Design	IV	DV	Results
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Denune, H., Hawkins, R., Donovan, L., McCoy, D., Hall, L., & Moeder, A. (2015)	14/Sixth/1 2-15 years old	ABCBC withdrawal	1. Self- monitoring 2.interdep- endent group contingen- cy	1. On-task 2. Off-task, 3.Disruptive behaviors	The results indicated an increasing trend across phases for the increase of on-task behavior and a decrease in off-task behavior.
Gulchak, D.J. (2008)	1/3rd /8 years old	ABAB withdrawal	Self- monitoring using Palm Zire 72 handheld computers	On-task behavior	The student increased his on-task behavior with the use of a hand held device.
Gumpel, T.P. (2007) *study 2 only	3/not reported /10-12 years old	ABAC multiple baseline across participants	1. Self- monitoring 2. positive reinforceme nt contingent on their data	1. On task 2. Off task behvaiors	“Generalizati on during the contingent reinforcemen t phase in the natural settings only” (p.351)

Intervention components. In the final sample, all studies included self-monitoring. Gulchak (2008) used a technological device to self-monitor, Denune and colleagues (2015) combined self-monitoring with a group contingency, and Gumpel (2007) paired self-monitoring with positive reinforcement.

Dependent variables. All studies measured behavior as their dependent variable.

The dependent variables in the final sample included on and off task behaviors. Denune et al. (2015) will be further analyzed due to its relation to the current study. The dependent measures included disruptive behavior and the student participants were all identified as having EBD and being educated in a self-contained school. Additionally, Denune et al. used self-monitoring with another independent variable, similar to the proposed study.

Denune et al. (2015) study included a sample of fourteen, 12-15 year olds participants identified with EBD attending a self-contained school for students with emotional and behavioral disorders. Eleven of the participants were males and ten of the fourteen participants were identified as Black. Denune and colleagues measured student engagement and disruptive behaviors as their dependent variables. Disruptive behavior was defined as “any instance when a student was out of their seat without permission, engaged in any type of vocalization without teacher permission, or made noises with their bodies or classroom materials that were distracting to those around them (Denune et al., p. 566) The independent variables were an interdependent group contingency and a self-monitoring procedures. Interdependent group contingency was an intervention based on the Good Behavior Game that set clear behavioral expectations and reinforcement schedule for the entire class. The reinforcement for these behaviors (1 point per behavior) was earned for the students’ group, and at the end of the period each group was reinforced for meeting a certain percentage points. Denune et al. used an ABCBC withdrawal design.

The results indicated an increasing trend across phases for the increase of on-task behavior and a decrease in off-task behavior (Denune et al.). More specifically, the participants had a PND of 55.56% during intergroup contingency plus self-monitoring, 55.56% during both phases of intervention.

Gumpel (2007) used an ABAC multiple baseline across participants design. The study took place in a self-contained special education elementary school in Jerusalem. There were three total participants that self-monitored their behavior. Similar to Denune et al. (2015), the dependent measures included both on and off-task behaviors. Explicitly, the three dependent variables were no interaction, positive interaction, and inappropriate interaction. No interaction was defined as “the child not engaged in any activity with another individual, or further than 2m. from any child with no verbal or physical contact between the children” (Gumpel, 2007, p.353). Positive interaction was defined as, “any instance where the child was engaged in a social interaction with one or more children and included the child actively engaged in a joint activity and no more than 1.5 m. away from the other children, or actively speaking in a non-confrontational manner no more than 1.5m. away from the other individual or individuals, and that did not include any sort of cursing, shouting, pushing, name calling, hitting, and making forceful bodily contact with someone else” (Gumpel, 2007, p.353). Finally, inappropriate interaction was defined as “any interaction that involved any sort of aggressive act including cursing, shouting, pushing, name calling, hitting, and making forceful bodily contact with someone else” (Gumpel, 2007, p.353). In addition to self-monitoring, positive reinforcement was given contingent on their data during the second phase of the study.

The results showed improvement in behavior during the self-monitoring plus contingent reinforcement phase. However, Gumpel indicated that the results were not as strong as other previous studies. Gumpel noted that this may be due to the extreme nature of the behaviors of each of the participants at this self-contained school.

Gulchak (2008) had one participant, an eight year old third grader. Gulchak used an ABAB withdrawal design. The participant self-monitored using a Palm Zire 72 handheld computer. The dependent variable, on-task behavior, was defined as “a) keep hands away from face, 2) complete work assigned, and 3) raise hand to ask a question” (Gumpel, 2008, p.571). The participant showed an increase in on-task behavior with the use of the intervention (Gulchak). Specifically, the mean increased by 26% and 28% from baseline during both intervention phases.

Literature Search Procedures: Mentoring Programs for SWD in Systems

The databases *PsychInfo*, *ERIC*, *Web of Science* were searched from the years 1980 to 2014 using the following descriptors and keywords: emotional disturbance, emotional disability, student mentor, mentoring, and students. The name of a prominent scholar in the field of cross age peer mentoring, Michael Karcher, was entered in the same data bases to identify any additional sources. An ancestry search from the reference section of Vannest et al. (2008), Glomb, Buckley, Minskoff, and Rogers (2006), and Grant and Dieker (2011) provided several sources that contributed to this review. Articles were chosen due to the potential to provide additional resources that meet inclusion and exclusion criteria.

Criteria for inclusion and exclusion. These search procedures identified 210

articles. Articles were examined for relevancy and qualification for inclusion and exclusion criteria. Specifically articles had to involve students with disabilities in grades kindergarten through twelve, and involve a mentoring program. Mentoring programs were community or school based that involved a student interacting with an older individual with the intent to build a relationship and provide mentorship. Dependent measures on behavioral and academic student outcomes had to be included. Both national and international studies were considered. This was a comprehensive search, therefore; there was not a limit for years. Studies that focused on students without disabilities or for gifted and talented programs were not included in this review. Additionally studies that included dependent measures on teacher outcomes were not included in this study. Studies that included samples of all girls, as well as, participants in post-secondary settings were not included in the final sample. Studies that analyzed dependent measures that were not related to student outcomes were not included in this analysis. For example, Dearden, (1998) did not describe participants or have the required dependent measures to be included in this review. Also a study by Westerlund, Granucci, Gamache, and Clark (2006) that investigated the effect of peer mentors on work-related performance of youth with behavior and/or learning disabilities was excluded because it did not focus on academic or behavioral outcomes and focused on only females.

Final Sample

This resulted in a pool of seven articles published from 2006 to 2011 in the following journals Middle Grades Research Journal, Journal of At-Risk Issues, Preventing School Failure, Professional School Counseling, Child development, and

Remedial and Special Education that met all inclusion criteria. The research designs included in these seven studies were as followed: three experimental designs, one single-subject design, two qualitative designs, and one quasi-experimental research design. The samples in the final eight studies included males, females, and multiple ethnicities. The samples include students with (e.g., Vannest et al.) and without disabilities (Herrera, Grossman, Kauh, & McMaken 2011). Several studies produce homogenous race samples. For example, Anderson (2007) focused solely on African-American Males and Vannest et al. (2008) had a sample of all Caucasian students. Both school-based and community based programs were included in this final sample with students from elementary to high school.

Table 2

Relevant Mentoring Articles

Author (Year)	Participants	Design	Independent Variables/ Measures	Dependent Variables/M easures	Results/Out- comes
Converse, N. (2009)	13-15 year old students identified as “at-risk”	Experieme- ntal	School based mentoring program (staff acted as mentors)	Office disciplinary referrals, attendance data, and school attitude	Mentored group had a lower mean of office discipline referrals than non- mentored group; no significant differences noted in

					absences; improved school connectedne- ss for mentored group
Vannest et al. (2008)	Sixteen students with EBD in 4 th -8 th grade	Single subject	Mentoring	Negative behavior	Mixed resuts across participants
Other Relevant Studies:					
Glomb, N. K., Buckley, L. D., Minskoff, E. D., & Rogers, S. (2006)	Students with learning disabilities and attention difficulties	Qualitative	University Students with similar challenges served as mentors		Parent and teachers perception of school improvement; varied results based on age for student reporting
Karcher, M. (2009)	46 9-12 th grade students; Mentees were	Experieme- ntal	Cross-age peer mentoring program	Connected- ness, attachment and self- esteem	Improveme- nts in the dependent variable for students serving as cross-age peer mentors
Herrera, C., Grossman, J.G., Kauh, T. J., &	9-16 year old stuent	Experieme- ntal	Big Brothers and Big Sisters	School- related performacne and attitudes;	Mentored youth had stronger performanc- es

McMaken, J. (2011)			problem behavior; social and personal well-being	academically and stronger perception of their acadmic abilities, but did not show improvement in problem behavior and relational measures
Grant, D.G. & Dieker, L. A. (2011)	Two African- American males with ED, high school age	Case study	Web-based mentoring (adult mentor)	Mentoring provided a way for students to support student needs

Intervention components. While all of the studies from the final sample included a mentoring program, each program functioned differently. Some studies used locally established mentor programs such as Helping Hands (Anderson, 2007), and others used nationally recognized programs including Big Brothers and Big Sisters (Herrera et al., 2011). Some specific strategies used were adult mentorship (Anderson; Converse, Lignugaris-Kraft, 2009; Herrera et al., Vannest et al., 2008) afterschool mentoring activities (Anderson), daily emailing, resiliency building, time commitment, prosocial behavior, effective communication, and trust building (Converse & Lignugaris-Kraft.). The interventionists in each study also varied. High school students (Karcher, 2009), adults, community members, and school staff were all used as interventionists in the final

eight studies. Grade levels from fourth grade to high school were represented in the final sample. The duration and intensity of the interventions also varied from 1 session a week to daily email communication. The amount of time for one-to-one sessions also varied but consistently ranged from one to three hours. One to three hours is the recommended time for mentoring sessions (Vannest et al., 2008).

Dependent variables. Dependent variables in the studies included end of grade test scores, socioeconomic levels, special education status, inappropriate classroom behavior, office discipline referrals, absences, school connectedness surveys, and mentor interviews.

School Based Mentor Programs

Of the eight studies, two will be explicitly presented (i.e., Converse & Lignugaris-Kraft., 2009; Vannest et al., 2008). These studies were selected because they both include behavioral measures for student outcomes, populations of students with EBD or at-risk for EBD, and an intervention that takes place within the school.

Vannest et al. (2008) conducted a study with a final sample of sixteen students with emotional/behavioral disabilities in fourth through eighth grades. The final sample consisted of twelve boys and four girls. All of the participants were Caucasian. Pre-services teachers at a lab school in the Midwest served as mentors to the student participants. The mentor sessions all took place at an alternative school located within a hospital. While this setting was different from a general education public school, the sessions took place in an educational setting under the supervision of the classroom teacher and administrators. More specifically the intervention took place "...in the school

cafeteria, hallways, or a classroom...” (p.19). Mentoring did not take place outside of the school. Vannest et al. (2009) included a component of on-line mentoring which also took place on the school site.

The pre-service teacher mentors had several requirements to meet prior to beginning the mentor program. Mentors participated in training sessions, were required to pass an exam, have a certain grade point average, obtain a letter of recommendation, pass a background check, sign a declaration of moral character, and submit an essay detailing their philosophy of teaching (Vannest et al., 2009, p.18). Participation for both the mentor and mentees were voluntary. The mentees earned special incentives throughout the course of the intervention.

Mentoring consisted of daily email contact and weekly face-to-face visits for two hours. The intervention lasted for fifteen weeks. Each email and face-to-face session was centered on five protective factors intended to increase resiliency. The five protective factors included “encouragement and positive feedback, self-discipline, dealing with mistakes and failure, enhancing decision-making skills, and encouraging student contributions” (Vannest et al., 2008, p.19, as cited from Brooks, 1994). To check for fidelity and provide feedback, the primary investigator met with the administrator of the school and made daily contact with the mentors. Data was collected for six-hour intervals each school day. Teachers, instructional assistants, and designated data collectors collected data on nine behaviors. School staff identified the dependent variables, nine classroom behaviors. The school staff also operationally defined the dependent measures in this study. The nine behaviors included talking out, out of seat, off task, not following

directions/noncompliance, sleeping, physical aggression, cussing, arguing with staff, and put-downs.

Vannest et al., (2008) had mixed results. Of the initial sample of twenty-seven students, only sixteen made the final sample due to factors outside of the control of the investigators. Six students demonstrated a positive change in behavior; three showed zero change in terms of frequency of behavior and seven participants' behavior worsened. These results led Vannest et al. to suggest that mentoring relationships with students with EBD may have varied effects.

The procedures of the study were not described in enough detail to be replicable. However, the results for students who exhibited externalizing behaviors were encouraging because it demonstrated that some students with EBD might respond positively to mentoring that occurs within the school. While the results were not all inspiring, it is not surprising due to the high variability in characteristics of students with EBD. Also, there are many factors that influence behavior that cannot easily be controlled such as absences and teacher personalities. Vannest et al. (2008) stated that the voluntary sample pulled from two classrooms might have been a limitation because it did not allow students to volunteer for the mentor program.

Similarly, Converse and Lignugaris-Kraft (2009) conducted a study that investigated a school-based mentoring program. The school was described as ethnically and socioeconomically diverse. The school consisted of Caucasian, Pacific Islander, and Hispanic students. The mentees in this study were identified based on data from office discipline referrals and unexcused absences. This study included at-risk students for

EBD; consequently, students with EBD were not included in the final sample. The study had a final sample of thirty-four students that were randomly assigned to the control or mentoring groups. A pre/post control group design was employed in this study. The participants in the mentor group were comprised of Caucasian and Hispanic students Ages 13-15. The majority of the students, more than 80%, were males, yet the majority of the staff mentors were females, 86%. Unlike, Vannest et al. (2008), staff members who acted as mentors were compensated for their role as long as they met certain requirements.

Converse and Lignugaris-Kraft investigated three dependent measures including office disciplinary referrals, unexcused absences, and a student survey on attitude (p.35). Converse and Lignugaris-Kraft triangulated the data to strengthen the limitations of office discipline referral data as a sole measurement of student success. The intervention involved time commitment, pro-social behavior, effective communicating, and trust building (Converse & Lignugaris-Kraft, p.36). The mentoring sessions lasted eighteen weeks. Mentees were required to attend mentee training, participate in at least one mentoring session per week and communication with the primary investigator. Similar to Vannest and colleagues, Converse and Lignugaris-Kraft maintained consistent communication with the mentors to provide feedback throughout the intervention.

Office discipline referrals in the mentored group showed a statistically significant decrease when compared to the non-mentored control group. There was not statistical significance between absences for the mentored and non-mentored group; however, during the intervention the overall mean for absences of students being mentored

decreased while the mean for the non-mentored group slightly increased. The school connectedness survey data showed that the mentored group had a statistically significant difference than the non-mentored group.

The studies by Vannest et al. (2008) and Converse and Lignugaris-Kraft (2009) shared similarities in mentorship programs but differences in the populations that were targeted in their final samples. Vannest et al. had mixed results, but their samples consisted of students with EBD in an alternative program. Converse and Lignugaris-Kraft had more promising results, but the intervention was implemented with students at-risk for EBD. Neither study included African-American students. This is concerning due to the disproportionate rate of African American students receiving services for an emotional/behavioral disability. Additionally, neither study included students with disabilities as mentors. Vannest et al. and Converse and Lignugaris-Kraft used staff members as mentors as opposed to youth with disabilities at their setting. Both studies are encouraging and can be built upon to further provide an intervention for students with EBD.

Summary

Students with EBD face a difficult and unique challenge that spans decades (Bradley et al., 2008). Educational policy has evolved to protect the rights of students with disabilities (Handler, 2011; Kauffman, 2005). While policy supports being educated with peers without disabilities to the maximum extent possible (Handler), students with EBD are not able to access the general education at a rate as high as other disability groups (Bradley et al.; Vernberg et al., 2004). This is a concern because the success rate

of students with EBD continues to be disappointing (Vernberg et al.). The ecological theory (Bronfenbrenner, 1977) provides a framework to better understand the challenges faced by students with EBD. Since, the disability is unique in its characteristics it is valuable to investigate the multiple layers of systems in which students with EBD interact. When impacting multiple layers it can allow for greater opportunities to influence the behavioral outcomes of students with EBD.

While we cannot control for outside factors, incorporating a member from the community and cross age peer mentoring may potentially increase the success of an intervention and connect multiple systems together. In addition, self-monitoring is a strategy to improve the self-regulation of students. Students with EBD have difficulty managing their behavior and impulses (Fitzpatrick & Knowlton, 2009). Through direct instruction of how to effectively use a self-monitoring checklist, students with EBD can become more independent and generalize a skill that can help improve their educational and post-secondary success.

Cross-Age peer mentoring can provide students with EBD an opportunity to learn from a peer with similar backgrounds and educational experiences. The impact on the school environment as a whole could potentially improve which will impact multiple systems as well as help build relationships that could reach into the communities.

Self-monitoring can be a beneficial strategy when working with students with EBD due to its relative ease to implement and effectiveness (Gulchak, 2008; Menzies et al., 2009). Cross aged peer mentoring can have a dynamic impact on the school environment as a whole by providing support to the mentee, empowering the mentor, and

establishing a safe environment for the school through positive older mentors and role models (Smith, 2011).

In conclusion, more information is needed regarding the use of self-monitoring strategies for students with EBD. Also, more information is need to determine if the use of a cross-age peer mentor can be an effective intervention to support younger peers in a self-contained school for students with EBD. This study seeks to address the gaps in the literature regarding the use of a self-monitoring checklist to decrease disruptive behavior of African-American male students receiving special education services in a self-contained setting. Additionally, this study seeks to address the gap in cross-age peer mentoring for young students with EBD.

Chapter Three: Methods

The major subheadings of this chapter include protection of human participants and informed consent, setting and selection of site, participants, independent variable, dependent variable, procedures, phase I: baseline procedures, phase II: initial intervention procedure, phase III: enhanced intervention procedures, fidelity of treatment, interobserver agreement, and social validity. The following chapter describes the study and includes a description of the second grade classroom, third grade classroom, cross-age peer mentoring spaces, mentee participants, cross-age peer mentor participants, self-monitoring checklist, cross-age peer mentoring, initial observation, mentee training, cross-age peer mentor training, and observer training.

Design

An ABC single-subject design was used to investigate the functional relation of a self-monitoring checklist with a cross-age peer mentor component for students with emotional and behavioral disabilities (EBD). The design included the following three phases: phase I, baseline, phase II, first intervention, and phase III, enhanced intervention. Following the conclusion of phase III, the participants were invited to participate in a post intervention interview.

Protection of Human Participants and Informed Consent

The Institutional Review Board (IRB) of George Mason University approved all methods and procedures for this study. Administration at the school site also granted permission to conduct the research.

Selection of Site

This study took place at Kennedy Lou-Ellen School (KLS), a self-contained K-7 school for students requiring full-time emotional support (ES) services. KLS is located in a major metropolitan area on the east coast of the United States. KLS provides education to students from the same school district from around the region. KLS was chosen because all of the students have been identified with requiring special education services for ES prior to being placed at KLS. Additionally, there are a high percentage of African-American males at the school that meet the inclusion criteria for selecting participants. KLS had ninety students enrolled at the time of the study with eighteen staff that included teachers, social workers, floor leaders, classroom behavioral support paraprofessionals, special education coordinator and a program manager. KLS implements school-wide systems to support student behavior. This system includes a behavior rating system, behavioral norms for the entire school, and a school-wide rewards/reinforcement system. KLS has a full-time clinical team comprised of two social workers available to the students as well as a behavior intervention team comprised of two members.

Based on data collected by staff at KLS and available resources from their administration team, their school has: 100% special education compliance, on-going staff Professional development, 100% statewide testing, 91% of students have obtained

outside resources, and 72% of eligible students made literacy growth. KLS has the following program Goals:

- 1) To provide a safe, non-violent environment
- 2) To provide rigorous academic instruction
- 3) To provide therapeutic support to students and families
- 4) To provide character building and leadership skills

5) KLS staff utilizes therapeutic aids that include but are not limited to: wiggle cushions, weighted lap pad, squigglets, moon sand, deep breathing charts, calming bottles, magnetic sensory bottles, bouncy chair, stress balls, and putty. Examples of rewards and reinforcements used at KLS are as follows: visual chart on desks, color system that denotes positive (green) and negative (red) behavior for each class period, classroom consequences (i.e., if a student receives two reds they will not receive reinforcement), school-wide ticket reward system for positive behaviors, visual reminder of individual goals written on student's desk, earned field trips each report period for students with a positive standing based on school-wide behavioral and academic data.

KLS aligns their instruction to the local school districts academic curriculum and utilizes research based instruction in math and reading. Additionally, their clinical team provides individual counseling, group therapy (social skills and grief and loss groups), referrals for community counseling services, nursing and health services. KLS provides life skills development, speech and occupational therapy, therapeutic aids, townhouse meetings in each class, low student to teacher ratios (12:1), structured/safe environment and social emotional learning/support. KLS has a student lounge, computer lab and a

Chromecast television in each classroom. KLS was purposefully selected based on their level of restrictiveness and population served.

Participant Selection

First, the researcher visited the school site to informally meet with the school administration team to obtain school demographic data. The school administration team is comprised of the program manager, special education coordinator and two school social workers. The team gave recommendations for a pool of participants based on their school wide behaviorally based ranking system already in place at the site. This system was not based on School Wide Positive Behavior Support (SWPBIS), but it contained components related to SWPBIS such as an emphasis on data collection on specific behaviors and different tiers of privileges and restrictions based on the aforementioned data. Students were ranked based on their behavior and academic effort. The five behavioral rankings at KLS will be given the pseudonyms “Frog,” “Toad,” “Swan,” “Duck” and “Gator.” Mentees will be selected from the “Frog” ranking and mentors will be selected from the “Duck” or “Gator” ranking.

Students on the “Frog” rank: (a) had at least 1 unexcused absence per week, (b) were aggressive towards staff and peers (c) potentially required a response from the de-escalation team during the week (d) did not show academic effort (i.e., not turning in assignments/homework/or signed behavioral sheets at least twice per week.

In order to be on the “Gator” rank a student needed to demonstrate the following:
(a) 0 unexcused absences in the past week (b) a “B” average (85% or higher) (c) refrained

from physical and verbal aggression and (d) showed leadership in the school-wide expectations.

Next, the administrative team was asked to select a pool of mentee participants that had been placed on the lowest rank (“Frog” level) and mentor participants that had been on the two highest ranks (“Gator” or “Duck” level) for at least four weeks prior to the start of the study.

Once the potential participants were recommended a recruitment letter (see appendix A) and consent forms (see appendix B) were sent to the guardians of the seven potential mentee participants and six mentor participants. The recruitment letter and letters of consent and assent were sent home in the potential participant’s daily folder. The school social workers contacted parents to check for questions and ensure the documents were received. A recruitment PowerPoint was created for the participants and shared with the school social workers for any students who had questions. The PowerPoint was not presented to the student’s altogether, but was an option for all students who wished to know more information regarding the study. The school social workers contacted parents and informed students of the study because of their relationship with the potential participants and their families.

Data collection took place in two different classrooms: the social workers office and the student lounge. The classrooms will be identified as “Second Grade” and “Third Grade.” Two students were observed in the third grade classroom and one student was observed in the second grade class.

Participants

A total of eleven African-American students receiving special education services for ES were selected for this study. Of the eleven, five were potential mentees and six were potential cross-age peer mentors. The final sample of participants included a total of six students: three mentees and three mentors. Below mentee and cross-age peer mentor participants will be describe seperately.

Mentee Participants

Inclusion criteria for the selection of the mentees included the following: (a) the student was in grades 1-3 (b) the student needed to display instances of daily disruptive behaviors based on data collected by the school (i.e., behavior referrals, daily data collection sheets, IEP annual goals), (c) therefore, the participant was on a lower rank as indicated by the school-wide ranking system, and (d) the participant needed to be an African-American male. Two mentee participants who consented to participate in the study were not included in the final sample due to their behavioral improvement prior to the start of the study. Specifically, the mentee participants were no longer on the “Frog” level at the time of the study and did not demonstrate a high level of disruptive behaviors during initial observations. Each mentee participant is described below and the demographics of the final sample of mentees are outlined in Table 3.

Table 3

Mentee Participant Demographics

Participants	Grade	Age	Primary Disability	Years at KLS
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Andre	3	8	ED	.5
Sean	3	9	OHI	.5
Andrew	2	7	ED/SL	1

There were a total of three mentees ranging from first to third grade included in the final sample: Andre, Sean, and Andrew. Information regarding each student's disability was reviewed and the researcher examined the most current records for each student in order to obtain tests results that evaluated intelligence and academic achievement. Each participant is described below.

Andre. Andre is an eight year old, third grader identified with an emotional disability (ED) through his local educational agency (LEA) in December 2015. Andre lives with his mother and two siblings. He is an African-American male who has been receiving special education services in a self-contained setting under the special education category of Emotional Support (ES) since the March of the current school year. Prior to being placed at KLS, Andre attended his neighborhood school. His neighborhood school, Ryder Elementary School (RES) is a public school with approximately 750 students. RES is located ten miles from KLS, and educates Kindergarten through sixth grade students in the local catchment area. RES was a turnaround school six years prior to the start of this study. Based on his Individualized Educational Program (IEP) at the time of the study, Andre was diagnosed with Oppositional Defiant Disorder (ODD), Post-

Traumatic Stress Disorder (PTSD) and Acute Stress Disorder. At RES, Andre was placed on medication and given a 1:1 aide. Andre has the following IEP goals:

a) Andre will read at a level Q, 4.33 with 98% accuracy and satisfactory comprehension and at 120 wpm as measured by a research-based literacy assessment over 9 weeks. (baseline: Level M, 3.0).

b) Andre will include appropriate leads, transitions, endings, organization, elaboration, spelling, and punctuation on a 2nd grade level as measured by Mastery Benchmarks and in-class assessments in 3 of 4 trials over a period of 9 weeks. (Baseline: K grade level equivalent)

c) Andre will be able to identify key words, choose the appropriate operation, and solve 4th grade level number stories problems with 76% accuracy as measured by teacher made assessments on 3 out of 4 trials over a period of 9 weeks (Baseline: To be determined (TBD) on 3rd grade level)

d) Andre will follow teacher directions within 1 minute without displaying negative (calling out, poor academic posture) behaviors, 80% of the time over a period of at least 9 weeks. (Baseline: TBD)

e) Andre will use self-calming techniques such as deep breathing, asking for help, and taking a break when he becomes angry or frustrated and will refrain from displaying negative behaviors, 80% of the time, over a period of 9 weeks (Baseline: TBD)

f) Andre will exhibit positive communication, by expressing his needs and wants verbally (speaking kindly, respectfully, and without threat or aggression), 80% of the time, over a period of 9 weeks. (Baseline: TBD)

Additionally prior to KLS, Andre was hospitalized due to behaviors exhibited in school earlier in the current school year including property destruction, elopement and aggression.

Based on an Evaluation Report completed in the winter prior to data collection, Andre had an Intelligence Quotient (IQ) of 98 on the Differential Ability Scale-II (DAS-II) placing him in the average range. Results from the Wechsler Individual Achievement Test, third edition (WIAT-III) Andre fell in the average range on Basic Reading and Spelling subtest, and in the low average range in Reading Comprehension and Fluency, Mathematics and Sentence Building subtests. He displayed a high number of disruptive behaviors during the first seven months of school based on data collected by the school via staff behavioral referrals and administrative disciplinary actions. From September 2015 to February 2016 at RES, Andre received 39 behavioral referrals for behaviors including insubordination, constant disruption, physical aggression, inappropriate behavior towards others, and minor misbehavior. During his third month at KLS, Andre's behavior tracker documented eight instances of elopement and two instances of physical aggression.

Sean. Sean is a third grade student identified with an Other Health Impairment (OHI) receiving special education support through Emotional Support (ES). Sean had been receiving special education services for the last three years. Sean just turned nine years old prior to the start of the study. He was an African-American male who has been receiving special education services in a self-contained setting under the identification of ES since half-way through the current school year. His report card from the first two

marking periods show grades ranging from 77 - 100 in Math, Reading, and Writing. Prior to attending KLS, Sean attended Nicholas Elementary School (NES). NES is a kindergarten through fifth grade elementary school located five miles from KLS. KLS has a program for students receiving itinerant and supplemental levels of emotional support. It was determined that Sean needed a full-time level of support in the winter prior to data collection. Following are the two behavioral goals on Sean's IEP:

a) Using a daily behavior tracking sheet, Sean will be able to appropriately accept feedback by saying yes and immediately changing his behavior on 4 out of 5 trials with 80% accuracy. At the time of the IEP, Sean had a baseline of 50%.

b) Using a daily behavior tracking sheet, Sean will respect the boundaries of his peers, by recognizing when his peers do not want to interact with him, and use self-control to control his language, hands and feet with 85% accuracy. At the time of the IEP, Sean had a baseline of 60% accuracy.

Sean has one academic goal that reads as follows:

a) Given daily small group reading instruction, Sean will be able to read at an independent Fountas and Pinnell level R (middle 4th grade level equivalency) with 95% accuracy, 10 words per minutes and 7/10 comprehension. At the time of the IEP, Sean's baseline was Level N (beginning 3rd grade equivalency) with 99% accuracy, 119 words per minutes and 8/10 comprehension points.

Sean has had instances of hospitalization due to behaviors since Kindergarten including one prior to the onset of the study lasting for one month. His IEP notes that Sean has had several incidences during the year that involved physical altercations and

aggression towards self and others. Sean is receiving school based counseling and door to door transportation supports. During the month prior to the onset of the study, Sean's behavior tracker documented seventeen instances of non-compliance, seven instances of being out of his seat, seven instances of excessive talking, three instances of walking out of class, four instances of physical aggression, fourteen instances of excessive profanity and two instances of major disrespect.

Andrew. Andrew is a second grade student identified with an Emotional Disability (ED) and Speech and Language Disability (SL) receiving special education support through ES. Andrew was seven years old during the time of the study. He is an African-American male who has been receiving special education services in a self-contained setting under the service of Emotional Support for a year prior to the start of the study. Based on his most recent Evaluation Report Andrew has an IQ of 91(Reynolds Intellectual Achievement Scale- II) which places him in the average cognitive range. According to the WIAT-II, Andrew scored in the high average range in the Reading Composite, the low average range in the Written Expression Composite and the low average to average range in the Mathematics Composite. Andrew has the following IEP goals:

a) Given a list of non-decodable sight words at the second grade level, Andrew will read 220 sight words with 90% accuracy in 3 out of 4 trials per report period.

Baseline: Andrew can currently read 197 sight words on a first grade level.

b) General F&P growth goal: Andrew will read at a level K with 98% accuracy and satisfactory comprehension at as measured by a research-based literacy assessment

given once per report period. (Baseline: Andrew is currently reads at level F(1.2 grade level equivalent) with 95% accuracy on the Fountas & Pinnell Benchmark Assessment System)

c) Andrew will write complete sentences using capital and lowercase letters appropriately with spaces between words and correct ending punctuation at 95% accuracy in 3 out of 4 trials as measured by classwork and teacher observation. Baseline: Andrew can currently write his thoughts on paper with spaces. He struggles organizing his thoughts into complete sentences with correct capitalization and punctuation.

d) Math Computation/Fluency: Given 25 questions at the 2 grade level, Andrew will increase his/her math problem solving skills to 15 digits correct, (75th percentile) in 2 minutes in 3 out of 4 trials. (Baseline: 20 digits correct on a first grade level on a Digits Correct Assessment)

e) On Task: Andrew demonstrate "On Task Behaviors" (tracking the teacher, academic posture, following teacher directions) 95% of the time when observed for a period of 10 minutes in 3 out of 4 observations. (Baseline: 50% of time on task in 10-minute observation)

e) Reduction of angry or aggressive behavior: Andrew will demonstrate an increased ability to utilize coping strategies when frustrated in the classroom as evidenced by reducing the average number of angry or aggressive behaviors to fewer than 2 bi-weekly for a period of 8 weeks (Baseline: an average of 3 incidents bi-weekly).

f) Andrew will answer "what if" and "why" questions related to familiar stories and events with 80% accuracy as measured across 3 data collections. Baseline: 75%

g) Andrew will formulate sentences and questions using correct word order and grammar including pronouns, possessives, and verb tenses during structured activities when provided with an initial model with 80% accuracy as measured over 3 consecutive data sessions. Baseline: 40-60% in conversational speech

He displayed a high number of disruptive behaviors during the first seven months of the school year prior to data collection based on data collected by the school via staff behavioral referrals, administrative disciplinary actions. For example, during one month, Andrew' behavioral tracker indicated 22 instances of non-compliance, 9 documented instances of excessive talking, and 10 documented instance of being out of his seat. Andrew receives social work small group, speech and language therapy and bus transportation as related services on his IEP.

Mentor Participants

Inclusion criteria for the selection of the mentors included the following: (a) the participants were in grades 5 or 6 (b) all mentors demonstrated appropriate social interactions with younger peers demonstrated by not having any behavioral referrals that indicated physical or verbal aggression towards peers in grades K-3, (c) demonstrated positive behaviors prior to the onset of the study as indicated by being on one of the top two ranks of the school-wide ranking system and/or few behavior referrals or daily data collection sheets, and (d) were African-American males. One cross-age peer mentor participant transferred back at his neighborhood school due to behavioral and academic improvements, so he was unable to participate in the study. Two cross-age peer mentors were not included in the final sample due to high number of absences during phase III.

Each cross-age peer mentor participant is described below and the demographics of the final sample of mentors are outlined in Table 4.

Table 4

Cross-age Peer Mentor Participant Demographics

Participants	Grade	Age	Primary Disability	Years at KLS
Kevin	6	13	ED	3
Garrett	6	11	OHI	1
Tamir	5	11	OHI	2

There were a total of three mentor participants ranging from fifth to sixth grade included in the final sample: Kevin, Garrett, and Tamir. Information regarding each student's disability was reviewed and the researcher examined the most current records for each student in order to obtain tests results that evaluated intelligence and academic achievement. Each participant is described below.

Kevin. Kevin is a thirteen year old student with EBD. Kevin was in sixth grade at the time of the study. He lives with three siblings and his mother. He has been receiving special education services since the second grade. He has been educated in a self-contained setting for students with EBD since the third grade. Based on his Re-evaluation Report completed three years prior to the study, Kevin performed in the significantly below average cognitive range on the DAS-II . According to the WIAT-III, Kevin has

deficits in reading, writing, and math skills. Kevin's primary disability identified on his IEP was ED with a secondary disability of SL and OHI. Kevin has the following IEP goals:

a) Kevin will increase his oral reading fluency to 115 words per minute using the fourth grade Dibels research based assessment. Baseline- Andrew reads 133 words per minute on a third grade level.

b) Kevin will increase his reading level to a Level Q (grade level equivalency 4.33) using the Fountas and Pinnell Research Based Assessment. Baseline-Andrew currently reads on a level M (GLE -3.33).

c) Given a writing prompt and a graphic organizer, Kevin will be able to compose a 5 sentence paragraph with an opening sentence, three detail sentences, and a concluding sentence, with appropriate grammar and punctuation, with 90% accuracy, in 3 out of 4 trials per report period. Baseline: Kevin can write a paragraph with the proper elements with 65% accuracy.

d) Kevin will score 17 digits correct on a fourth grade Calculation Digits Correct Research Based Assessment. Baseline- Kevin can solve 11 digits correct on a third grade level.

e) Given modeling of appropriate social and coping skills, Kevin will respond appropriately to peers who frustrate him, 90% of the time, measured weekly on his weekly behavior chart. Baseline: Kevin does this 70% of the time.

f) Kevin will not become physically and/or verbally aggressive towards other students 100% of the time. PROGRESS: Kevin is not aggressive 70% of the time. Is dependent on whether or not he takes his medication. He is only ever verbally aggressive.

g) By the end of the IEP term, Kevin will answer a variety of wh-questions, (who, what, where, when, why) following the presentation of short paragraphs with 80% accuracy across 3 sessions. Baseline: 67%.

h) By the end of the IEP term, Kevin will identify and label synonyms and antonyms for target vocabulary related to curricular content, and use target vocabulary to form meaningful, grammatically correct sentences with 80% accuracy across 3 sessions. Baseline: 50%.

Garrett. Garrett is an eleven year old sixth grader receiving special education services since the third grade. Garrett lives at home with a younger sibling and his mother. He has three older siblings that do not live in his home. Garrett was identified as a student with a Speech and Language Impairment in the third grade and an Other Health Impairment in the fourth grade. He has been receiving self-contained special education services under the identification of emotional support at KLS since the sixth grade. Based on his most recent Re-evaluation Report, his overall cognitive functioning was determined non-interpretable due to variance across his scores on the DAS-II . Garrett's IEP goals are as follows:

a) Garrett will read at a level U (5.67 grade equivalent) with 98% accuracy, 7 out of 10 comprehension points, and adequate fluency as measured by a research-based literacy assessment. Baseline: When given the Fountas and Pinnell. Benchmark

Assessment in December 2015, Garrett was able to independently read at a Level Q with 99% accuracy, 8 out of 10 comprehension points, and adequate fluency.

b) Garrett will write a 5 sentence paragraph response to a prompt with proper capitalization and punctuation including an introduction sentence, 3 detail sentences, and a concluding sentence 90% of the time in 4 out of 4 trials as measured by a teacher created rubric. Baseline: When given a writing prompt Garrett is able to write a 5 sentence paragraph essay to a prompt 80% of the time in 3 out of 4 trials.

c) Given 25 fourth grade level computation problems, Garrett will receive a score of at least 47 digits correct per minute on 3 out of 4 trials over a period of at least 6 weeks. Baseline: Garrett was given the Digits Correct Per Minute computation assessment. Garrett scored 22 digits correct on a fourth grade level.

d) Garrett will increase his math problem solving skills from 4 digits correct per minute on the 4th grade level to 26 digits correct per minute on the 4th grade level on 3 out of 4 trials over a period of at least 6 weeks. Baseline: Garrett was able to score 4 digits correct on the Problem Solving Digits Correct Assessment on the fourth grade level.

e) Garrett will improve classroom behavior by following classroom rules within 1 prompt 95% of the time, and completing classwork regularly with no more than 1 prompt 95% of the time, as evidenced by the daily behavior sheet. Baseline: Garrett follows classroom rules 75% of the time, within 1 prompt. He needs 2-3 prompts to complete class work 90% of the time.

f) Anger Management: Garrett will select and utilize an appropriate strategy to calm himself down such as a time out, consulting with a social worker, and breathing to return to the lesson without further negative behavior at least 90% of the time. Baseline: Garrett utilizes an appropriate strategy to calm himself down 75% of the time as indicated by teacher and staff observations and daily behavior reports.

g) Given structured and unstructured speech based tasks, Garrett will display increased speech intelligibility in connected speech by clearly articulating final sounds in words, multisyllabic words, and self-monitoring/repairing his speech for errors with 75% accuracy across 3 sessions. Baseline: Requires a moderate level of prompting during structured conversation within the speech therapy room, (65%).

Tamir. Tamir is an eleven year old fifth grade student receiving special education services in a self-contained school for students with EBD. He lives at home with his mother, step-father and two siblings. He has been receiving special education services under the identification of Other Health Impairment (OHI) since the third grade. He has been educated in a self-contained setting since the third grade as well. Based on his most recent Re-evaluation Report, the WISC-IV indicates his cognitive functioning is of (FISQ = 91) which falls into the average range. Tamir has the following IEP goals:

a) Given a leveled text Tamir will be able to read at a level P (grade level equivalency 4.00) with 95% accuracy and with satisfactory comprehension, as measured by a research-based literacy assessment, once per report period. (Baseline: Tamir currently reads at level M (grade level equivalency 3.00) with 95% accuracy and satisfactory comprehension)

b) Math Computation/Fluency: Given 25 questions at the 4th grade level, Tamir will be able to increase his math problem solving skills 30 digits correct in 3 out of 4 trials, per report period. (Baseline: 24 digits correct on a 3rd grade Digits Correct Assessment).

c) Math Computation/Fluency: Given 25 questions at the 4th grade level, Tamir will be able to increase his math problem solving skills 30 digits correct in 3 out of 4 trials, per report period. (Baseline: 24 digits correct on a 3rd grade Digits Correct Assessment)

d) Tamir will select and utilize an appropriate strategy to calm himself down such as taking a break, speaking with a staff member, etc. before becoming frustrated, in 5 out of 5 opportunities. (Baseline: 3 out of 5 opportunities)

Setting

The intervention and data collection took place across multiple settings at KLS. Each setting is described below.

Second grade. The second grade classroom walls were decorated with the school-wide ranking system, work in progress chart, calendar, white board, and a word wall. As mentioned earlier, all students at KLS earned tickets and there was a descriptive poster regarding tickets earned per student and rewards. There was one teacher desk, five computers, a kidney table, and eleven desks in different arrays based on student need. There was an additional support staff in the room to monitor behavior and lead small groups. During the time of the study one of the school social workers was also present in the classroom to support the high number of behaviors in the classroom.

Third grade. There were a total of ten desks placed in two rows along with individually placed desk on the outside of the two rows. There was one teacher desk and one kidney shaped table in the classroom as well. The walls were adorned with a grading rubric, a student-data wall, a visual behavior tracker, classroom calendar, word wall, class rules, tickets, a poster outlining behavioral expectations and strategies, exemplar classwork, a poster detailing classroom jobs, student and staff birthday wall, and a shapes poster. There was a rack for backpacks and coats with supplies above the coat rack, four computers, a classroom library, tactile seat cushions on four seats, cups for tickets on each student's desk, a bookshelf with student activities (i.e., coloring pages), and a round table for small group work.

Cross-age peer mentoring spaces. The peer mentoring process took place in the "Gator Lounge" and social worker office. The "Gator Lounge" had an air hockey table, "pop a shoot" basketball hoops, video game system, and two computers. Only students that were on the "Gator" ranking were allowed to attend the lounge. In this study the cross-age peer mentors were allowed to bring their mentee to the "Gator Lounge." The social workers office had two desks, a small round table, two therapeutic chairs and a small couch.

Independent Variables

There were two independent variables used during this study: a self-monitoring checklist and cross-aged peer mentoring. Each variable will be described in detail.

Self-monitoring checklist. The first independent variable was the use of a self-monitoring checklist. Self-monitoring involves observing and recording one's own

behavior (Menzie's et al., 2009). In this study, the mentee participant assessed his own behavior and recorded his assessment via his self-monitoring checklist during phase II. The behaviors monitored on the self-monitoring checklist for the three mentee participants were not individualized. The disruptive behaviors selected for the participants to monitor were based on IEP behavioral goals and the initial observations completed by the researcher. All three of the participants in the final sample demonstrated difficulty remaining in their seat and working quietly. Therefore, being in location and working quietly were the two target behaviors on the self-monitoring checklist for all three participants. Disruptive behavior was operationally defined as (a) verbally interrupts the lesson with a question or statement not related to the discussion or (b) verbally interrupts the lesson by engaging with a peer directly or indirectly (i.e., arguing), or (c) verbally interrupts a lesson with inappropriate comments (i.e., profanity, non-lesson related utterance) or is (d) out of location (without permission student is more than two steps away from the chair he was sitting in at the start of the interval or away from the carpet square he was sitting on when the interval started). The self-monitoring checklist was created by the researcher (see appendix C.) The mentee participant was prompted to indicate whether or not he engaged in disruptive behavior during one to three-minute intervals over a period of 29 minutes and 55 seconds. The one to three minute intervals were based on the sand timer used by the student. There were three different timers used (1 minute, 2 minutes, & 3 minutes) for the three participants. Each participant was given the choice of which timer to use prior to the start of the observation period. Additionally, the different time intervals were selected to provide minor

variations in the amount of time students were self-monitoring to increase student engagement. Again, the target behaviors identified on their self-monitoring checklist were remaining in location and working quietly. The self-monitoring checklist was located in a bound student writing journal with blank white pages. The self-monitoring checklist was attached to the blank pages in the bounded book and assigned to each participant. The students kept the checklist on their desks or on a chair next to their work space if they were at a learning center away from their assigned desk during phase II. As previously trained, the student was supposed to identify whether or not he was disruptive during each interval. The participant used sand timers to indicate when it was time to assess their behavior. Therefore, the consistency of student identification of their behavior every one to three minutes on their self-monitoring checklist varied based on their recognition of the timer and/or prompts to check their time by an adult. If the student demonstrated appropriate behavior every time the timer finished but demonstrated inappropriate behavior at any instance during the one to three minutes he should still have marked a frown for that that time interval. After each one to three minute interval, the participant was trained to circle a smiley face or a frown face based on if he perceived he did or did not engage in the targeted behavior.

Cross-age peer mentoring. Cross-age peer mentoring is a mentoring program that takes place between individuals with at least two years age difference or in different school levels (i.e., middle and high school) (Karcher, 2007). In this study, each of the mentees was paired with a mentor by the school social workers, special education coordinator and program manager for the duration of the study. Each mentor/mentee

dyad had a designated times and a space to meet with each other face-to-face during each session of phase III. For the study, the cross-age peer mentor met with the mentee at least three times for 10-15 minutes during a two-week period. The cross-age peer mentors met with the mentee during lunch. All students regularly eat lunch in their classrooms at KLS during the same lunch block from kindergarten to sixth grade, but for the study, an alternative area of the school was provided so that the cross-age peer mentor and mentee could have individualized space. This alternative space included the “Gator Lounge” or social workers office depending on the mentees preference. The cross-age peer mentor and mentee interactions were monitored and supported by the researcher. The researcher prompted the time to clean up and walk back to class. Additionally, the researcher would prompt the mentor to complete one of the targeted steps if he forgot (i.e., “don’t forget to ask to see his self-monitoring checklist). During the 10-15 minutes, the first step for the cross-age peer mentor was to ask the mentee for his checklist. The cross-age peer mentor looked at the total number of smiley faces and frowns and read them aloud to his mentee. Next, the mentor encouraged his mentee by stating positive statements such as “continue earning smiley faces.” After the mentor checked whether or not his mentee was using his checklist, he encouraged his mentee to “try to earn more smiley faces than frown faces” then played a game selected by the mentee. The games included air hockey, basketball, video games and connect four. Other students that were “Gators” were allowed access to the student lounge during this time as well. If a cross-age peer mentor began engaging with a peer, the researcher prompted him by saying, “Don’t forget this is your time to play with your mentee.” Each time this prompt was used the cross-age peer mentor

responded by going to engage with his mentee.

Dependent Variables

In order to evaluate the impact of the self-monitoring checklist and the cross-age peer mentoring intervention on the mentee's behavior, the dependent variable of disruptive behavior was measured during phase I, phase II, and phase III. This study defined disruptive behavior as an occurrence when a student (a) verbally interrupts the lesson with a question or statement not related to the discussion or (b) verbally interrupts the lesson by engaging with a peer directly or indirectly (i.e., arguing), or (c) verbally interrupts a lesson with inappropriate comments (i.e., profanity, non-lesson related utterance) or is (d) out of location (without permission student is more than two steps away from the chair he was sitting in at the start of the interval or away from the carpet square he was sitting on when the interval started). If any of these behaviors occurred during the observational period, the student was marked being disruptive by the researcher during phase I, II and III. The observational period lasted for 120 ten second intervals for a total of 12-15 sessions per mentee participant over the course of seven weeks. Partial interval data collection was used during phase I, II and III. Partial interval data was used because any occurrence of disruptive behavior can alter a lesson and impact the participant's ability to access the content. Disruptive behavior can also result in consequences that take the student out of the learning environment (i.e., suspension). Therefore, partial interval data was collected during 120 separate ten second intervals. The observer wore headphones connected to an electronic device that beeps every ten seconds with a five second break in-between sessions. When the timer beeped to signal

the five second break the data collector noted whether or not the student was engaged in disruptive behavior. Data was collected during each observation. A recording was completed for each mentee participant. A copy of the interval-partial interval recording used to assess the presence or absence of disruptive behavior is found in Appendix D.

Data was collected during reading centers that took place before lunch for both classrooms. During reading centers, students engaged in learning activities related to literacy during an hour and twenty minute block. The students were engaged in both group work and independent practice. In the second grade class, the literacy centers included a word study center with a paraprofessional, a computer based learning game, small group reading intervention (Wilson's FUNdations), and a hands on center that involved creating an art piece related to a book that was read in class. The literacy centers in the third grade included a small group word study center that included different games that involving their word study words, a small reading group using leveled literacy books, a computer-based reading game and an independent center that involved completing an assignment based on a story or concept learned during whole group instruction.

Materials

Materials used to implement the self-monitoring intervention included a self-monitoring checklist notebook and multiple sand-timers. The self-monitoring checklist notebook included multiple self-monitoring checklists glued to the paper of a elementary aged blank writing journal already being used in both classrooms. The notebook contained all of the self-monitoring checklist used during the intervention. The sand

timers were plastic with different color sand to denote different time intervals. The materials were for the mentee participants.

Procedures

Initial Observations

Prior to data collection, the researcher observed each mentee participant during their literacy centers. During this time the researcher collected anecdotal notes and collected frequency data on the following disruptive behaviors: touching, calling out answering, making off-topic comments directed towards others or self, walking away from assigned location, and making non-verbal gestures at peers. The purpose of these observations was to identify high frequency disruptive behaviors displayed by the mentee participants. Partial interval data recording was used on all sessions following these initial observations.

Mentee Training

During the training and practice session students worked 1:1 with the researcher in the social workers office at a round table. The purpose of this training was to teach the mentee how to use the self-monitoring checklist and ensure they were ready to use the self-monitoring checklist independently. The researcher followed a script (see appendix E) and used a checklist for fidelity (see appendix F). The script was followed to ensure all students received the same instruction. To be considered ready to use the self-monitoring checklist the student needed to independently use the checklist independently while doing a preferred task five times with 80% accuracy. The researcher also observed the student and collected data to ensure the student was accurately monitoring their behavior. The

mentee's practiced using the self-monitoring checklist while coloring a preferred coloring page. Once students mastered the checklist they were given the checklist in the classroom to use independently with prompts from the researcher.

Mentor Training

After baseline (phase I) and phase II the researcher met with the cross-age peer mentors to outline their role as a mentor. The cross-age peer mentor was responsible for helping the mentee: 1) Identify if they are using their self-monitoring checklist; 2) encourage their mentee to "keep earning smiley faces"; and 3) "hang-out" with their mentee and model appropriate behavior during a non-structured school approved activity (i.e., time in the gym, time in the game-room, working on puzzles). The training session was scripted and a fidelity checklist (appendix G) was completed by the special education coordinator. The training consisted of the following steps.

- 1) Greet mentee (Good afternoon (handshake or fist bump)
- 2) Ask to see their self-monitoring checklist (if student refuses say okay.
- 3) If the student has completed a checklist for that day say "great job! How many smiley faces did you get?")
- 4) Ask student which game they would like to play a game
- 5) The training was done as a group with five mentors present.

Phase 1: Baseline Procedures

During baseline the researcher used headphones with an application on an electronic device that used a beeping system to alert the end of an interval. The researcher used a checklist to collect data (see appendix D). The researcher collected data on a

laptop during each session. Prior to data collection, the researcher determined that participants that either displayed stability or high levels of disruptive intervals during baseline would receive the intervention. Under the baseline condition, for five consecutive school days, each participant was observed for disruptive behaviors for 120 ten second intervals. The observations lasted for a total of 29 minutes and 55 seconds including the five second breaks in between each ten second interval. The third participant (Andrew) was absent during the fifth observation under baseline conditions. The dependent variable was measured during this phase. The researcher wore headphones during observations for auditory prompts to mark occurrence (“x”) or non-occurrence (“o”) for each interval. The timer the researcher used beeped for the final three seconds of each 10 second interval and for the final three seconds of the five second break interval.

During baseline the researcher sat in the classroom away from the instruction areas, and did not engage with the participants or teacher as a part of instruction. Baseline data for each mentee was collected during a consistent time period during literacy centers. For Andre and Sean, data was not collected during the computer center. This decision was made because during the initial observations the observer noted that the students did not display disruptive behaviors while on the computer. However, data was collected for Andrew during computer center in the second grade classroom due to the high level of disruptive behavior Andrew exhibited during initial observations.

Stability in the data during baseline was desired, but due to the high levels of disruptive behaviors observed during baseline each student began phase II once they demonstrated a consistent high level of disruptive behavior.

Phase II: Initial Intervention Procedures

The self-monitoring checklist was a single page sheets with a chair and “quiet emoji” pictures vertically down the side of the page (see appendix C) inserted in a blank writing journal. Following each picture were boxes with a smiley and frown face for each interval the student was asked to self-monitor. The participant had a visual timer (sand timer) on his desk to signal times to fill out his checklist.

After demonstrating mastery of the self-monitoring checklist during the training period, mentees had an opportunity to independently use the self-monitoring checklist during literacy centers (the same consistent time of day before lunch). The mentee was responsible for completing the self-monitoring checklist during literacy centers. The mentee was prompted to begin self-monitoring when the researcher handed him his self-monitoring checklist. A sand timer was used to alert the mentee during one to three-minute intervals. The different interval sand timers were provided as a choice for the student prior to the session based on student preference. Once the sand timer signaled the end of the interval, the mentee independently circled either the smiley face or the frown face to indicate if they did or did not demonstrate the disruptive behavior. The researcher provided three prompts during phase II. As needed at the appropriate times during the observation. The verbal prompts used during phase II included the following: (a) don’t forget to turn your timer on (b) don’t forget to circle a face (c) don’t forget to bring your book (i.e., if the student moved during centers and left their self-monitoring checklist inserted in their writing journal).

The researcher was in the room during this time to collect data. The self-monitoring checklist was implemented for at least five sessions per participant. When the observation period was complete the researcher collected the self-monitoring checklist and student timer.

Phase III: Enhanced Intervention Procedures

During phase III, a fidelity checklist (see appendix G) was used when observing the cross-age peer mentoring session. A digital timer was used on the researchers phone to indicate the amount of time that remained in the cross-age peer mentoring session. Following phase II, all mentee participants continued to independently use the self-monitoring checklist during literacy centers. In addition to the self-monitoring checklist, all mentees met with his cross-age peer mentor during lunch. This meeting time was considered to be the cross-age peer-mentoring component. The meeting took place immediately following the mentee using his self-monitoring checklist. In addition to the three prompts used during phase II, the researcher also reminded the mentee's "don't forget you get to show your mentor your checklist today during lunch" prior to the start of the observation period during phase III. Data collection took place a day or more after the last mentoring session. The enhanced intervention was implemented for at least three data points per participant. During the initial intervention and the enhanced intervention, the researcher completed a fidelity checklist.

Fidelity of Treatment

Fidelity of implementation of the phase II intervention was kept by the researcher, classroom teacher, or classroom counselor during observations. An additional staff

member completed a fidelity checklist (see appendix F) to ensure the students are using their checklist and timer across 21% of the sessions. The fidelity of intervention for phase II was 75%. All students required prompting to “flip the timer” or continue to use their checklist during transitions within the literacy centers. Also, a staff member from KLS observed the teaching sessions with the mentee on 33% of the training and practice sessions to ensure the script was followed and mastery was demonstrated during training and practice. The researcher completed the fidelity of treatment during the training and practice session on the remaining 67% of the sessions. The peer mentors were trained prior to meeting with the mentees. An additional staff member at KLS collected fidelity of training implementation (100%) during the researcher led training session for all of the mentors (see appendix H). The researcher collected fidelity of treatment on 100% of the mentoring sessions using a checklist (see appendix G). The fidelity of treatment during the mentoring sessions was 100%.

Interobserver Agreement

An observer was trained to collect data during the intervention as well. The observer worked in the special education department at the central office of the school district that places students at KLS. The observer was trained on how to collect data during a practice session with the primary researcher. First, the researcher shared the recording tool. Next, the researcher shared the operational definition of disruptive behavior. Finally, the researcher and observer practiced independently and then together observing disruptive behavior on a video. The practice consisted of watching a 30 second video clip of disruptive behavior in a fictitious class on YouTube. The researcher and

observer collected data on the disruptive behavior of the same identified individual in the video to simulate the data collection process. During this observation the researcher and observer used the same timer application their phones to keep track of the intervals. The primary researcher and additional researcher practiced until they had 100% agreement. The researcher and observer did not disclose which interval they marked as disruptive or not disruptive until they reached 100% agreement.

Reliability checks were administered by having the researcher and observer compare the interval recording of attention to task for at least 16% of total observations. Due to scheduling conflicts and participant absences, the observer collected data during 16.7% of the total sessions which does not meet the 20% standard for single-subject design (Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf & Shadish, 2010). Interobserver agreement was calculated at 86.1% across those sessions. The percentages of observations with IOA calculated for each participant ranged from 13.3%-20%. The IOA ranged from 80%- 92.5% across the co-observed sessions across participants. The lowest IOA (80%) occurred during the first session and the additional researcher and primary investigator reviewed their intervals with discrepancy for future clarity.

Social Validity Interview

Following the enhanced intervention Phase III, participants were interviewed by the researcher to share their perspectives on the study. The interviews took place in the student lounge and social workers office. There were no other students in the rooms during the interviews. The researcher recorded the interview using a smartphone application and took notes on a laptop. The mentee's were interviewed 1:1 and the

mentors were interviewed as a group. Interviews lasted for no more than eight minutes by the researcher. The social validity interviews for the mentees and mentors were comprised of ten open-ended questions. The questions focused on their experience as either a mentor or mentee and recommendations they would make to the researcher to improve their experience.

Sample questions included (a) Did using the self-monitoring checklist in class to keep track of your behavior help you improve your behavior?, (b) From your time with your mentor, what things have most helped you become a better student?, and (c) How do you think being a mentor could help other students? These interview questions are provided in Appendix I.

Data Analysis

In this study, single-subject data was analyzed using visual analysis and PEM. Social validity data was analyzed using qualitative analysis.

Visual analysis. Data were analyzed using visual analysis. The six components, level, trend, variability, immediacy of the effect, overlap, and consistency were analyzed. Level is “the mean score for the data within a phase.” (Kratochwill et al., 2010, p. 5). Trend refers to “the slope of the best-fitting straight line for the data within a phase” (Kratochwill et al., 2010, p. 5). Variability can be defined as “the function of the data (as reflected by the data’s range or standard deviation) around the mean” (Kratochwill et al., 2010, p. 5). Immediacy of the effect describes the “change in level between the last three data points in one phase and the first three data points of the next” (Kratochwill et al., 2010, p. 18). Consistency refers to “looking at data from all phases within the same

condition and examining the extent to which there is consistency in the data patterns from phases with the same conditions” (Kratochwill et al., 2010, p. 18). Finally, overlap is the “proportion of data from one phase that overlaps with data from the previous phase” (Kratochwill et al., 2010, p. 18).

PEM. The researcher calculated percentage of data points exceeding the median (PEM). PEM is “calculated by dividing the number of treatment data points that exceed the median of the baseline phase over the total number of treatment data points (Gast, 2010, p. 443).

Qualitative analysis. The social validity interviews (see appendix I) were transcribed and coded for themes by the researcher. Open coding was used for thematic analysis of the transcripts from the interviews. Some examples of the codes used were belongingness, relationships, responsibility and perception. Thematic analysis allowed for themes and patterns to be identified within an interview (Glesne, 2006). Mentee and mentor participants were the unit of analysis. Transcriptions of the interview were coded manually.

Chapter Four: Results

Chapter IV presents the results of a study examining a functional relation among a self-monitoring strategy with a cross-aged peer-mentoring intervention and a change in the disruptive behaviors by elementary students with EBD who struggle to regulate their behaviors in the classroom. Overall findings across participants for each phase are presented first and then data are reported per participant. Disruptive behavior was observed using interval data recording. The percentage of disruptive intervals is discussed and displayed in figures in this chapter. The percentage of disruptive intervals was calculated using partial interval data collection rates over total sessions. The six evidence standards for visual analysis in a single-subject design are described below. The six evidence standards are level, trend, variability, immediacy effect, overlap and consistency of data pattern across phases (Kratochwill et al., 2010). Additionally, social validity results are reported. Social validity findings are summarized for all mentee and mentor participants who were available at the time of data collection.

Overall Findings

As seen in figure one, across all participants there was a very slight change in level from baseline ($M = 38.67\%$, $SD = 18.49$) to the self-monitoring intervention (phase

II) ($M = 31.93\%$, $SD = 23.6\%$). During baseline data for all three participants demonstrated an upward trend. Two participants demonstrated an upward trend during phase II and one participant's data demonstrated a flat trend. For two of the three participants variability was high in both baseline and phase II. All three participants demonstrated a relative immediacy of change upon the introduction of phase II. The percentage of data points exceeding the median (PEM) for overlap across the phases was calculated at .6 which indicated that the treatment was questionable or did not have a functional relation. In evaluating consistency, Sean and Andrew's data demonstrated a slight decrease in disruptive behavior over the first two data points during phase II. So, based on the visual analysis of data presented in Figure 1, there was no evidence of a functional relation of self-monitoring checklist and decreasing disruptive behavior.

During Phase III ($M = 41.54\%$; $SD = 24.57\%$) the data across participants showed a slight increase in level from phase II ($M = 31.9\%$, $SD = 23.6\%$) with an upward trend. There was high variability amongst the three participants during phase III. There was not an immediacy effect from phase II to phase III. Sean showed an initial change, but after the first session in phase III he showed an upward trend. There was consistency of an upward trend after an initial downward change for Sean during all three phases

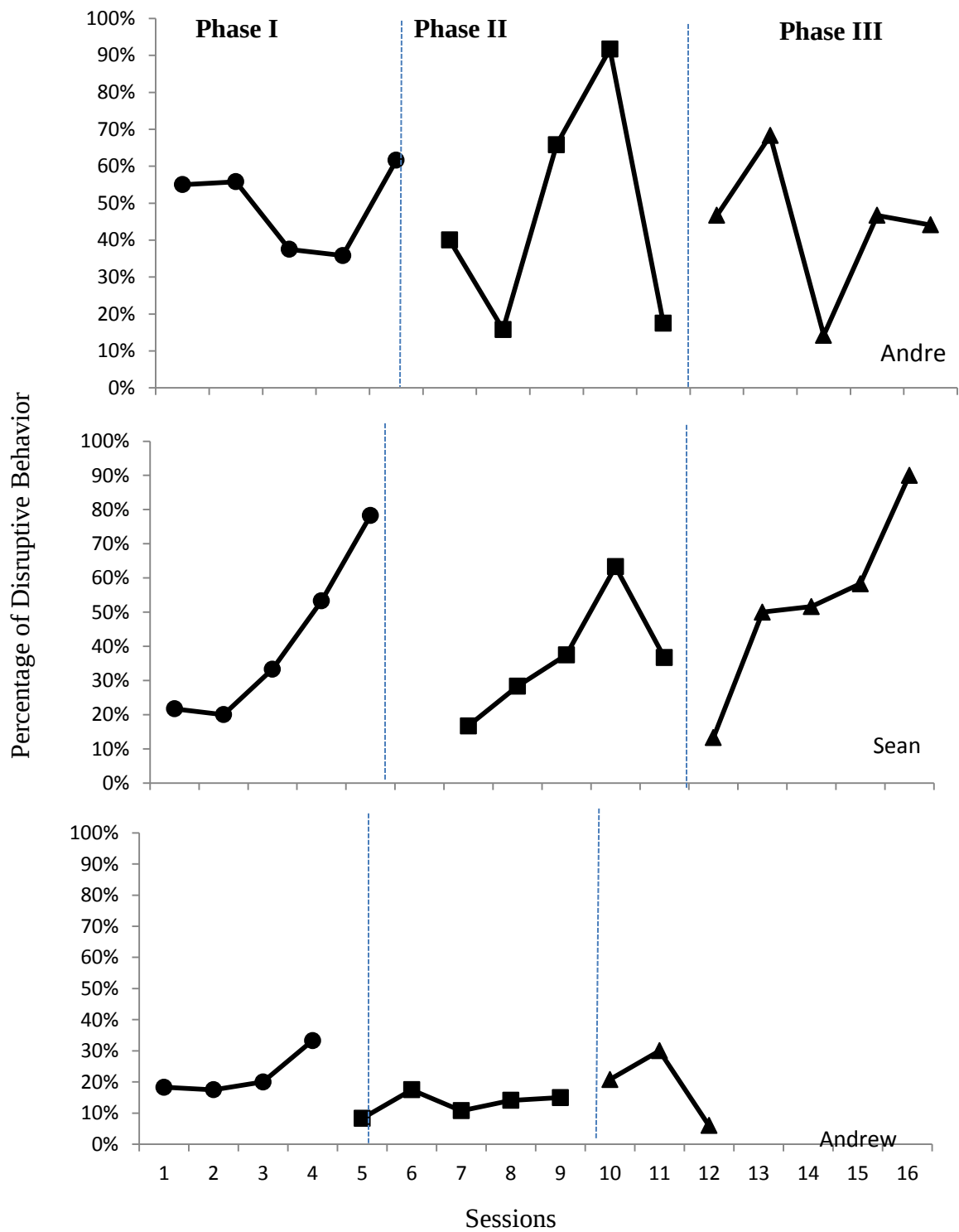


Figure 1. Results across participants

Andre. In response to research question one and as seen in figure one, Andre demonstration of disruptive behavior was high ($M = 49.14\%$, $SD = 10.46\%$) across all five baseline sessions. There was a slight upward trend and high variability during baseline. When introduced to the self-monitoring checklist (phase II), Andre's disruptive behavior demonstrated a slight change in level from baseline ($M = 49.04\%$, $SD = 10.46\%$) to phase II ($M = 46.16\%$, $SD = 29.23\%$). The data showed high variability during this phase with data points ranging from 15.80% to 91.70%. There was an immediacy effect at the initial implementation of the self-monitoring checklist, but the effect was not consistent across the five sessions. PEM for Phase II was calculated at .6 which indicates a questionable or no functional relation. Overall, Andre's disruptive behavior was slightly improved from baseline when using the self-monitoring checklist.

In response to research question two, there was a slight decrease in the level from phase II ($M = 46.16\%$, $SD = 29.23\%$) to phase III ($M = 44\%$, $SD = 17.28\%$) (see figure 1). The data indicated high variability during phase III with an initial slight downward trend followed by a high upward trend. During phase III, there was brief immediacy of change for the first two data points, followed by an upward trend in the data. The PEM at .75 indicated a moderate functional relation.

Sean. In response to research question one and as seen in figure one, Sean's disruptive behavior was high ($M = 41.32\%$, $SD = 21.98$) across all five sessions during baseline. The data showed a high upward trend during baseline. Although the final data point during baseline was continuing the trending upward (33.3%, 53.3% and 78.3%), the

student was displaying disruptive behaviors at such a high rate that it was determined by the researcher to introduce phase II. After Sean began using the self-monitoring checklist there was a slight change in level from baseline ($M = 41.32\%$, $SD = 21.98\%$) to ($M = 36.5\%$, $SD = 15.35\%$). There was high variability with an upward trend. Sean displayed an immediacy of effect when introduced to the self-monitoring checklist. The final three points during baseline (33.3%, 53.3% and 78.3%) when compared to the first three points of phase II (16.7%, 28.3%, 37.5%) showed this immediate effect. This functional relation was not sustained as the data points continued with an upward trend. PEM at .4 indicated a no functional relation. Overall, the self-monitoring checklist did not demonstrate a functional relation in decreasing disruptive behaviors for Sean.

In response to research question two and as seen in figure one, there was a level increase from phase II ($M = 36.5\%$, $SD = 15.35\%$) to phase III ($M = 52.64\%$, $SD = 24.43\%$). The data continued to show high variability during phase III and demonstrated an upward trend. Phase III demonstrated consistency with phase II with an immediate change to begin the new phase followed by an upward trend. The PEM (.2) indicated a no functional relation for phase III. Overall, the data suggested that there was not a functional relation between using a self-monitoring checklist and having a cross-age peer mentor and Sean's disruptive behavior.

Andrew. In response to research question one and as seen in figure one, Andrew was disruptive ($M = 22.8\%$, $SD = 6.43\%$) across all four baseline sessions. While Andrew displayed disruptive behavior during baseline, his levels of disruptive behavior was relatively low in comparison to the other two participants. The data showed a flat

trend until the final data point during baseline where there was a slightly upward trend. Upon introduction of the self-monitoring checklist, Andrew demonstrated a change in level from baseline ($M = 22.8\%$, $SD = 6.43\%$) to phase II ($M = 13.08\%$, $SD = 3.23\%$). The data showed a flat trend with little variability during the phase II. There was an immediacy of change during phase II, and a PEM at 1.0 represented a strong functional relation. Overall, the self-monitoring checklist had a functional relation in decreasing disruptive behaviors for Andrew.

In response to research question two and as seen in figure one, there was an increase in level from phase II ($M = 13.08\%$, $SD = 3.23\%$) to phase III ($M = 18.93\%$, $SD = 9.89\%$). The data for phase III demonstrated a flat trend with moderate variability. Andrew did not show an immediacy of change when introduced to a cross-age peer mentor. PEM calculated at .33 for phase III indicated the intervention did not have a functional relation.

Social Validity

Two mentees and two mentors participated in an interview following phase III. One mentee and one mentor did not participate in an interview due to absences during the interview sessions. The mentees were interviewed independently and the mentors were interviewed together. Sean and Andrew participated in the post-intervention interview. Andre was absent during the final five visits to the school by the researcher. The identified themes were improved perception of behavior (across mentees), leadership (across mentors) and structured fun (across participants).

Improved perception of behavior. In reference to research question three and based on interview data, mentees perceived that their disruptive behavior improved during the study. For example when asked if the self-monitoring checklist helped improve his behavior Sean stated, “It helped me improve my behavior greatly I’m grateful for having it.” In addition to this self-report teachers reported that they felt student behavior improved when their student was using the self-monitoring checklist. Even though the single-subject data did not concur, Sean’s teacher felt his behavior was improved during the course of the study. Additionally she stated that on days that he was very disruptive that “he would need more then self-monitoring.”

When asked if his mentor helped him improve his behavior Andrew stated, “Yes because I was listening; because he said keep on getting smiley faces so I kept getting smiley faces.” This feeling did not translate to a functional relation in the single-subject data, but Andrew felt his behavior was improved and he linked his improvement to the statements his mentor made during their sessions: “keep earning smiley faces.” Sean also perceived that his behavior improved with his mentor.

Leadership. In reference to research question four, the mentors both expressed that they used the skills they developed in this study to engage more with their school community and home community. One mentor stated: “I felt happy being a mentor; I get to talk to more people and we get to have fun in the student lounge.” When asked about his impact as a mentor, Garrett stated that his mentee: “... he was doing bad but he doing better now and not sad.” Both mentors indicated that they enjoyed their leadership role and found they were able to apply it to other areas of their lives.

Structured fun. A theme from the interviews with the mentees and mentors was enjoyment of playtime in the mentor/mentee relationship. For example when asked how the interventions could help other students, Sean said, “By the mentor taking them to the lounge and having some fun and when they go back to class and hopefully do good.” Both mentee participants enjoyed working with their mentor in the student lounge and felt that they were able to improve their behavior after using the self-monitoring checklist.

Chapter Five: Discussion

Students with EBD placed in self-contained settings face unique challenges that often lead to negative outcomes for the student (Vernberg, Jacobs, Nyre, Puddy, & Roberts, 2004; Walker, Clancy, Tsai, & Cheney, 2013). Also, students with EBD are often educated in a more restrictive placement when compared to other disability groups (NCES, 2012). Additionally, African-American students are identified with EBD and placed in restrictive settings at a disproportionate rate (Skiba, et al., 2006). Hence, it is imperative that more research is done to improve the behavioral and educational outcomes for all students with EBD, and specifically find ways to support African-American students identified with EBD in self-contained settings. Again, this is not to suggest that African-American males have greater inherent deficits than other groups, but it is recognition of the results of multiple systems and structures that have been in place in the educational system that have resulted in this disproportionality.

In order to deconstruct the layers of potential challenges and meet the pervasive needs of students with EBD in the least restrictive environment, the Ecological Model (Bronfenbrenner, 1977) was used as a rationale to provide interventions that could potentially impact multiple systems (see figure 2). This study investigated the functional

relation of a self-monitoring strategy with a cross-aged peer-mentoring component on the disruptive behaviors of African-American elementary students with EBD who struggle to regulate their behaviors in the classroom. The two interventions, self-monitoring and cross-age peer mentoring, were implemented with the hope of decreasing disruptive behavior for students with EBD by influencing multiple systems. Self-monitoring was implemented as an intervention for the mentee's classroom, while cross-age peer mentoring was implemented as an intervention across school settings (mesosystems) and in the community (exosystem). While the results indicated that there was no functional relation between both interventions and the decrease of disruptive behaviors, the needs of students with EBD, communities and existing educational structures should continue to be investigated to see where improvements can be made that will benefit students with EBD.

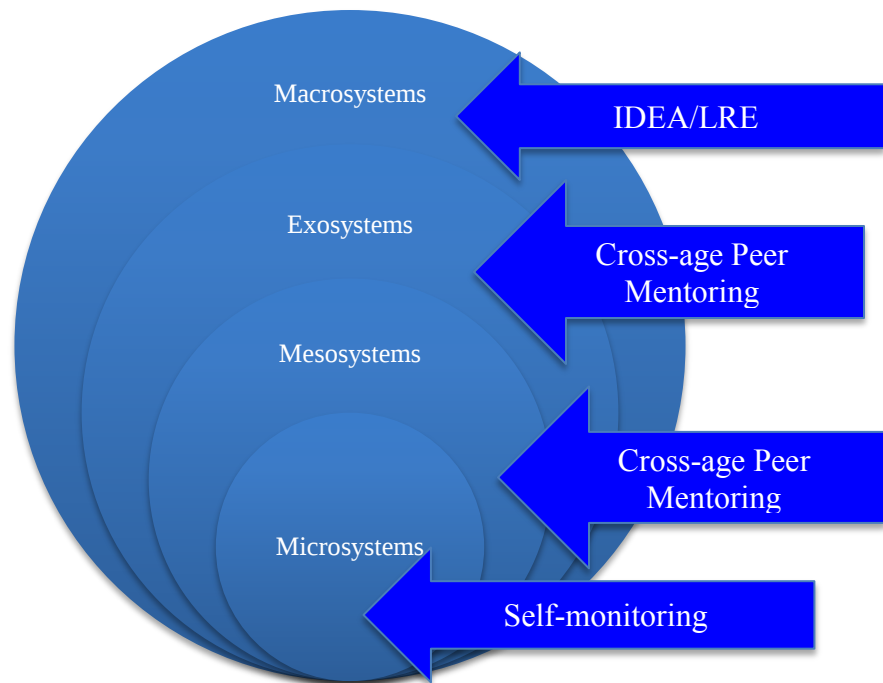


Figure 2. Bronfenbrenner (1977) ecological model with intervention components

In SWPBIS this chapter, the discussion of finding will describe the results in response to each research question for each participant. First the research questions will be reviewed; then the limitations of the study will be addressed followed by implications and future research. This chapter will end with a conclusion.

Discussion of Findings

The findings will be presented below by research questions across participants. In this study, both intervention phases (phase II and phase III) were introduced following a baseline phase that included four to five sessions for each mentee participant. Across mentees, during baseline, there were a high volume of disruptive behaviors ($M = 38.67\%$,

$SD = 18.49\%$). The high level of disruptive behaviors was not surprising since the students were at a highly restrictive environment by their local education agency, and identified as students on the lowest rank based on the school-wide behavioral ranking system at their school. For example participants in Denune et al. (2015), when observed solely for disruptive behavior, demonstrated high levels of disruptive behavior (29.79%) during baseline which was still slightly lower (8.88%) than participants in this current study ($M = 38.67\%$, $SD = 18.49$). Behaviors that were observed across participants included participants leaving their assigned location and making off-task vocalizations to self or others. During baseline ($M = 38.67\%$, $SD = 18.49$) the range of disruptive intervals ranged from 22.08% - 49.04% across mentee participants. During each phase (I, II, & III) each student was observed by the researcher for 120 intervals of ten seconds. Next, results from each research question will be discussed.

Research question one. The first research question asked: “Is there a functional relation between a self-monitoring intervention and the frequency of disruptive behaviors for 2nd – 3rd grade, African-American male students with emotional and behavioral disabilities in a self-contained setting?” The results indicated that there was no functional relation across the three participants between self-monitoring interventions and the decrease in frequency of disruptive behaviors. Each participant displayed slightly lower levels of disruptive behavior after being introduced to the self-monitoring checklist with two participants showing a brief immediacy effect. The brief immediacy effect of the first intervention in this study for two participants (self-monitoring) was consistent with the immediacy of first intervention (interdependent group contingency) in Denune et al.

(2015). Of the three participants, only Andrew showed a functional relation with a PEM of .1. The functional relation of the self-monitoring checklist ranged from no functional relation for Andre (PEM = .6) and Sean (PEM = .2), and strong functional relation for Andrew (PEM = .1). Andrew ($M = 22.8\%$, $SD = 6.43\%$) also showed a considerably lower level of disruptive behavior during baseline than the other Andre ($M = 49.04\%$, $SD = 10.46\%$) and Sean ($M = 41.32\%$, $SD = 21.98$). This suggests that the use of a self-monitoring checklist may have a functional relation for students with lower levels of disruptive behaviors during baseline (i.e., lower than 25%).

Given the results, an informal discussion was held with both teachers of the mentee participants. Teachers reported that they felt the checklist helped improve their student's behavior when the mentees were using the intervention appropriately (i.e., accurately self-monitoring and engaged with the strategy). The teachers also felt that their student's successful use of the intervention was often contingent on how well the student was behaving prior to the use of the self-monitoring checklist during literature centers. The intervention was implemented after school had been in session for two hours. For example Sean's teacher stated, "When he was having better days he would use it; when he was more distracted in general and off he would forget to use it (and require adult prompting)." When discussing Andre, his teacher said, "When he was using it the right way it was helpful; he is very distractible so he would flip the timer and forget he flipped it; so he wasn't accurately using the timer." This suggests that a different form of timer (i.e., digital) may have been helpful for Andre. Sean's teacher reported that, "A couple of days he was super off and he would have needed more than self-monitoring." Overall,

Sean's teacher said he would "Focus on it" and she felt he found it "Soothing watching the timer." Andrew's teacher stated that "Most every time he would focus on it (since he is so complete, it would give him something to do and work towards. Andrew may have benefited from setting a daily goal for earning "smiley faces" (Menzies et al., 2009). She also mentioned that he "respond well to it unless he was already upset before the researcher came into her class." This input showed that the teachers perceived that the intervention was helpful, but it also highlighted a potential limitation regarding use of the self-monitoring checklist that will be discussed later in this chapter. While the teacher did not have an active role in the intervention, the teacher's classroom management and engagement with the mentees may have had an influence on the results. For example the second grade teacher was receiving support to manage the classroom behaviors. Additionally, the teacher did not engage with the self-monitoring checklist with the student. The third grade teacher had a strong relationship with her students and encouraged the two mentors in her class to use their checklist without prompting from the researcher.

Research question two. The second research question asked: "Is there a functional relation between self-monitoring with a cross-age peer mentoring component and the frequency of disruptive behaviors for 2nd – 3rd grade, African-American male students with emotional and behavioral disabilities (EBD) in a self-contained school setting?" The results indicated that there were no functional relation between self-monitoring interventions with a cross-age peer mentoring component and the decrease in frequency of disruptive behaviors for three students in grades 2nd – 3rd in a self-contained

setting. There was not an immediacy effect during this phase (III) across participants. Sean was the only participant to display an immediacy effect, but it was followed by an upward trend including an outlier of 90%. Additionally, Sean was the only participant that did not have lower levels of disruptive behaviors during phase III than at baseline (see figure 1).

Overall, Andrew displayed no evidence of a functional relation ($PEM = .33$), and Andre showed a moderate functional relation ($PEM = .75$) during phase III which was an individual improvement from phase II ($PEM = .6$) for Andre. Sean showed no functional relation of intervention during phase III ($PEM = .2$), but he did continue to have a slightly lower level of disruptive behavior when compared to baseline. While only Andre displayed any functional relation during phase III, he was also the participant with the highest level ($M = 49.04\%$, $SD = 10.46\%$) of disruptive behavior during baseline. This indicates that the multiple layers of intervention and reinforcement may be required for students with higher levels of disruptive behaviors during baseline.

Another point of discussion in regards to research question two is the pairing of the mentors and mentees. The mentors were paired based on recommendations from the school's administration; however, peer mentors were not given the option to choose a mentee. After the study began, a mentor approached the researcher and asked to work with a mentee that he knew well (Andrew). Allowing the mentors to have a voice in the selection of the mentee may have increased the impact of the cross-age peer mentor component. The mentor was allowed to work with the peer he requested, since one of the mentors was absent during the final days of the study. During these sessions, Andrew

demonstrated an increase of his percentage of disruptive behavior (30%) followed by his lowest percentages of disruptive behaviors (6%). Andrew was excited to work with the mentor that he knew from riding the bus and was more disruptive (30%) due to asking the researcher and his teacher about when his time with his mentor would start. After his initial session with his new mentor, Andrew's next observation showed his lowest percentage of disruptive behavior (6%). Also it is possible that Andrew, who showed the strongest functional relation during phase II with a PEM of .1, may not have needed the additional layer of peer mentorship to improve his disruptive behaviors in the classroom. Furthermore, Andrew was excited, to the point of disruption, to have a peer mentor and experiencing major changes to his family at home. These two events may have impacted his overall percentages of disruptive behavior during phase III. Andrew missed several days of school during this time and often required additional support throughout the day to process his changes at home (i.e., making phone calls home with school social worker). Also, the data collection during phase III took place prior to the mentoring and a day or more after the last mentoring session. This delay may have impacted the results during phase III.

An informal discussion with the mentee's teachers was held with both teachers to get more insight into the data during phase III. Andre's teacher reported that Andre "walked out of every class" on multiple sessions during phase III. Also, Sean's teacher reported that he was removed from class prior to data collection during session 17 (50% disruptive intervals) and 18 (51.60% disruptive intervals) which may have impacted his outcomes.

Andrew expressed that he enjoyed working with a mentor, but it may not have been a necessary step for him since he responded well to the self-monitoring checklist. The mentee and mentor relationship could have benefited from taking place in a more structured quiet space with a contingency reinforcement that prompts the mentee to earn a specific number of smiley faces to earn the student lounge. The lounge was reinforcing to the mentees and mentors as indicated by the post-intervention interviews, so including it as a contingent reinforcer may have strengthened the functional relation of the student outcomes during phase III. Additionally to remain aligned with the literature (Karcher, 2007), to be truly considered a full cross-age peer mentorship there should have been more opportunities for mentorship over a longer duration of time. Karcher recommended that sessions take place over a ten week period, and Vannest (2008) recommended that sessions last one to three hours. In this study, mentoring sessions lasted no more than 20 minutes and took place over a two week period. These potential limitations will be discussed later in this chapter.

Research question three. The third research question asked: “How do African-American male students with EBD in a self-contained school, perceive their behavioral improvements after using a self-monitoring strategy and meeting with a cross-age peer mentor?” The results indicated that there was a perceived improvement in behavior as a result of using the self-monitoring checklist. Sean and Andrew both perceived a positive change in their behavior following the introduction of a self-monitoring checklist. Their positive reception of their behavior was also noted on their self-monitoring checklist. The participants rarely indicated that they were off-task during their self-monitoring intervals.

While this was not accurate, it does give insight into how the participants were viewing their own behavior. Comparing teacher or researcher notes with the student's self-monitored behavior could be a practice that can be used to help the student self-monitor more accurately. Additionally, more training and practice outside of the classroom may have been beneficial for the mentee's to increase accuracy of self-monitoring.

Research question four. The fourth research question asked: "How do African-American male students with EBD perceive their ability to mentor younger students with EBD in a self-contained school following an opportunity to mentor peers, two to three grade levels younger?" The results indicated that the mentors felt a sense of leadership as a result of being a mentor that was transferable to other areas of their lives. The mentors indicated that they enjoyed encouraging others and being a leader in the school community. The mentors also perceived their role as a mentor as a driving factor towards improving their mentees behavior. For example, Garrett perceived his mentee as behaving poorly prior to his mentorship. This was promising and highlighted the impact that mentoring could have on the mentee. The mentors were already demonstrating success based on the school-wide behavioral ranking system, but this intervention allowed them to take on a leadership role within the building that could potentially be transferred into the community.

Limitations

There were limitations to this study. Specifically, there will be five limitations discussed in the following section. First, Inter Observer Agreement (IOA) will be

discussed. Next, absences for mentee and mentor participants will be discussed. Then mentoring structure and the time of the school year will be described as a limitation. Finally, the lack of a reinforcement contingency will be discussed.

IOA was a limitation as a second observer was present during 16.7%. IOA agreement was 80% or higher which meets the standards, but if the second observer was present for more sessions it would have added to the reliability of the results (Horner, Carr, Halle, McGee, Odom, & Wolery, 2005). For visual analysis it would be preferred for at least five data points during each phase and Andrew had four during baseline and three during phase III.

During phase III, the mentor's role was primarily to encourage verbally and engage with his mentee through a preferred activity. This mentor time could have been more structured to ensure that other peers not involved in the study were not a distraction to the mentor session. Additionally, the amount of time the mentors spent with their mentees was too short. As recommended (Karcher, 2007), the mentoring sessions should have lasted over ten weeks. The mentoring sessions occurred over a two week period in this study. Also, it could have been beneficial for the mentors and mentees to have more of a voice in the selection of their mentee/mentor. The research took place during the final marking period of the year, so while school structures and routines were set many students had already participated in behavioral plans formally and informally all year. For example Andre had a behavioral plan that allowed him to move to a specific location of the classroom when he was feeling upset to calm down. Additionally, Sean had a plan to visit his social worker when he was feeling upset. Andrew, did not have a

specific plan but his classroom was receiving additional support from one of the school social workers to manage the behaviors in the classroom.

Finally, the intervention did not have a strong reinforcement contingency. Denune and colleagues (2015) as well as Gumpel (2007) paired self-monitoring with a contingent reinforcement and gained more positive results. The students were not reinforced on a daily basis for using and completing their self-monitoring checklist with an extrinsic motivator contingent on specific criteria related to the self-monitoring checklist. This may have improved the mentee's buy-in to the intervention. Also, if a contingent reinforcement was included that was based on independent and accurate use of the self-monitoring checklist it may have improved the mentee's motivation to self-monitor their behavior without adult prompting and improved their behavior during those sessions.

Implications

When developing a self-monitoring intervention for students with highly disruptive behaviors it is important to consider the amount of time and length of training that needs to occur for the student to use the intervention effectively. When working to decrease inappropriate behaviors it is important to support/re-teach the self-monitoring intervention to ensure the participant is using the tool appropriately. Another way to ensure appropriate use of the self-monitoring intervention could be to have structured conversations with the researcher and participant to compare results from the self-monitoring checklist and researcher observations. Specifically, self-monitoring for students with highly disruptive behaviors (>40%) may require more training and

prompting from staff to accurately self-monitor their behavior to decrease disruptive incidents.

Additionally teachers may perceive that their student's behavior is improved by simply teaching their students how to use a self-management intervention (i.e., self-monitoring), based on both teachers perceptions of their students behavior during this study. The use of a self-management strategy for students with EBD could have an impact on teacher's classroom management and teacher satisfaction in self-contained settings for students with EBD, since they may perceive that their student is improving. Also, teachers in self-contained settings may have a greater impact teaching and re-teaching students how to use the self-monitoring checklist with more success than a researcher.

Implications from this study suggest that students who demonstrate behavioral and academic progress in restrictive special education placements can benefit from opportunities to serve as peer leaders. This may not only impact their school environment but also influence their behavior in their communities.

Future Research

Participants in this study were placed in a highly restrictive environment for students receiving special education services for emotional support. While there were similarities in their special education programming, there was vast variability across the individual student participants. This is typical in a self-contained setting for students with EBD, since each student has an individualized educational program. Therefore, future studies need to continue to investigate ways to provide interventions that can support the

unique qualities of student's receiving education in self-contained schools that can decrease disruptive behaviors despite the variability in programming for the participants.

In terms of development changes to the interventions, the self-monitoring checklist needs to be connected to a contingent reinforcement. For example, if the student uses the self-monitoring checklist independently and with accuracy a reinforcer is earned. Also, the timer needs to be able to alert the student (i.e., audio, vibration) when their self-monitoring interval has ended (e.g., Gulchak, 2008; Gumpel, 2007). This would help the intervention require less adult prompting. Also, the duration of the use of the self-monitoring intervention needs to take place over an extended period of time.

The cross-age peer mentoring component needs to be developed to meet the full criteria for a cross-age peer mentoring. This study included a difference of two or more grade levels and a semi-structured format which is aligned to recommendations for cross-age peer mentoring, but the study did not last for at least ten weeks and did not always occur in a one-to-one format (Karcher, 2007). Additionally, it is recommended that the cross-age peer mentor is a sophomore or junior in high school, and this study used middle school mentors. Furthermore, data could be collected to analyze potential behavioral change in mentors.

Based on the results from this study, participants selected to self-monitor should display disruptive behaviors at a rate no higher than 25% during baseline. Students with higher means of disruptive behaviors may require a more intensive intervention. Future studies should provide more training and prompting for self-monitoring for students with a higher level of disruptive behaviors at baseline similar to Andre and Sean.

In the post-intervention interviews, both mentees indicated that they would have made the self-monitoring checklist more appealing for future students. Specifically, they wanted more color and/or special pictures to place in the interval boxes. Future research could allow the participant to engage in the design of their checklist, or include preferred images to accompany the smiley and frown faces on their checklist (i.e., circle Spiderman if you were in location).

Conclusion

The use of the self-monitoring checklist (phase II) and self-monitoring checklist plus cross-age peer mentoring (phase III) showed no functional relation overall across participants. However, there were participant in each phase that showed a moderate to strong functional relation. The impact of the interventions could potentially have been improved with more instruction and practice of how to properly self-monitor and a contingency reinforcement to support the use of the self-monitoring checklist. Additionally, more time using the intervention is needed to strengthen the results. Based on the results of this study, students with EBD that demonstrate lower levels of disruptive behavior (<25%) may benefit from using a self-monitoring checklist.

While the mentors in the study served as a non-contingent reinforcement during phase III, it may have been beneficial to have made the mentoring component of going to the student lounge contingent based on independent and accurate self-monitoring. Data from this study suggested that the mentors and mentees enjoyed the “hang out” component of the mentorship relationship. This would have enabled the mentoring relationship to occur regardless of how well the student is behaving but how accurately

the student is self-monitoring could determine the level of time spent with the mentor. This could be used in the future as a contingent reinforcement for independent use of the self-monitoring checklist. As seen in Gumpel (2007) participants using self-monitoring with a contingent reinforcement demonstrated the lowest level of inappropriate interactions when compared to baseline and self-monitoring with a non-contingent reinforcement.

This study focused exclusively on decreasing disruptive behavior. It would have been beneficial to define and observe on-task behaviors as well. Also, while disruptive behavior was operationally defined as, (a) verbally interrupts the lesson with a question or statement not related to the discussion or (b) verbally interrupts the lesson by engaging with a peer directly or indirectly (i.e., arguing), or (c) verbally interrupts a lesson with inappropriate comments (i.e., profanity, non-lesson related utterance) or is (d) out of location (without permission student is more than two steps away from the chair he was sitting in at the start of the interval or away from the carpet square he was sitting on when the interval started), it would have been valuable to break down the observed intervals into more specific codes (i.e., out of location vs. verbal interruptions). This would allow for more data analysis.

This study did provide data that shows cross-age peer mentoring can be beneficial to both the mentee and mentors. This adds to the limited research on cross-age peer mentoring (Karcher, 2007) and fills a gap for self-monitoring and cross-age peer mentoring interventions for students with EBD in self-contained settings. Specifically, this study used cross-age peer mentors that were receiving special education services in a

self-contained school to other students in the same setting. This fills a gap in research and provides a framework for future research to support a population of students receiving special education services for EBD in self-contained settings. This study builds on the practice of providing interventions to students identified through school-wide behavior as in need of more behavioral support (e.g., SWPBIS) as well as provided an intervention that had an impact that could reach beyond the school environment (self-monitoring and mentoring). While the data did not suggest a functional relation of intervention, the mentors, mentees and mentee's teachers reported positive data regarding their perception of themselves as mentors and monitors of their own behavior. While the academic and behavioral gains for students with EBD in self-contained settings may have a higher risk for negative outcomes, it is imperative that research continues to find innovative ways to support this population.

Appendix A

Recruitment Letter



The effects of a self-monitoring strategy with a cross-age peer mentoring component on the disruptive behaviors of young students with emotional and behavioral disabilities

Dear Parent/Guardian:

Your child was selected to potentially be a part of a research study that looks to teach self-monitoring skills and build peer mentor relationships. Your child has been selected to be a mentor/mentee because he has demonstrated the skills and ability to grow from opportunities to learn about self-monitoring and peer mentoring. He does not have to join the study, but if he decides to join with your consent he will be encouraged to participate for the entire study!

This study requires no more than 10 total hours for mentors and no more than 15 total hours for a mentee. Below are some responsibilities for your child based on his role (circled above).

Mentors

- Attend a recruitment session
- Attend a brief training session to learn how to be a mentor
- Attend one self-monitoring teaching sessions with his mentee
- Check in with his mentee 5 times during the study
- Participate in a post-intervention interview

Mentee

- Attend a recruitment session
- Attend two self-monitoring teaching sessions
- Check in with his mentor
- Monitor his behavior in class
- Participate in a post-intervention interview

If you would like your child to be a part of this study we need your parent/guardian consent. See enclosed consent form and the pre-stamped and addressed envelope. We will also need your child's assent to join the study. Please fill out the consent form and mail it back to the researcher.

Thank you for your consideration!

Trent McLaurin



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Appendix B

Consent Forms



The effects of a self-monitoring strategy with a cross-age peer mentoring component on the disruptive behaviors of young students with emotional and behavioral disabilities

MENTEE INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to examine the relation between cross-age peer mentoring and self-monitoring strategies on disruptive behavior. If you agree to allow your child to participate as a mentee, your child will be asked to attend a recruitment session (20-30 minutes) and two teaching sessions with the researcher to learn how to use the self-monitoring strategy (2 sessions approximately 20 minutes each). During the study, your child will have a student mentor (older student in the school). Your child's mentor will check in with your child during the course of the study (5 "check-ins" approximately 10-15 minutes). Additionally, during class your child will be asked to record his own behavior using the self-monitoring checklist for approximately 10-15 sessions (30 minutes each). Your child will also be asked to participate in an interview following the intervention regarding his experience using the self-monitoring checklist and working with a mentor (approximately 20 minutes). The interview will be audio taped. In the event that additional data collection may be needed beyond the currently planned sessions, it is expected that the longest possible time commitment would be no more than 15 hours for the mentees. If your child participates in the whole research project, he will be invited to join a pizza celebration. I would like to collect data including: date of birth, eligibility, disability, academic and behavioral goals, accommodations and modifications from the Individualized Education Program (IEP), behavioral referrals and most recent standardized academic achievement test scores. This data will be used for eligibility to participate in the study and for research purposes.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

Participation in the study as a mentee may provide your child with an experience working with others and skills to self-regulate his emotions. There are no financial benefits for participating in this study.

CONFIDENTIALITY

The data in this study will be confidential. I will assign pseudonyms to each participant to protect anonymity. For coded data, (1) Your child's name will not be included on any collected data; (2)

a numerical code will be placed on all collected data; (3) only the researcher will have access to the numerical code. The data will be stored in a locked desk at George Mason University for 5 years. After 5 years the data will be destroyed. The researcher and primary investigator will have access to the data.

There is one exception to confidentiality. It is our legal responsibility to report situations of suspected child abuse or neglect to appropriate authorities. Although we are not seeking this type of information in this study nor will you be asked questions about these issues we will disclose them as required under the law if discovered.

PARTICIPATION

Your child's participation is voluntary, and your child may withdraw from the study at any time and for any reason. If your child decides not to participate or if your child withdraws from the study, there is no penalty or loss of benefits to which your child is otherwise entitled. There are no costs to you or any other party. You may also withdraw your child from the study at any time with no penalty to your child.

CONTACT

Trent McLaurin at George Mason University is conducting this research. He may be reached at (804) 240-9727 for questions or to report a research-related problem. The George Mason University faculty advisor, Dr. Kelley Regan can be reached at 703-993-9858. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form and agree to allow my child _____, to
participate in this study. Child's name

I consent to the audio taping of the interviews. I understand that any audiotapes will be kept confidential.

____ Agree ____ Disagree

Parent/Gaurdian Name

Date of Signature



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The effects of a self-monitoring strategy with a cross-age peer mentoring component on the disruptive behaviors of young students with emotional and behavioral disabilities

MENTOR INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to examine the relation between cross-age peer mentor and self-regulation strategies on disruptive behavior. If you agree to allow your child to participate as a mentor, he will be asked to attend a recruitment session, attend a training session (two sessions for approximately 10-15 or one session for 25-30 minutes depending on time constraints) and check in with his mentee (5 check-ins for 10-15 minutes). Your child may be asked to mentor 1-3 mentees. Your child will also be asked to participate in an interview following the conclusion of the study to discuss his experiences as a mentor (approximately 20 minutes). This interview will be audio taped. In the event that additional data collection may be needed beyond the currently planned sessions, it is expected that the longest possible time commitment would be no more than 10 hours for your child. All of these activities will be completed during the school day, outside of academic class time. I would like to collect data including: date of birth, eligibility, disability, academic and behavioral goals, accommodations and modifications from the Individualized Education Program (IEP), behavioral referrals and most recent standardized academic achievement test scores. This data will be used for eligibility to participate in the study and for research purposes. If your child participates in the whole research project, he will be invited to join a pizza celebration.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

Participation in the study as a mentor may provide your child with experience working with others as a leader. There are no financial benefits for participating in this study.

CONFIDENTIALITY

The data in this study will be confidential. I will assign pseudonyms to each participant to protect



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anonymity. For coded data, (1) Your child's name will not be included on any collected data; (2) a numerical code will be placed on all collected data; (3) only the researcher will have access to the numerical code. The data will be stored in a locked desk at George Mason University for 5 years. After 5 years the data will be destroyed. The researcher and primary investigator will have access to the data.

There is one exception to confidentiality. It is our legal responsibility to report situations of suspected child abuse or neglect to appropriate authorities. Although we are not seeking this type of information in this study nor will you be asked questions about these issues we will disclose them as required under the law if discovered.

PARTICIPATION

Your child's participation is voluntary, and he may withdraw from the study at any time and for any reason. If he decides not to participate or if he withdraws from the study, there is no penalty or loss of benefits to which he is otherwise entitled. There are no costs to you or any other party. You may also withdraw your child from the study at any time with no penalty to your child.

CONTACT

Trent McLaurin at George Mason University is conducting this research. He may be reached at (804) 240-9727 for questions or to report a research-related problem. The George Mason University faculty advisor, Dr. Kelley Regan can be reached at 703-993-9858. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form and agree to allow my child _____, to participate in this study. child name

I consent to the audio taping of the post-study interview. I understand that any audiotapes will be kept confidential.

_____ Agree _____ Disagree

Parent/Guardian Name

Date of Signature



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Appendix C

Self-Monitoring Checklist

Date: _____

	1	2	3	4	5	6	7	8	9	10
										
										
										
										

Number of  =

Number of  =

Appendix D

Interval Recorder Tool

Interval	Code	Behavior
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
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23		
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26		
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29		
30		

Appendix E

Mentee Training Script

Script:

1. Hi my name is Mr. M. We are going to practice self-monitoring!
2. Here is your self-monitoring checklist. **Pass out checklist**
3. The behavior (s) you are going to practice monitoring is _____.
4. First let's pick a coloring page to use during our practice session. **Give student 3 options**
5. You are going to use a timer to remind yourself to check if you are _____. (i.e. in location)
6. Let's practice using this timer (30 seconds). **Practice with coaching.**
"When the timer gets to zero you are going to circle the smiley face if you are _____ (appropriate form of target behavior) or circle the frown if you aren't doing _____ (appropriate form of target behavior.)"
7. Now let's practice for the next five minutes using this timer (1 minutes timer). Now I would like you to color and self-monitor at the same time.
8. Practice until student reaches 100% self-monitoring for each session with 80% accuracy.

Training Fidelity Checklist

No.	Date	Gave student SM Checklist	Identified Behavior of concern	Identified student Activity (coloring page) and passed out to student	Coached Using 30 second timer	Ind. Practice for 5; 1 minute intervals	Score		
							1	2	3

Appendix F

Date:	Yes	No	Staff Initials
1. Teacher gives the folder to student at start of the session			
2. Student used timer during self- monitoring sessions			
3. Student did not require prompt from staff to use checklist			
4. Student returns the folder at the end of the session			

Fidelity Checklist for Mentee

Appendix G

Mentor Fidelity Checklist

1. Ask if you can see your mentee's self-monitoring book (if they say no it's okay)

2. Ask if they have more smiley faces than frown faces for the day _____
3. Play a game of your mentee's choice! _____

Appendix H

Fidelity of Training Mentors

Fidelity of Training for Mentors

____ Congratulations! You have all been selected to be a peer mentor based on your status as a Hawk by the administrators in the building. You should be proud of your hard work on following the expectations of positive behavior this school year. You will all be assigned a mentee (younger student to mentor) to check-in on for the next few weeks. During your check-in you will do three important steps:

____ 1. Ask if you can see your mentee's self-monitoring book (if they say no it's okay)

____ 2. Ask if they have more smiley faces than frown faces for the day and encourage them to keep trying to earn more smiley faces than frowns! (if they have more frowns do not say anything else but keep trying!)

____ 3. Play a game of your mentee's choice!

____ 4. Let's practice. Work with a partner and let's take turns being the mentor and the mentee. I will pass out a sample checklist to use for the mentee. We will practice for 3 minutes and if you can accomplish all three steps independently you will be ready to mentor!

Appendix I

Social Validity Interview

Post Interviews (Mentee)

- 1. Tell me about the behaviors you self-monitored in class.*
- 2. Did using the self-monitoring checklist in class to keep track of your behavior help you improve your behavior?*
- 3. Who was your mentor? What did you like most about working with him? What did you like the least?*
- 4. Did working with a mentor help you improve your behavior in class? How?*
- 5. How do you think self-monitoring could help other students? How can having a mentor help other students?*
- 6. If you were the researcher, would you add anything to the self-monitoring checklist to help students improve their behavior in class?*
- 7. If you were the researcher, what would you change about your time with your mentor? Why?*
- 8. From your time with your mentor, what things have most helped you become a better student?*

9. *Will you continue to monitor your behavior? How?*

10. *Do you still want to spend time with your mentor?*

Post Interviews (Mentor)

1. *How would you describe your experience as a mentor?*

2. *What was it like to encourage your mentee to keep earning smiley faces?*

3. *What did you like most about being a mentor? What did you like the least about being a mentor?*

4. *Do you think you have helped your mentee become a better student? How?*

5. *How do you think being a mentor could help other students?*

6. *If you were the researcher, would you add anything to your role as a mentor? Why?*

7. *If you were the researcher, what would you change about your time with your mentee? Why?*

8. *From your time as a mentor, have you become a better student or leader? How?*

9. *Will you continue to be a mentor? How?*

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Biography

Trent McLaurin graduated from Godwin High School, Richmond, Virginia, in 2002. He received his Bachelor of Arts from George Mason University in 2006. He was employed as a teacher in Fairfax County for seven years and received his Master of Arts in Education and Human Development from George Washington University in 2008. He currently works in the central office of a Charter School Network.