CULTURALLY RESPONSIVE POSITIVE BEHAVIORAL SUPPORT FOR AFRICAN AMERICAN LEARNERS AT RISK FOR EMOTIONAL AND BEHAVIORAL DISORDER

A Dissertation

by

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ABSTRACT

African American learners, like all other learners, bring into the classroom their cultural values, the way they express themselves, and how they problem solve. Their life experiences, even at a young age, influence their social and emotional behavior. Unfortunately, all too many African American children experience life and family stressors that place them "at risk." Examples of risk factors are low socioeconomic status, single-parent homes, and inadequate access to healthcare. These adverse stressors put them at risk for developing emotional and behavioral disorder. This dissertation examines intervention approaches aimed to promote resilience and well-being through developing social and behavioral competencies that result in observable changes in behavior. The dissertation report results from two studies examining iterations of social and emotional learning interventions and behavior-based supports.

The first study examined the effects of an intervention combining a culturally adapted social and emotional learning curriculum, behavioral monitoring/management, and self-monitoring on externalizing behaviors of African American male learners. A single case, multiple-baseline condition across participants was applied to evaluate the effects of the intervention package. The second study evaluated the effects of an intervention combining an adapted social and emotional learning curriculum and behavioral self-monitoring/management on problem behaviors of African American learners.

Visual analysis was performed in both studies to evaluate within-condition data patterns including trend, level, and variability, as well as between-condition data analysis to determine immediacy of effect, similarity of data patterns of similar conditions, and changes in level and trend from baseline condition to intervention condition across implementations. To determine a

functional relation in the studies, intervention effects were examined using the guidelines of Ledford and Gast (2018) and Tau-U. Results from both studies showed a decrease in problem behavior with application of the outlined interventions. Limitations of this work and directions for future study are also discussed.

DEDICATION

To my mother, Patricia Robinson, my superhero and wonder woman. You demonstrated and provided a life that hard work, sacrifice, and higher education provide. You pushed me to be a better woman. Without your guidance and the grace of God I would not have made it this far.

To my father, Hazel Holmes, thank you for your prayers and faith in me. I'm grateful got kept you through your battles with cancer so you were able to witness this moment.

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To all the parents of black and brown children, those being disproportionately represented, misunderstood or dismissed from their schools, this Ph.D. is for you!

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NOMENCLATURE

ADHD	attention-deficit/hyperactivity disorder
CA-SEL	culturally adapted social and emotional learning
CASEL	Collaborative for Academic, Social, and Emotional Learning
CICO	check-in/check-out
CLD	culturally and linguistically diverse
DBRC	daily behavior report card
EBD	emotional and behavioral disorder
ELA	English Language Arts
ES	effect size
IOA	interobserver agreement
IRB	institutional review board
MMMF	My Mind, My Feelings, The Right Way!
PBIS	positive behavioral intervention and supports
SEARS	Social-Emotional Assets and Resiliency Scales
SEL	social and emotional learning
SSIS	Social Skills Improvement System
WWC	What Works Clearinghouse

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1. INTRODUCTION

Multiple risk factors are associated with the social and emotional development of African American learners. These risk factors include living in poverty (Jensen, 2009) and the role of racism as expressed by Barbarin (1993). McKenna (2013) reported poverty as one of the key risk factors contributing to stressors. The researcher noted that poverty often makes appropriate healthcare and nutrition inaccessible to African American families and increases the likelihood of the development of disabilities including social and emotional problems. The researcher also suggested that the experiences of racial oppression are considered a possible contributor to the development of behavioral problems (McCray et al., 2008; Serpell et al., 2009). Barbarin (1993) pointed out that the focus of research on African American children's social and emotional development has centered on problems such as delinquency and aggression rather than the factors thought to moderate the effects of stress and risk factors that ordinarily contribute to adverse social and emotional development outcomes in children. The researcher emphasized the need to shift focus to the negative influence of the triad of poverty, limited access to support services, and psychological burden of racial oppression. Gunter et al. (2000) also highlighted a concern that children with social and emotional problems are often challenged with not only social and emotional difficulties but also poor academic performance. Gage et al. (2017) also noted that most students with emotional and behavioral disorder (EBD) experience academic challenges resulting in poor outcomes. Betters-Bubo et al. (2016) emphasized the need to address the disproportionality of discipline referrals based on demographics and cultural content of schools. In this dissertation, we focus on social and emotional learning (SEL) and behavioral

monitoring/management support interventions for African American learners with and at risk for EBD.

Campbell et al. (2018) summarized research supporting the connection between emotional and behavioral problems and academic outcomes for students with or at risk for EBD. The researchers conducted a review of seven systematic reviews and five meta-analyses focusing on academic, curricular, and instructional interventions across multiple subject areas. The 12 reviews included a total of 3,366 student participants with or at risk for EBD in grades K–12. The researchers included the implications for improving academic outcomes for these students; however, conclusions could not be drawn on implication by race or ethnicity. Most of the reviews did not provide information on these two demographics of the participants.

Findings from studies completed with my colleagues (Campbell, Thompson et al., 2021; Burke et al., 2021) served as a guide for the two studies included in Chapters 2 and 3 of this dissertation. Campbell and colleagues conducted a pilot study during summer 2018 with 18 first- and second-grade African American learners with or at risk for EBD. The study evaluated the effects of Strong Start, an SEL curriculum, combined with check-in/check-out (CICO), a behavioral support intervention, on participant behavior during the classes' reading and math blocks of instruction. Results indicated a functional relation between the paired implementation of the SEL/CICO intervention and decreases in observed externalizing behaviors. Problem behaviors consistently decreased with the implementation of SEL/CICO. Random-effects means were calculated, and the large effect sizes for reading and math indicated positive outcomes from implementation of the paired intervention. SEL outcomes improved for most students; however, there was regression for a few students in self-regulation and social competence. In one case, a student showed no progress overall, and one student showed regression. Collected social validity

data showed positive responses from both teachers and students. Findings from the summer 2018 study did not show overall growth in social and emotional competencies for all of the participants, highlighting the need for further research. Burke et al. (2021) completed a study during fall 2018 with eight classes and 208 African American participants. We sought to determine the effects of a Tier 1 SEL curricular intervention on the social, emotional, and behavioral outcomes of African American elementary school students at risk for EBD and to gather information needed to culturally adapt the SEL curriculum. Students who were nonresponsive to SEL and who had records of several disciplinary infractions were nominated by teachers to receive CICO intervention. Results are still in preparation, but preliminary data have shown males to make up the majority of the participants who were nonresponsive to the SEL curriculum; and from the phase contrasts between the business-as-usual baseline and the SEL/CICO conditions during reading and math, a decrease in externalizing behaviors occurred for CICO participants. Social validity data from teachers indicated (a) general acceptance and satisfaction with the SEL and CICO intervention, (b) agreement that the paired intervention had a positive effect on students' behavior and their academic performance, (c) agreement that they would recommend the intervention for students, and (d) agreement that implementation was practical. Overall participating students' comments reflected that they found the intervention package to have helped them make positive changes in their behavior at both school and home. Additional evaluations needed to occur to identify the appropriate SEL curriculum to grow social and emotional competencies and to decrease problem behavior of African American learners with or at risk for EBD.

Leading the research, I worked with my colleagues to complete the studies included in Chapters 2 and 3 of this dissertation. Earlier SEL studies by other researchers have focused on

the effectiveness of universal curriculums (Durlak et al., 2011; Blewitt et al., 2018), and CICO researchers have focused on changes in office discipline referrals (Campbell & Anderson, 2011; Vincent et al., 2012). The two studies in this dissertation used a culturally adapted SEL (CA-SEL) curriculum, CICO, and technology-based self-monitoring to focus on the growth of social and emotional competencies and changes in classroom problem behavior of African American learners with or at risk for EBD.

The first study (Chapter 2) evaluated the effects of using a multitiered intervention approach to reduce behavioral problems of African American male learners with or at risk for EBD. African American males are the student population group most likely to be labeled with the disorder (Hendrickson et al., 1998). We used a multiple-baseline design with an imbedded alternating treatment design. The research questions were as follows:

(1) Is there a functional relation between CA-SEL/CICO with and without I-Connect and a reduction in problem behaviors of primary-grade African American males?

(2) Is there a differential effect between CA-SEL/CICO alone and CA-SEL/CICO + I-Connect on the reduction of problem behaviors in primary-grade African American males?

(3) What do the results of the effect of an adapted SEL curriculum (CA-SEL) inform us on what is needed in developing a culturally responsive SEL curriculum for African American learners with or at risk for EBD?

(4) What do the social validity responses of both students and teachers inform us on what is needed in developing a culturally responsive SEL curriculum for African American learners with or at risk for EBD?

Results from the first study were used to inform us on whether additional or different adaptations needed to be made to the SEL curriculum to grow all competencies across participants and to select the most effective CICO approach (teacher monitoring or self-monitoring).

The second study (Chapter 3) examined the effects of a multitiered method to increase knowledge of SEL competencies and decrease problem behaviors of African American learners with or at risk for EBD. The research questions evaluated were as follows:

(1) Does CA-SEL/CICO + I-Connect improve social skills and academic competence for African American students in primary grades?

(2) Is there a functional relation between CA-SEL/CICO + I-Connect and an additive decrease in externalizing problem behavior following the introduction of the SEL/CICO curriculum for African American students in primary grades?

These two studies add to the literature on pairing SEL and CICO interventions within a three-tiered school-wide positive behavioral intervention and supports (PBIS) program to support the social, emotional, and behavioral needs of African American learners with or at risk for EBD.

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2. CULTURALLY ADAPTED BEHAVIORAL SUPPORT FOR AFRICAN AMERICAN MALE LEARNERS

2.1 Introduction

There has been increasing agreement among practitioners and researchers over the need to culturally adapt evidence-based social and behavioral interventions to meet the wide range of culturally and linguistically diverse (CLD) learners in school-based settings (Fallon et al., 2015). Cultural and contextual relevance consists of the unique variables, characteristics, and learning histories of students and educators (Fallon et al., 2015). Classrooms are not culturally neutral territories; therefore, it is important to use cultural knowledge of learners and to implement procedures that are socially and culturally appropriate (Obiakor, 2008; Sugai et al., 2000). Positive behavioral supports should take into account the cultural and linguistic diversity of students in order to enable them to create connections among themselves and with the school's behavioral goals and objectives (Klingner et al., 2005). Reduction of behavioral problems in the classroom is best supported by teaching students appropriate alternative behaviors that build communication, social, and self-management skills that are needed to navigate day-to-day life inside and outside of school (Banks & Obiakor, 2015). There is particular concern regarding developing effective social-behavioral intervention approaches for African American male students because this student population is often disproportionally over-represented in the area of EBD. EBD affects both genders of all races; however, the population most often identified as at risk for or diagnosed with the disorder based on the criteria given by the Individuals with Disabilities Education Act (IDEA; 2004) is African American males (Hendrickson, et al., 1998). The National Center for Education Statistics (2019) reported for the 2016–2017 school year that

352.9 thousand students aged 6 to 21 years were served under IDEA for EBD. Males represented 71% of this population, and African Americans represented 24%. During this period, African Americans made up approximately 16% of the total student population. Losen and Orfield (2002) compared gender and ethnic subcategories and found that African American males are more likely to be identified as having a behavioral and emotional disability or intellectual disability than any other gender/ethnic subgroup.

Research has indicated several risk factors contributing to being designated as at risk for developing EBD. These risk factors include socioeconomic status (SES) (Jensen, 2009), lack of access to resources that support successful transition to school (Gunter et al., 2000), and psychological distress (Office of Minority Health, 2019). In 2014, 22% of African Americans lived below the poverty line, which is 10% above the rate for all other populations in the United States. The percentage for African American children was even greater at 38%, which was 16% above the rate for all children in the population (U.S. Census Bureau, 2014). The development of social, emotional, physical, and cognitive attributes is influenced by a child's experiences within the family and community and affects their behavior and executive functioning (Bowman et al., 2018). Negative impacts can lead to a lack of skills to self-manage emotions and to focus, which leads to lower academic performance (Raver, 2002).

2.1.1 Emotional and Behavioral Disorder

Section 300.8(c)(4) of IDEA supplies the criteria for EBD, which is labeled in the legislation as "emotional disturbance" (IDEA; 2004):

> (i) Emotional disturbance means a condition exhibiting one or more of the following characteristics over a long period and to a marked degree, that adversely affects a child's educational performance:

(A) An inability to learn that cannot be explained by intellectual, sensory, or health factors.

(B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.

(C) Inappropriate types of behavior or feelings under normal circumstances.

(D) A general pervasive mood of unhappiness or depression.

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

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

Achilles et al. (2007) found that students with EBD are often more likely to experience exclusionary discipline practices than any other disability group. They used data from the Special Education Elementary Longitudinal Study to conduct a logistic regression analysis examining factors associated with higher likelihood of exclusionary discipline on participants with behavioral and emotional disabilities, learning disabilities, and attention-deficit/hyperactivity disorder (ADHD). They found students with behavioral and emotional disabilities and ADHD to be more likely than students with learning disabilities alone to be suspended or expelled. Their findings indicated a greater risk of exclusion for African Americans and males categorized as having behavioral and emotional disabilities than for other student groups (Achilles et al., 2007). African American students experience exclusionary discipline procedures, excessive disciplinary actions, and special education referrals, which may include restrictive placements (Betters-Bubon et al., 2016).

When students are pushed out and excluded from schools, the resultant effects are poor postschool outcomes (Rocque, 2010). African American students are more likely to drop out of school, to be adjudicated, to experience substance abuse, and to face a higher chance of going to prison than being employed (Rudd, 2014). These negative outcomes have been a persistent concern for African American male students in the United States for the past four decades (Losen & Gillespie, 2012; Zhang, 2014).

2.1.2 Social, Emotional, and Behavioral Support

Multitiered systems of social, emotional, and behavioral support (Sugai & Horner, 2008) have the capacity to lessen disproportionality and suspension/expulsion outcomes associated with the "school-to-prison pipeline." The school-to-prison pipeline refers to a path from the education system to the juvenile or adult criminal justice system (McCarter, 2017). The approach to discipline in schools, particularly for students of color, changes the amount of time that these students spend in the classroom and school (McCarter, 2017). There are two converging movements focused on preventing social, emotional, and behavioral problems. The first is a focus on SEL (Malow and Austin, 2016), and the second is reflected in school-wide positive behavioral support, which uses a multitiered approach to address social and behavioral problems.

2.1.2.1 Social and Emotional Learning

The Collaborative for Academic, Social, and Emotional Learning (CASEL; 2020) has defined SEL as "the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions." The Framework for Systematic Social and Emotional Learning (CASEL, 2020) identifies and defines five core competencies:

(1) Self-awareness is the well-grounded recognition of one's own emotions, strengths, limitations, and values and how they influence behavior across context.

(2) Self-management is the regulation of emotions and behavior effectively in different situations and includes stress management and self-motivation.

(3) Social awareness is the understanding of the perspective of others and includes empathy, appreciating diversity, and respect for others and the recognition of family, school, and community resources.

(4) Relationship skills enable individuals to establish and maintain positive relationships and to navigate settings with diverse individuals and groups. Among these skills are the capacities to clearly communicate, listen actively, and work collaboratively.

(5) Responsive decision-making is the ability of individuals to make choices appropriate for varied situations and includes identifying problems, solving problems, and taking in to consideration the consequences of their actions on their personal, social, as well as the collective well-being. ("What are the core competence areas and where are they promoted" section)

2.1.2.2 Social and Emotional Learning Curriculum

Strong Start (Merrell, Parisi et al., 2007; Engelman et al., 2016) is a scientifically based curriculum with lessons designed to improve a student's behavior by increasing their social and emotional competencies identified by CASEL (Graves et al., 2017; Whitcomb & Parisi, 2016). Strong Start curriculum includes 10 lessons designed to be taught 45 min per week; however, there is research to support implementing the curriculum twice a week over 5 weeks (Tran, 2008). The lessons are highly structured and scripted to make it easy for teachers to implement within the school day. The developers have also provided recommendations for modifying

lessons to reflect the interests and abilities of the participants while leaving the critical components in place (Merrell, Parisi et al., 2007). Such suggestions include getting to know students by asking questions about their cultural activities and rituals, modifying the language of lessons to help students understand the key ideas better, and choosing literature with characters that reflect the cultural diversity of the students in the class.

2.1.2.3 Studies Implementing Adapted Versions of Strong Start

Graves, Jr. et al. (2017) implemented a randomized, delayed, treatment control design to evaluate the effectiveness of a culturally adapted version of Strong Start on the social and emotional outcomes of 61 African American males attending an urban elementary school. The student participants were in grades K–2 and were taught the curriculum in small-group pull-outs (not more than five students). The researchers adapted Strong Start based on the recommendations of the developers. Adaptations included modification to the language (e.g., examples and situations that matched the lives of the students, discussions on issues that were relevant to the urban community where the students lived), to facilitate the participants' understanding of the key concepts. The book selections were also changed to focus on literature with African Americans as the central characters to enhance the relevancy of the curriculum to the 61 African American male participants.

The researchers also implemented the curriculum in a small-group, pull-out (Tier 2) intervention for those students deemed at risk. The study included three dependent variables that focused on different aspects of social and emotional competency: (a) Strong Start knowledge assessment, (b) Social-Emotional Assets and Resiliency Scales (SEARS), and (c) behavioral assessment system for children. Graves, Jr. et al. found that participants' pretest to posttest scores on their social and emotional knowledge increased (68% to 84%). They found there to be large

effects for social and emotional assets in self-regulation and self-competency but no statistically significant changes in empathy and responsibility. Nor did they find any meaningful change in teacher-rated externalizing problems. Overall, interviewed teachers indicated feeling that the curriculum was somewhat relevant and that the curriculum should have a more urban focus and a greater focus on the culture and issues specific to African American males. Student social validity administered by questionnaire was positive regarding the curriculum and what they had learned, as well as on recommending to others. Based on the teachers' comments, the researchers concluded that more participatory culture-specific research is needed to determine the stakeholder view of critical components of SEL interventions and that more concentrated research with African American males should be undertaken by schools

Castro-Olivo (2014) evaluated the effectiveness of a culturally adapted version (*Jovenes Fuertes*; Merrell, Carrizales et al., 2007) of the Strong Teens curriculum for Latino English-language learners on students' knowledge of SEL and SEL resiliency using a quasi-experimental design. The study took place in a high school in California. The researcher modified the curriculum leaving the core components intact. Adaptations were made to the peripheral activities and literature. These adaptations included examples, role-plays, and literature that made the lessons more culturally relevant for the participants. Teacher training also included sessions aimed at increasing their cultural sensitivity. The curriculum was implemented in the Spanish Language Arts classes. There were 102 participants in middle school or high school randomly assigned by classrooms to the intervention and control group. The mean time in months of the participants was 8.9. Student knowledge of SEL concepts was assessed pre/postintervention using the Strong Teens knowledge test (Merrell, 2007). Students rated their own behaviors/feelings using the Behavioral and Emotional Rating Scale (Epstein & Sharma,

1999), a self-reported social and emotional resiliency measure. In this study, students completed a shorter version (33 of the 57 items) of the measure. A social validity measure was developed by the researcher to assess students' acceptability and satisfaction with the curriculum. Findings showed students in the intervention group to report significantly higher levels of SEL knowledge and resiliency. Social validity was high, with no student scoring any item below 4.5 on a scale of 1 to 6. Results of the study aligned with the validations of Castro-Olivo and Merrell (2012).

2.1.3 School-Wide Positive Behavioral Intervention and Supports

PBIS is a framework for implementing evidenced-based practices promoting positive academic and behavioral outcomes (Sugai & Homer, 2009). PBIS is implemented with a three-tiered approach. Each tier increases the behavioral support to students based on their needs. Tier 1 is school-wide and targets behavioral support using prevention curriculum, promotion of a positive school climate, and social skills training. Tier 2 involves specialized skills training targeting small groups or classrooms that have not responded to the school-wide preventive measures. Tier 3 focuses on individuals requiring interventions that are more intensive based on assessments that match the intervention to the student's behavioral needs (Jordan, n.d.).

2.1.4 Check-In/Check-Out

CICO is a Tier 2 evidenced-based intervention focused on improving positive behavior for at-risk students who continuously display externalizing behaviors that impede academic success (e.g., Campbell & Anderson, 2008). The concept of the intervention is to prompt appropriate behavior before inappropriate actions and reactions occur (Crone et al., 2010). Campbell and Anderson (2011) noted several benefits of CICO to students: (a) instruction on expected behavior and frequent feedback on behavior, (b) more frequent contact with adults in the school, and (c) increased opportunities to reinforce expected behavior. The key components

of CICO described by Campbell and Anderson (2008) are a morning check-in to review behavioral goals, an end-of-day check-out to review behavioral performance, preset times during the day for an adult to provide feedback on behavior, and acknowledgement of behavioral goals met. Social validity of CICO has been shown to be positive for students and teachers, and they have reported its appropriateness for addressing behavioral problems (Hawken and Horner, 2003).

2.1.4.1 Research on Check-In/Check-Out and Self-Monitoring

Studies have shown that CICO has a positive effect on student behavior. Bruhn et al. (2015) conducted a systematic review of 41 studies (from 2000 to 2012) on self-monitoring interventions for students with behavioral problems. They noted behavioral outcomes using self-monitoring across studies and found there to be positive changes in student behavior in every study. Toms et al. (2018) evaluated the effectiveness of CICO when used along with social skills training and academic planning with three ninth-grade African American males attending an urban school. All three participants had been identified with EBD. Using a concurrent multiple baseline across participants design, the researchers found the intervention combination to improve behavior and academic planning, and social validity was shown to be positive for students and mentors. Miller et al. (2015) assessed the effectiveness of CICO for three students using a fading approach that replaced teacher ratings and feedback on behavior with self-monitoring. The dependent variable was each student's problem behavior identified using the Functional Assessment Informant Record for Teachers, which was verified during observation. When CICO was introduced, all of the participants displayed an immediate decrease in problem behavior, and academic engagement improved. During CICO, when a stable or decreasing trend in problem behavior occurred, self-monitoring was introduced. Students were required to attend

CICO with teachers, who continued to complete a daily behavior report card (DBRC) but did not provide the student with feedback. Teachers used the DBRC to determine if the student earned enough points to earn a reward. During the self-monitoring phase, problem behavior remained below baseline. The average teacher acceptability of the treatment was 77.57, which indicated that the teachers found CICO to be an acceptable intervention. In the study completed by Miller and colleagues, students used pencil and paper to record their behavior on the DBRC, but in the past several years, web-based applications have been developed to support self-monitoring using small devices such as tablets (Henry, 2017). I-Connect, a web-based behavioral self-monitoring application, allows students to monitor themselves without the activity being apparent to their peers. Pilot studies have shown that self-monitoring using I-Connect improves academic and behavioral outcomes for students with disabilities (Clemmons et al., 2016; Beckman et al., 2019).

2.1.5 Purpose and Research Questions

The purpose of this present study was to evaluate the effects of a multicomponent intervention approach on the reduction of behavioral problems of African American males with or at risk for EBD. The research was conducted during the 2019 summer term. All participants were African American male learners attending an urban elementary school located in a low-income community. African American males with low SES are subjected to numerous stressors that put them at a greater risk to experience social and emotional problems (Bush & Bush, 2013). When schools do not provide appropriate support to these students, negative emotions can affect both behavior and academic engagement. Klingner et al. (2005) noted that an intervention's effectiveness is enhanced when it reflects the cultural values of the targeted group. In the proposed study, the Strong Start SEL curriculum was adapted based on the developers'

recommendations to address the needs of elementary-age African American male students. To provide support for monitoring and managing behavior, CICO was implemented using a fading approach to self-monitoring using tablets and the I-Connect behavioral management application for participants who did not respond to CICO teacher-rated behavior alone. The following questions were examined:

(Q1) Is there a functional relation between CA-SEL/CICO with and without I-Connect and a reduction in problem behaviors of primary-grade African American males?

(Q2) Is there a differential effect between CA-SEL/CICO alone and CA-SEL/CICO + I-Connect on the reduction of problem behaviors in primary-grade African American males?

(Q3) What do the results of the effect of an adapted SEL curriculum (CA-SEL) inform us on what is needed in developing a culturally responsive SEL curriculum for African American learners with or at risk for EBD?

(Q4) What do the social validity responses of both students and teachers inform us on what is needed in developing a culturally responsive SEL curriculum for African Americans learner with or at risk for EBD?

2.2 Method

2.2.1 Human Subjects

Formal research procedures (i.e., institutional review board [IRB] process) were followed for this study. Informed consent was obtained using a parent/guardian consent form. Student assent forms were obtained from students who returned parent consent forms and agreed to participate in the study. The experimenter and/or responsible faculty member responded to any inquires or concerns. The researcher also described the consent forms to each individual student and answered questions that they had about the study before they signed the form. The informed consent was documented in writing, and student assent was given verbally.

2.2.2 Setting and Participants

2.2.2.1 Setting

Participants were selected from an elementary school located in a large urban south-central region of the United States where the pilot study had occurred. The Title 1 elementary school (grades K–5) is located in a low-income community, and its student body is predominately African American (68.5%). The school serves approximately 735 students. The study occurred during the 2019 summer term (6 weeks) in a general classroom setting. Participating students were required to attend the summer term if they had not met educational benchmarks for the school year or had failed the statewide end-of-year assessment. The school's summer term structure was consistent with the regular school year for all core and special subjects over the course of a 7-hr school day.

2.2.2.2 Student Participants

Participants were 12 African American male students. A spreadsheet was used to randomly assign to the study males who had participated in SEL during a prior study (Burke et

al., 2018). These students had been nonresponsive to the intervention, with nonresponsiveness defined as a lack of change in level or trend from baseline to intervention (e.g., a nonoverlap of less than 20%) and pre-posttest growth below the 20th percentile on SEARS. Students in the random assignment were found in four summer school classes (kindergarten, first grade, third grade, and fourth grade). Each class teacher nominated three male students from the sample to participate in the study using supplemental disciplinary infraction data. Students attending the summer school term were required to attend because they had not met educational benchmarks for the school year or had failed the statewide end-of-year assessment.

2.2.2.3 Teachers

Teachers were initially recruited by the school's principal to implement the SEL/CICO and self-monitoring intervention. Two of the teachers had participated in the pilot study. All of the teachers attended an information session prior to deciding on whether to participate in the study. Four female teachers consented to participate. All four participating teachers were African American and had taught for at least 3 years. The teachers' ages ranged from 29 to 52 years old; two had earned bachelor's degrees, and two had earned master's degrees.

2.2.2.4 Experimenter

The experimenter was a doctoral student who previously worked as a research assistant at a children's institute at a university in the southwestern United States. There she worked with teachers in their classrooms focusing on reading literacy. Using her listening and observation skills honed during her master's degree studies and practicum in clinical psychology, she highlighted the need for students to "remain in their seats and on task" to learn and improve in the areas of reading and other academic skills. She has led teams of researchers during her

doctoral program to examine SEL, behavioral monitoring, and management interventions. She has published on EBD and reading literacy.

2.2.3 Measures

2.2.3.1 Dependent Variables

Stephens (2016) noted that externalizing behaviors, the primary variable in the present study, include challenging behaviors that most teachers call out such as talking out, noncompliance, out-of-seat behavior, and fighting. Campbell and Anderson (2008) noted that student behavioral problems are disruptive when they hinder a student's learning or interrupt the teacher's instruction. These problem behaviors include noncompliance, disruption, negative verbal or physical interaction, and being out of one's seat. These behaviors were assessed/observed using the following definitions:

- *Noncompliance*—verbally or nonverbally refusing to follow directions given by an adult within 15 sec of the request
- *Disruption*—talking out (speaking without raising hand , speaking without being initiated by an adult, speaking to peers when the expectation is not to be talking) and emitting other behavior that disrupts instruction (making noises, making faces, or banging objects)
- *Out of seat*—leaving the assigned work area without permission from an adult
- *Negative verbal and physical interaction*—any form of physical aggression or derogatory verbal statements toward adults or peers

Behavioral observations for externalizing problem behavior occurred 30 min daily in the class reading block for all participants using partial interval recording (every 1 min). Percentage duration of externalizing behavior for each session was determined by dividing the total number

of occurrences of externalizing behavior by the total number of occurrences plus nonoccurrence and multiplying by 100.

The SEARS-T (Merrell, Cohn et al., 2011) is a 41-item teacher report rating scale for assessing SEL outcomes. The teacher report is designed to measure four constructs: (a) self-regulation, (b) social competence, (c) empathy, and (d) responsibility. These subscales are added for a total SEL score. The reliability of the SEARS-T (Merrell, Cohn et al., 2011) is 0.98, and the reliability range of the subscales is 0.91 to 0.95. Convergent validity was reported with other measures (i.e., Social Skills Rating Scale, Internalizing Symptoms Scale for Children, Behavioral and Emotional Rating Scale). SEARS-T was administered pre/post-SEL intervention and was completed by the teachers for all student participants.

2.2.3.2 Procedural Reliability

Two other doctoral students in the educational psychology department at the university observed or listened to an audio recording of 20% of the intervention sessions across all participants to gather data to determine the accuracy of the implementation. To assess the extent to which the intervention was implemented with integrity, procedural reliability data were collected using a checklist completed by data collectors for 20% of observations across all phases of study. For example, during baseline, students' non-prosocial behaviors were assessed to determine if they were consistent with the pretest rating on SEARS-T. During the phase-two CICO intervention, a procedural checklist was used that contains key features of the intervention implementation (e.g., student morning check-in, teacher ratings throughout the day, student afternoon check-out). Observers were present (or listened to an audio recording) during CICO times to assess whether the features were implemented.

2.2.3.3 Interobserver Agreement

The lead researcher and research assistants computed total agreement for interobserver agreement (IOA). Both were trained through practice. All behavioral data were collected daily and scored. IOA was calculated for 80% of sessions. IOA was completed for baseline and intervention, with the percent of agreement being baseline = 92.4% and intervention = 89.8 %. IOA was completed across all tiers. Total agreement was computed by dividing the number of response score agreements between the coders by the intervals with agreements and disagreements. The agreement score was multiplied by 100 to change to a percentage.

2.2.3.4 Social Validity Data

Social validity was assessed for teachers and students using the scale and questionnaire from the pilot study (Campbell, Burke et al., 2021). Teacher social validity was assessed through five questions using a Likert rating scale (Appendix A). Some of the questions were to rate each student's improvement (i.e., decrease) in disruptive behaviors and their increase in academic performance. Teachers also rated the efficacy and applicability of the CA-SEL/CICO program. They were also given space to provide comments on the program.

A structured interview was conducted with participating students following completion of the intervention. Each student was asked six open-ended questions. They were also provided the opportunity to make general comments. The lead researcher and a graduate student conducted the interviews (Appendix B).

2.2.4 Materials

A Strong Start K–5 manual was provided to each teacher who had students participating in the CICO intervention. Included in the manual was a fidelity checklist (Appendix C). An audio recorder was also provided for recording CICO intervention. In addition, materials for

collecting CICO information were provided. A paper CICO form (Appendix D) preprinted with behavioral expectations and rating/point scales was provided for students to receive their daily input from reading and math teachers. Paper was provided for copying the completed CICO form for each student to take home daily for their parents to review. Stickers, snacks, toys, and other rewards and incentives were provided at check-out to the CICO participants when earned. The lead researcher developed a CICO fidelity-of-implementation checklist. Participants were provided with tablets on which to install the self-monitoring application.

2.2.5 Intervention Procedures

2.2.5.1 Teacher Training

The primary researcher from the university trained the teachers. Strong Start training for the teachers was provided in a 3-hr session. The session included a slideshow presentation of an overview of the curriculum, including purpose and highlights of each lesson and preparation guidance. Each teacher was provided a Strong Start manual, and a lead teacher was assigned to work with the researcher to address any questions or concerns the teacher participants might have. There was an additional hour of training for CICO, which included a short video providing modeling of the CICO process, followed by teacher-partnering role-play with performance feedback from the lead researcher. The CICO fidelity checklist was also reviewed.

2.2.5.2 Baseline Condition

During the baseline condition, participants continued to participate in the school-wide behavioral supports that were already in place. The goal of the school district's PBIS program is to provide all students with the supports needed to achieve behavioral, social, and emotional objectives that promote academic success. The PBIS program was designed to support school educators, staff, and parents in creating a school environment that is safe and positive for all

students. The program outlines a code of conduct outlining student, teacher, administrator, and school board responsibilities and consequences for misconduct. The district has tiered interventions from which a school can choose actions to support respect and safety. Tier 1 approaches include classroom management to promote positive behavior including alternate seating, clear, consistent, and predictable consequences for misconduct, notes home to parents, and office referrals. Tier 2 includes behavioral contracts and allows for implementation of CICO. Tier 3 allows for structured breaks, counselor referral, and use of CICO or other behavioral interventions. Only the existing Tier 1 PBIS was in place during baseline. None of the participants was engaged in a Tier 2 or 3 intervention at the time of this study.

2.2.5.3 Intervention Condition

The intervention condition described below consisted of implementation of the Strong Start curriculum (Whitcomb & Parisi Damico, 2016) across all students in the four classes of which the 12 baseline participants were members. Following participation in the SEL curriculum, all 12 participants received alternating treatments—CICO without I-Connect and CICO with I-Connect. The decision as to which treatment each participant would receive on each day was randomly assigned a priori using a spreadsheet. The students were notified which treatment they would receive at the beginning of each day.

2.2.5.4 Strong Start Curriculum

The Strong Start curriculum (Whitcomb & Parisi Damico, 2016) was implemented to promote SEL competencies. The version for K–5 students was used in this study. The Strong Start K–5 curriculum consists of 10 lessons taught twice a week over a 5-week period. The lessons are 45 min each, can be segmented into parts, and are highly structured. The 10 lessons focus on the following topics within the scope and sequence:

(1) Feelings exercise—Students are given an overview of the purpose and goals of Strong Start, behavioral expectations, and curriculum lessons.

(2) Understanding your feelings (1)—Students learn to identify different emotions and how they make them feel.

(3) Understanding your feelings (2)—Students learn how to express positive and negative feelings in an appropriate way and to apply the skills through fun activities.

(4) Understanding other people's feelings—Students are taught how to empathize with others through stories and practice.

(5) When you are angry—Students are taught that everyone experiences anger, how to recognize the physical signs of anger, and what situations might lead to feeling angry. Through stories and activities, "ways to help" responses are emphasized.

(6) When you are happy—Students are taught how to express the positive emotion of happiness by focusing on the physical and body sensations associated with the feeling. They are taught the techniques of positive thinking, making it easier for them not to give in to negative feelings.

(7) When you are worried—Students are taught the appropriate skills (i.e., behavioral, affective, cognitive) to cope with worry. They practice the ABCs of positive thinking, along with a new skill learned in this lesson, the "stop, count, in, out" strategy, to help them cope with worry.

(8) Being a good friend—This lesson is the social and interpersonal skills (e.g., using a nice voice, listening, appropriate body language) training module. Students are given the opportunity to practice in realistic situations.

(9) Solving people problems—Students learn ways to resolve conflict. They define and describe situations that cause conflict. Previously taught skills are reviewed, and students apply them in role-play activities.

(10) Finishing up—This lesson reviews all key points, terms, and skills taught in lessons 1 to 9.

The curriculum also includes two optional booster lessons that can be used as a refresher on lessons 1 to 9. In addition, the Strong Start K–5 curriculum was culturally adapted for African American students to ensure a better cultural and contextual fit. Adaptations included literature; modifications to wording in scripts, scenarios, written activities; and discussions. Following Hammond's (2014) suggestions on modifications that support the learning process, discussions were organized so that students relied on each other in order to increase their level of attention and stories were incorporated so that all of the students were learning content from a narrative about the topic. Appendix E provides the listing of books selected to present relevant concepts from a cultural perspective for each lesson.

2.2.5.5 Check-In/Check-Out

CICO (Campbell and Anderson, 2011) was concurrently implemented with the Strong Smart curriculum in order to prompt and reinforce the SEL competencies. The general procedures outlined by Campbell and Anderson (2011) were followed. The main modification made was to modify the goals to better align with the SEL competencies being taught in the Strong Start curriculum. In general, the following steps were used to implement CICO in this study:

(1) Morning check-in—Each student taking part in the intervention checked in each morning with the homeroom teacher. Check-in occurred in the hallway each morning

and each afternoon with each student individually. The homeroom teacher examined the prior day's performance and reminded the student of the expected behaviors. The homeroom teacher gave the student the daily progress report (DPR), which listed the expected behaviors that were monitored during the day. The student was assigned points for demonstrating the appropriate behavior throughout the day and for achieving the day's point goal.

(2) Daily feedback—At the beginning of the scheduled time on the DPR, which was broken into five time slots, the student submitted their DPR to each classroom teacher. The teacher then completed the DPR when the period ended. The teacher also provided feedback to the student along with warranted praise.

(3) Afternoon check-out—When the school day ended, the student submitted the DPR to the homeroom teacher. The homeroom teacher computed the number of earned points for the day for targeted timeframes and the total points goal and provided praise and/or encouragement to the student.

(4) Each student took a copy of their DPR home for parent review.

(5) The next day, the process was repeated with the student checking in with the homeroom teacher.

2.2.5.6 I-Connect

I-Connect was used with targeted students to self-monitor their behaviors. CICO intervention with or without I-Connect was randomly assigned for participants for each day a priori using a spreadsheet. I-Connect is an application created by researchers at Juniper Gardens Children's Project at the University of Kansas. The I-Connect application is a self-management application that allows for programming of individualized self-monitoring goals, intervals, and

prompts (screen flash, chime, vibrate) for students (Willis & Kamps, n.d.). At the end of each identified task or interval in this study, the device signaled self-monitoring questions and prompts (in the form of a question) that appeared on the individual-student screen to allow the student to assess the need for reinforcement. When prompts appeared, the student touched the device screen to select *yes* or *no* in response to each question. Once the answer choice was selected or if there was no response in 6 sec, the next task/interval began.

2.2.5.7 Generalizability and Maintenance

Researchers apply generalizability in an academic setting, which is defined as the extension of research findings and conclusions from a study conducted on a sample population to the population at large. While the dependability of this extension is not absolute, it is statistically probable (Ledford & Gast, 2018). Students entered maintenance after a minimum of 8 or maximum of 10 data points in intervention. The researcher and research assistant continued data collection on students' non-prosocial behaviors daily during reading. During this time, students did not participate in the SEL component or CICO; only I-Connect on the tablet continued to be used for self-monitoring.

2.2.6 Design and Data Analysis

A single-case, multiple-baselines-across-classes design (Ledford & Gast, 2018) was conducted to evaluate the effects of SEL/CICO on the students' SEL and disruptive behaviors. The baseline condition for all 12 students began on the same day, and the SEL curriculum implementation started on the same day. An alternating treatment design was used to evaluate the additive effects of self-management with the participants to determine its benefit with SEL/CICO versus SEL/CICO + I-Connect.

Visual analysis was used to determine whether there was a functional relation. The visual data were reviewed focusing on mean level change, trend, and variability within and between phases, as well as immediacy of change at the intercept gap (Ledford & Gast, 2018). Baseline logic was used to determine a functional relation between SEL and CICO with and without I-Connect on problem behavior by reviewing the data for consistency between and within comparable conditions (Cooper et al., 2007). Baseline logic involves (a) *prediction* by determining whether the initial baseline is stable, indicating the likelihood the behavior would remain at the same level in the absence of an intervention, and (b) *verification* by examining subsequent tiers for similar stability; similar levels verifying baseline responding would have continued to be unchanged if the independent variable not been presented. Finally, baseline logic includes (3) *confirmation* if and only if when the intervention is introduced, the data change in the predicted direction and this data change is replicated from baseline to intervention a minimum of three times (i.e., three demonstrations of effect). To determine the differential effects between SEL/CICO and SEL/CICO + I-Connect, visual analysis was used to determine spread or distinguish between levels of each data series whether overlap existed. According to Ledford and Gast (2018), if there is a clear difference between levels and a functional relation can be determined among the two independent variables, the independent variable whose level is lowest is indicated as most effective.

Tau-U effect size (ES) calculations were used to supplement the visual analysis results. Tau-U statistical analyses were chosen due to sufficient trend in baseline (Zimmerman et al., 2018). It is a strong statistic of the significance of effect using the reasoning of overlap consistent with visual analysis (Wolery et al., 2010). It is an index with greater statistical power than other indices. Tau-U, single-case ES calculators created by Vannest et al. (2016) were used to

calculate the ES. Data were extracted to calculate two Tau-U ESs. The first Tau-U-calculated ES examined multiple baseline effects across classrooms, and the second Tau-U-calculated ES examined the alternating treatment effect comparing SEL/CICO and SEL/CICO + I-Connect. The omnibus effect for both multiple-baseline and alternating treatment comparisons was also determined.

2.3 Results

2.3.1 Externalizing Problem Behaviors

To determine whether there was a functional relation between the two independent variables (interventions) and the reduction in problem behaviors (Q1), visual analysis was performed, augmented by Tau-U ES calculations. To determine whether there was a differential effect between the two interventions on the reduction of problem behavior (Q2), additional Tau-U analysis was completed.

2.3.1.1 Visual Analysis

The graphs shown in Appendix F represent three demonstrations of persistent decrease of the percent duration of externalizing behavior during class reading blocks by three separate points in time once each of the interventions, CA-SEL/CICO and CA-SEL/CICO + I-Connect, was introduced. All of the implementations demonstrated a functional relation between the interventions (i.e., CA-SEL/CICO and CA-SEL/CICO + I-Connect) and externalizing behaviors. When reviewing the baseline among all three implementations of the intervention, levels of externalizing behaviors were consistently high, ranging from 78% to 100% during reading. After the introduction of the CA-SEL/CICO intervention, an immediate decelerating trend was observed for each implementation only once the intervention was introduced. When the CA-SEL/CICO + I-Connect intervention was introduced, a more rapid immediate decelerating trend

was also observed for each implementation when and only when the intervention was introduced. During the CA-SEL/CICO condition, externalizing behaviors consistently decreased, ranging from 6.25% to 28.65%, during reading. During the CA-SEL/CICO + I-Connect condition, externalizing behaviors consistently decreased, ranging from 3.19% to 21.72%, during reading. There was no overlap in mean percentage duration of externalizing behaviors from the baseline condition to the CA-SEL/CICO condition or the CA-SEL/CICO + I-Connect condition.

2.3.1.2 Tau-U Effect Size

In general, for the 12 student participants in this study, 358 pairwise comparisons impacted data, yielding an omnibus Tau-U value of 0.75 and a *p*-value of 0, which is significant for CA-SEL/CICO, and an omnibus ES of 1 for CA-SEL/CICO + I-Connect, in which data are weighted by the inverse of variance. This can be interpreted as 100% of the students in both intervention sessions displayed improved externalizing behavior during the English Language Arts (ELA) block of instruction, which is credited to the interventions. The confidence intervals for the data demonstrate variability and phase length yielding 90% confidence interval = [0.58,1]. This confidence interval can be interpreted as evidence of consistency that this effect is not a false positive. Individual ESs in the study for each of the 12 participants generated Tau-U values ranging between 0.30 and 1. The above statistical analysis agrees with the visual analysis of consistent treatment effects and large change in non-prosocial behaviors for individual and overall designs.

Tau-U was used to calculate the ES using CA-SEL/CICO as the baseline to answer Q2. The results show the statistical analysis to be in agreement with the visual analysis, demonstrating a 22% difference in improvement of the African American males' behavior during treatment sessions when using CA-SEL/CICO + I-Connect compared to CA-SEL/CICO. This

finding should be interpreted with caution due to the minimal data points resulting in a high 90% confidence interval = [–0.42, 0.02] and a *p*-value of 0.072.

2.3.2 Social and Emotional Assets and Resiliency Scales

The results of the SEARS-T were examined to gain information about adapting SEL curriculums to grow the social and emotional competencies of African American male learners (Q3). SEL gains were measured at baseline and during the intervention phases for each competency (i.e., self-regulation, social competence, empathy, and responsibility) using the SEARS-T behavioral rating scale (Merrell, Cohn, Tom, 2011). The results demonstrate growth for a majority of the students within each competency. Two students, however, did not show any growth, with mean differences of 0 in social competence and –2 in empathy; one of these students showed –1 in responsibility, and the other student showed –2 in responsibility.

2.3.3 Social Validity

Responses of teachers and students were reviewed to gain knowledge on adapting SEL curriculums to grow the social and emotional competencies of African American male learners (Q4).

2.3.3.1 Teacher Responses

Teacher participants concurred that the students with externalizing behavioral problems during reading improved, signifying a decrease in disruptive behavior. Teacher scores ranged from slight improvement (2) to a lot of improvement (4). A mean score of 3.67 demonstrates that teachers validated the improvement in student behavior. Teachers also pointed out growth in their students' academic performance (M = 3.82). Teacher ratings indicate that the CA-SEL/CICO + I-Connect intervention improved their male students' performance in the classroom (M = 3.96). Ratings show that teachers would suggest CA-SEL/CICO + I-Connect

intervention for students who display comparable social, emotional, and behavioral problems (M = X, SD = 3.87). Teacher participants were 100% in agreement that both interventions were practical and simple to utilize within a classroom setting (M = 4.0, SD = 0).

2.3.3.2 Participant Responses

Student participants were asked to provide feedback with several questions explaining their experience with the SEL lessons and CICO. All of the students noted that they felt at ease meeting with their CICO mentor (classroom teacher) every morning and afternoon. The students were asked to describe a day when meeting with their CICO mentor had a positive effect on their day. Students provided instances describing the feeling that someone cares about them, feeling that they had all their supplies for the day, and feeling comfortable expressing when something was wrong at home or asking for help with their schoolwork. Students reported that CICO helped them be excited about school and noted that their parents and/or grandparents were excited to hear about their day. Students were also surveyed on whether they believed the CA-SEL/CICO + I-Connect intervention helped them to manage their behavior during class. They reported that the intervention had improved their attitude and that they felt more focused and alert. Students mentioned looking forward to their CICO mentor telling them they were proud of them and making them happy. They also noted that they were happy to get prizes and were proud of themselves for keeping their word. Some additional comments from students included, “I like math now” and “I like having [a tablet] to help keep me on task.” The students’ ratings on whether they would recommend the CA-SEL/CICO + I-Connect intervention to other students was M = 3.97.

2.3.4 Procedural Reliability and Interobserver Agreement

Procedural reliability was assessed for the SEL curriculum and the CICO sessions. The researcher and a research assistant were present at every lesson. They implemented the checklist provided with the Strong Start curriculum. Both agreed that 96% of the lessons met 100% of the checklist criteria. Thirty percent of the CICO-session audio recordings were reviewed, and 94% were in sync with the researcher-developed CICO checklist. IOA regarding externalizing problem behavior was gathered for all grade tiers for 90% of baseline sessions with a mean of 96.4% agreement and 90% of intervention sessions with a mean of 92.6% agreement.

2.4 Discussion

The purpose of this study was to evaluate the effects of using a multitiered intervention approach to reduce behavioral problems of African American males with or at risk for EBD. Findings of the present study show that CA-SEL/CICO and CA-SEL/CICO + I-Connect interventions reduced problem behavior and grew social and emotional assets for the targeted learners. The school had implemented a universal PBIS program, and based on SEARS-T pretest, the participants in this study needed a multitiered intervention approach to build social competencies and to monitor and manage their behavior. The SEL curriculum (Strong Smart) was adapted based on the developers' recommendations and was in line with Klingner et al.'s (2005) premise that the effectiveness of an intervention is enhanced when it reflects the cultural values of the targeted group. CICO was implemented to support monitoring/management of behavior using a fading approach to self-monitoring and I-Connect, a behavioral management application.

First, the present study supports prior studies of SEL, CICO, and self-monitoring. The analyses of the two implemented interventions (CA-SEL/CICO and CA-SEL/CICO + I-Connect)

indicates effectiveness in decreasing problem behavior. These findings are consistent with those found by other researchers. Toms et al. (2018) evaluated an intervention package that combined social skills training with CICO. They found problem behavior to decrease for their three African American male participants. Miller et al. (2015) completed a study of CICO using a fading approach to the intervention from teacher-monitoring to self-monitoring. The researchers found the decrease in problem behavior that had occurred during teacher monitoring to be maintained during self-monitoring. In a systematic review of 41 CICO studies completed by Bruhn et al. (2015) of behavioral outcomes from interventions using CICO and CICO with self-monitoring, they found positive change in behavior in every study.

Second, in this study when the intervention was introduced, a more rapid immediate decelerating trend was observed for each implementation. No prior study has provided evidence of this trend with a similar intervention package (i.e., CA-SEL curriculum, CICO with web-based self-monitoring application with prompt, data entry, and analysis). Study replication needs to be conducted with the targeted population.

Third, the SEARS-T posttest (pre/posttest data shown in Appendix G) indicated that 10 of the 12 participants showed growth in all five SEL competencies; however, 2 students did not show growth in empathy and responsibility. Graves, Jr. et al. (2017) evaluated the effects of a culturally responsive SEL intervention on social and emotional assets. The study included 61 African American male students at risk for EBD who were taught the curriculum in small-group pull-outs (not more than 5 students). The SEARS-T posttest results of the study indicated that all of the students showed growth in three of the five SEL competencies; however, it showed no statistically significant growth for any of the participants in empathy and responsibility.

Additional research is needed to evaluate adaptations to SEL curriculums in order to improve results across participants in these competencies.

Fourth, social validity for the present study was positive for teachers and students. Positive ratings have also been found in prior studies for adapted SEL curriculums (Castro-Olivo, 2014; Graves, Jr. et al., 2017) and CICO interventions (Bruhn et al., 2015; Miller et al, 2015). In the work of Graves, Jr. et al. (2017), teachers found the SEL curriculum somewhat relevant, but noted that it should have more of an urban focus and a greater emphasis on issues specific to African American males. The present study incorporated materials and activities specific to African American learners and the communities where participants lived.

2.4.1 Limitations and Future Research Implications

Limitations exist for this study. The results of the study are limited to African American males with or at risk for EBD attending school in an urban setting. There have been only a few studies of this population using adapted SEL intervention alone and SEL curriculum with CICO. There are not any comparable studies on the intervention packages used in the present study. More studies on implementing adapted SEL curriculum are needed, particularly when posttests show that the universal SEL package does not produce the desired results across participants. Research on the use of technology for behavioral monitoring will help to determine if it is more effective to implement self-monitoring as the primary intervention approach and to assess if the results are maintained. The study only examined externalizing behaviors; however, research has shown that SEL decreases internalizing behaviors (i.e., withdrawal, difficulty concentrating, unexplained physical symptoms, not talking; Stephens, 2016). Stephens (2016) noted that internalizing behaviors are not typically disruptive to the classroom environment; nevertheless, they can negatively affect academic performance and students' well-being. Future studies using

SEL, especially for African American males, should examine both externalizing and internalizing behaviors.

2.5 Conclusion

While practitioners and researchers have espoused the need to implement culturally adapted, evidenced-based interventions to address the diverse needs of CLD learners, few studies have sought to examine the effectiveness of a culturally relevant intervention alone or as part of a culturally responsive social, emotional, and behavioral support program. It is important to conduct research on culturally relevant approaches to SEL and behavioral support, particularly for African American males. This population is disproportionately identified with or at risk for EBD. EBD affects a student's academic performance and relationships with peers and adults. The present study shows that a culturally relevant SEL curriculum as part of an intervention program is effective in growing SEL competencies and decreasing externalizing behavior when implemented with behavioral support. More research is needed with CLD targeted populations to support their social, emotional, and behavioral needs that will improve their lives inside and outside the classroom.

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3. CULTURALLY RELEVANT BEHAVIORAL SUPPORT FOR AFRICAN AMERICAN LEARNERS

3.1 Introduction

Promoting successful school experiences for students with EBD can be a particularly challenging task because of the necessity for multifaceted and cohesive programming to effectively improve their social, emotional, and behavioral outcomes (Gaylord et al., 2005). EBD is defined in Section 300.8 of IDEA as an "emotional disturbance over a long period and to a marked degree that adversely affects a child's educational performance" (2004). Walker and Gresham (2014) further defined EBD as consisting of two categories of behaviors: externalizing and internalizing.

Stormont (2002) discussed antisocial or externalizing behaviors associated with EBD, noting examples to include disturbing peers, hitting and fighting, ignoring the teacher, and not completing assignments. Not all students with EBD have aggressive behavior. Smith (2007) reported that individuals with internalizing behaviors are generally withdrawn, lonely, depressed, and anxious. Kaya et al. (2015) noted that students with EBD experience conflict and rejection by their peers due in part to diminished social skills. The researchers reported students' social deficits to also impair their academic functioning and graduation rates, as well as increase negative contact with law enforcement and the judicial system. Studies have found that students with EBD are three times more likely to be arrested than other students are before leaving school, and nationally only 40% of these students graduate from high school (Jans, Stoddard, and Kraus, 2004).

3.1.1 African Americans With or at Risk for Emotional and Behavioral Disorder

African American students have been diagnosed with EBD in higher proportions than their proportions in the student population (McKenna, 2013). McKenna (2013) emphasized the disproportionality by pointing out that African Americans make up 17% of public school students; however, approximately 27% of African Americans in public schools receive educational services for EBD. Many of these students may not receive the support that meets their needs. The author focused on possible contributors to the disproportionate representation of African Americans labeled with EBD. McKenna (2013) pointed out contributors to include socioeconomic influences, past experiences with racism, issues with the definition of emotional disorders, school demographic factors, educator perceptions, delivery of inappropriate instruction, and inadequate research. In general, he considered research to have failed to consider race and ethnicity as mediators of treatment outcomes.

Cullinan and Kauffman (2005) highlighted the point that the disproportionality involving African American students is about 160% of what would be expected using national data on the prevalence of emotional disorders (U.S. Department of Education, 2002) and the number of public school students (National Center for Education Statistics, 2003), subdivided by race-ethnic groups. Cullinan and Kauffman (2005) noted that many observers believe that such a high degree of disproportionate prevalence must be caused substantially, if not entirely, by racial bias against African American students (e.g., Osher et al., 2004). They expressed various interpretations of racial bias including individual and intentional systemic, institutional, cultural incompetence, unconscious, or other manifestations. Given the potential for negative social and academic outcomes for African American males with or at risk for EBD and the disproportionality of their being labeled with EBD (Serpel et al., 2009), it is important to

implement interventions targeting the social, emotional, and behavioral problems of this student population. SEL and behavioral monitoring are two converging movements focused on the prevention of social, emotional, and behavioral issues (Weissberg, 2011).

3.1.2 Social and Emotional Learning

There has been a call for all students to be taught, supported, and surrounded with SEL practices at the individual and environmental levels (Malow and Austin, 2016). “SEL is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions” (CASEL, 2020). The CASEL (2020) Framework for Systematic Social and Emotional Learning identifies five core competencies to help students effectively navigate their emotions, emotions of others, and relationships. These competencies are self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

Dusenbury and Weissberg (2017) outlined the interrelated sets of cognitive, affective, and behavioral competencies that comprise SEL. The researchers defined the following five competencies

(1) Self-awareness—the ability to accurately recognize one’s feelings and thoughts and their influence on behaviors

(2) Self-management—the ability to regulate emotions, cognitions, and behaviors to set and achieve personal and educational goals

(3) Social awareness—the ability to take the perspective of and empathize with others from diverse backgrounds, to understand social and ethical norms for behavior, and to recognize family, school, and community supports

(4) Relationship skills—the ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups

(5) Responsible decision-making—the ability to make constructive choices about personal behavior, social interactions, and school based on consideration of ethical standards, safety concerns, social norms, realistic evaluation of consequences of various actions, and the well-being of self and others

They considered these critical to academic success and positive adjustment in school and in adult employment.

CASEL, working with researchers Durlak et al. (2011), completed a landmark study that was the first large-scale meta-analysis of school-based programs to promote students' social and emotional development. The researchers completed a meta-analysis of 213 school-based universal SEL programs involving K–12 students. They explored the effects of SEL programming across several outcomes: social and emotional skills, attitudes toward self and others, positive social behavior, conduct problems, emotional distress, and academic performance. Based on 35 to 112 interventions depending on the outcome category, the results indicated that compared to controls, students demonstrated enhanced SEL skills, attitudes, and positive social behaviors following intervention, demonstrated fewer conduct problems, and had lower levels of emotional distress. The researchers found that social and emotional programs are effective in general education classrooms and in contained classrooms when taught by the teacher and in multicomponent programs (i.e., classroom programming supplemented by school-wide components) taught by school staff. Similar results were not obtained for programs conducted by nonschool personnel. They did not find multicomponent programs to be more effective than programs taught by teachers in the classrooms in four outcome areas (i.e.,

attitudes, conduct problems, emotional distress, and academic performance). Jones et al. (2011) reported on the 2-year experimental impacts of 4Rs, a program that has been identified by CASEL as an evidence-based SEL intervention for prekindergarten through elementary school, on children's social, emotional, behavioral, and academic functioning. The 4Rs is a universal, integrated, school-based intervention in SEL and literacy development. The school-randomized, experimental study design was used with 1,184 children in 18 elementary schools. The intervention group (I) of 630 students was 87.8% African American and Hispanic, and the control group (C) of 579 students was 87.2%. The researchers included statistics on household SES risk (I mean SES = 1.56, C = 1.59. Teacher experience was I = 5.77 and C = 8.39. Children in the intervention schools showed improvements compared to the control group across several domains: self-reports of hostile attributional bias, aggressive interpersonal negotiation strategies, and depression, as well as teacher reports of attention skills and aggressive and socially competent behavior. In addition, there were effects of the intervention on children's math and reading achievement for those identified by teachers at baseline to be the highest behavioral risk. Teachers in intervention schools reported slower growth in children's aggressive behavior compared to increases in control schools and increases in social competence compared to declines in control schools over 2 school years.

3.1.3 Cultural Adaptation of Interventions

The International Bureau of Education (2020) glossary of curriculum terminology broadly defines cultural adaptation as "a process of adjusting the existing curriculum to meet the diversity needs of learners." It is recommended that the essential components of an evidence-based intervention be maintained while making changes to increase cultural relevance for the targeted population (Para-Cardona & Hicks (2020). Brown et al. (2018) proposed adapting

emotional and behavioral intervention for populations based on race and ethnicity in response to disciplinary practices (i.e., punitive, exclusionary). They reviewed 10 studies to identify the method most common for making adaptation to SEL interventions and found researchers to have followed developer recommendations. They also noted that content, delivery, and procedures have been most often altered, with the reason for altering most often being for cultural fit. Content adaptations have included making certain that language, metaphors, and concepts are a cultural fit. Program delivery adaptations are those that alter the method used to implement the intervention and setting. Procedures for considering adaptations focus on the needs of the targeted population by getting to know the students and the communities where they live. The researchers stressed the need to develop a process that is specific to adapting SEL interventions for schools' targeted populations.

Ryan et al. (2016) evaluated the effect of an SEL curriculum, Strong Kids (Kramer et al., 2010), on social and emotional knowledge and social and emotional assets. Participants were 39 African American fourth- and fifth-grade girls identified by the school counselor as at risk for social and emotional problems. They attended a K–8 school in an urban area in the northeastern United States with a student body composed of 95% African American students. All of the participants qualified for free or reduced lunch. The independent variables were Strong Kids Content Knowledge Assessment and SEARS. Results showed improvement in social and emotional knowledge; however, there was not any indication of statistically significant or practical improvement in social and emotional assets based on SEARS pre/post results. The researcher surmised that the reason for these surprising findings on social and emotional assets was not known because of the dearth of studies on the effectiveness of Strong Kids on the social and emotional assets of African Americans. Research on the universal Strong Kids curriculum

had been mainly conducted with primarily Caucasian student population samples (Merrell et al., 2008; Kramer et al., 2010; Gueldner and Merrell, 2011). Meta-analytic research, however, has shown that culturally specific interventions are more effective than universal interventions (Jackson et al., 2010; Metzger et al., 2013).

3.1.4 Behavioral Monitoring

Behavioral monitoring is reflected in school-wide positive behavioral support, which uses a multitiered approach to address social and behavioral problems. Within a multitiered approach, there will be several nonresponders to the Tier 1 universal support. Some students will require additional social and behavioral support to be successful (Fluke & Peterson, 2013). Behavioral monitoring steps outlined by The Iris Center (2021) are implemented by the teacher or teacher and student. When a teacher-directed behavioral monitoring intervention is implemented, the teacher implements the selected strategy, monitors, and evaluates/provides feedback on progress. Self-directed behavioral monitoring includes the student's agreement to self-monitor, to learn how to self-monitor based on the selected strategy, and to select the reward to be earned. Mooney et al. (2005) completed a review on the effectiveness of self-monitoring on behavior and academic performance for individuals with EBD. The researchers reviewed 22 studies (78 participants) from 20 articles and found self-monitoring to be the majority of the self-management techniques used in the studies. The mean ES for self-monitoring was 1.90. Carter et al. (2011) noted that self-monitoring fosters self-sufficiency in students with EBD. They explained that self-monitoring gives these students more control over their behavior, academic performance, and environment. The control, they noted, hopefully leads to the students experiencing more instances of accomplishment. In a literature review by Popham et al. (2016) that focused on the effectiveness of self-regulation techniques for individuals with EBD, they

found self-monitoring to be one of the predominate self-regulation techniques used by researchers in 36 studies (189 participants) from 35 papers. The results of their review showed self-monitoring of behavioral interventions to be mild to moderately effective.

Bunch-Crump and Lo (2017) investigated the effects of a multitiered support system using CICO and function-based self-monitoring. Three of four participants showed a reduction in problem behavior with use of CICO alone. One of four participants did not respond to CICO. With the addition of self-monitoring, preliminary data indicated a decrease in trend and level of problem behavior.

3.1.4.1 Technology and Behavioral Self-Monitoring

Self-monitoring can be implemented using traditional (pencil and paper) or hand-held device methods. Research has increasingly included the use of technology as an effective tool in self-monitoring interventions (Clemons et al., 2015; Crutchfield et al., 2015; Wills & Mason, 2014). Bruhn et al. (2015) synthesized 41 studies published over a 10-year period (2000 to 2012) that evaluated self-monitoring of behavior. The studies focused on K–12 students who had exhibited persistent behavioral problems. The student participants included 193 males and 38 females from a range of grades and abilities. The researchers included studies on EBD, learning disabilities, and ADHD. One of the segments of their analyses looked at the use of technology to prompt students to record their behavior and a medium for recording behavior. Slightly over half of the studies (n = 22) involved technology to prompt students to record their behavior. Only two studies (Gulchuk, 2008; Bedesem, 2012) involved technology as a medium to record the behavior; however, to analyze the data both researchers used manual input into a spreadsheet. The results of both of these studies showed an increase in on-task behavior of the participants during the intervention. Bruhn et al. (2015) reported that all 41 studies using self-monitoring

showed improvements, including increased on-task behavior, decreased disruption, and decreased negative social interaction.

Recent studies have utilized I-Connect, a self-monitoring application that combines prompt, entry, and analysis features (The University of Kansas, 2019). In a pilot study, Wills and Mason (2014) used the I-Connect application installed on a smartphone device with two high school male students receiving special education services for difficulties staying on task. One of the participants, a 15-year-old male with specific learning disabilities, ADHD, a mood disorder, and anxiety, had increases of average on-task behavior levels from 51% during baseline to 95% following intervention. The second participant, a 14-year-old male with ADHD, had increases in average on-task behavior levels from 18% during baseline to 88% following intervention. The results showed the I-Connect application to be effective in increasing on-task behavior, though further research is needed to generalize on-task behaviors into other environments.

3.1.5 Purpose and Research Questions

The present study implemented a CA-SEL curriculum paired with CICO and self-monitoring of behavior. The present study evaluated the effects of a multitiered method to improve non-prosocial behaviors, severed relationships with classroom teacher, and SEL outcomes of African American learners with or at risk for EBD. Multiple stressors put this population at risk for social and emotional problems that contribute to higher school dropout rates, likelihood of being adjudicated, and substance abuse (Kearney & Harris, 2014). These students experience out-of-classroom and school exclusionary discipline practices, as well as lower scores on standardized measures of academic performance, that impact postschool outcomes (Zhang et al., 2014). The study examined the effects of paired interventions to reduce problem behaviors in the classroom, including a culturally relevant curriculum adaptation, *My*

Mind, My Feelings, The Right Way! (MMMF; Campbell, Hagen-Burke et al., 2019). Fallon et al. (2015) described cultural and contextual relevance as consisting of the unique variables, characteristics, and learning histories of students and educators. The SEL curriculum was paired with CICO and a technology-based self-monitoring intervention (CA-SEL/CICO + I-Connect). The present study sought to answer the following research questions:

(Q1) Does CA-SEL/CICO + I-Connect improve social skills and academic competence for African American students in primary grades?

(Q2) Is there a functional relation between CA-SEL/CICO + I-Connect and an additive decrease in externalizing problem behavior following the introduction of the SEL/CICO curriculum for African American students in primary grades?

3.2 Method

3.2.1 Setting and Participants

3.2.1.1 Setting

The location for the study was a Title I preK–5 school in a low-income area in the south-central region of the United States. Sixty-eight percent of the students were African American, and 100% of the school's students received free or reduced lunch. Onsite study activities occurred during the fall 2019 and spring 2020 terms. Participants were taught in a general classroom setting during an 8-hour school day with a 30-min lunch period and 30-min recess. The intervention program was implemented during reading as the SEL curriculum coincided well with this block of instruction. The reading block lasted 120 min.

3.2.1.2 Teachers

Teachers were recruited by random selection. A spreadsheet was used to randomize the teachers who would implement the CA-SEL/CICO + I-Connect intervention. The teachers

attended a 5-hour training once randomization was completed. Six treatment teachers consented to implement the intervention. All of the teachers were African American females. The teachers' ages ranged from 26 to 54 years old. Three of the teachers had previously implemented SEL/CICO. Four of the teachers had earned master's degrees, and two held bachelor's degrees.

3.2.1.3 Participants

Upon IRB approval for human subjects, the school principal and behavioral resource team were contacted. School personnel were interviewed about the state of disciplinary issues on the campus. Based on the information obtained in the interview, the research team determined that students in the classrooms of the implementers would be screened. The students to be screened were to meet the following criteria: (a) African American, (b) kindergarten, first, second, or third grade, (c) English as their first language, and (d) previous demonstration of behaviors indicating their at-risk status for emotional and behavioral problems. Students were screened using the Social Skills Improvement System (SSIS) teacher form for children aged 5 to 13 (Gresham & Elliot, 2008). In each of the six classes, three students were randomly selected to participate from the eight students who scored the lowest on the SSIS. Eighteen students was the cutoff number due to the number of available tablets loaded with the I-Connect application (n = 18) available to be used for self-monitoring. Parent consent and student assent were received from all 18 of the students (6 kindergarteners, 6 first-graders, and 6 second-graders). All participants were with or at risk for emotional and behavioral problems. Kindergartners ranged from 5 to 6 years old, first-graders ranged from 6 to 8 years old, and second-graders ranged from 8 to 10 years old. None of the participants had been involved in previous SEL/CICO intervention.

3.2.2 Measures

3.2.2.1 Dependent Variables

The primary dependent variable was problem behavior, which refers to noncompliance, disruptive behavior, consistently being out of seat, and negative verbal and physical interactions. The definition and exemplars of problem (externalizing) behaviors used were based on those by Campbell and Anderson (2008). Noncompliance was defined as verbally or nonverbally refusing to follow an adult direction within 10 sec of the request. Disruptive behavior included talking out (vocalizations not preceded by raised hand or not initiated by adult), talking to peers (conversing with peer when the expectation is to not be talking), and emitting other behavior that disrupts instruction (e.g., banging objects, making faces at peers, making odd noises). Being out of seat was defined as leaving the assigned work area without permission from an adult. Negative verbal and physical interactions were defined as any form of physical aggression or derogatory verbal statements to adults or peers. Behavioral observations for problem behavior occurred daily for 35 min during reading blocks for all participants using partial interval recording (every 1 min). The percentage duration of problem behavior for each session was determined by dividing the total number of occurrences of externalizing behavior by the total number of occurrences plus nonoccurrence and multiplying by 100.

SSIS (Gresham & Elliot, 2008) rating scales enable targeted assessment of individuals and small groups to help evaluate social skills, problem behaviors, and academic competence. The SSIS can be used to assess children who have difficulty with behavioral and interpersonal skills, can screen for problem behaviors, and can identify students at risk for social behavior difficulties and poor academic performance. It also can be used to provide a baseline for postintervention progress evaluation, as well as to track progress. It is a multirater series of rating

scales that includes ratings from teachers, parents, and students. The SSIS assesses three domains in children aged 3 to 18 years:

(1) Social skills: communication, cooperation, assertion, responsibility, empathy, engagement, self-control

(2) Competing problem behaviors: externalizing, bullying, hyperactivity/inattention, internalizing, autism spectrum

(3) Academic competence (teacher form): reading, math, motivation, parental support, and general cognitive functioning

The SSIS addresses the need for an evidence-based, multitiered assessment and intervention system to help students develop, improve, and maintain important social skills. Designed by experienced scientist-practitioners Stephen Elliott, PhD, and Frank Gresham, PhD, this family of tools can be used early in the school year to facilitate the universal screening of students at risk for academic or social behavior difficulties, to help plan interventions for improving these behaviors, and to evaluate progress on targeted skills after intervention. The teacher form can be used for ages 3 to 13 (Gresham & Elliot, 2008). Each form takes 10 to 25 min to complete. Teachers rate on a 4-point scale the frequency with which a student participant exhibits various behaviors (i.e., social skills and problem behaviors), with 1 being *never* and 4 being *almost always*. Teachers also indicate the importance of each social skill to the student's development and classroom success using a 3-point scale of *not important, important*, and *critical*. The forms can be hand-scored or computer-scored. Reports are generated from the scoring software. A manual supplies detailed instructions on scoring and interpreting the scores. The manual also provides instructions when collecting data from multiple raters. The normative sample of the tool included 4,700 students aged 3 to 18, 385 teachers, and 2,800 parents. Development of the SSIS

was based on a broad review of the empirical literature on social skills deficits in special populations, reviews of published empirical studies using an earlier version of the scale (Gresham & Elliott, 1990), and research on the relationship between specific social behaviors and important social outcomes. Gresham et al. (2011) reported strong psychometric properties in terms of internal consistency and test-retest reliability estimates for the SSIS. Median reliabilities for the Social Skills and Problem Behavior scales are in the mid- to upper 0.90s for every age group on every form. Th coefficient alpha is also in the upper 0.90s for the Academic Competence scale. Median reliabilities are in the high 0.80s for the Teacher Form Median subscale. Stability indices for the Social Skills and Problem Behavior subscales are in the 0.80s across teacher, parent, and student forms, and in the 0.80s for the Problem Behavior subscales across all three raters. The stability estimate for the Academic Competence scale is 0.92. (p. 37–38).

3.2.2.2 Independent Variables

The three independent variables were MMMF (Campbell, Hagan-Burke et al., 2019), CICO, and self-monitoring. MMMF is an adapted SEL curriculum for African American students with or at risk for EBD (Campbell, Hagan-Burke, et al. 2019). The curriculum includes culturally relevant literature intended to help students identify with the characters, problems, and solutions. Activities are designed to reinforce the theme of the unit/lesson. The K–5 curriculum includes 4 units (10 lessons). The lessons last 35 min each, can be segmented into parts, and are highly structured. The topics, scope, and sequence of the SEL curriculum consist of the following:

- Unit 1, self-awareness—understand human emotions (three lessons)
- Unit 2, self-management—identify what provokes emotions (three lessons)

- Unit 3, relationship skills—meeting new people/building friendships (two lessons)
- Unit 4: responsible decision-making—brain and emotions/taking control (two lessons)

Modifications were made including name change, structure, and book selections to reflect African Americans as the main characters, and scenarios. These changes were aimed at prompting teachers to lead discussions and to provide associated activities relevant to African American culture, events, and community issues.

CICO is a Tier 2 intervention focused on improving positive behavior for at-risk students. Crone et al. (2010) described the CICO intervention as consisting of a student using a DBRC to complete a five-step process: (1) check in with a mentor in the morning, (2) receive feedback throughout the day on behavior, (3) check out with mentor at the end of the day, (4) check in with a caregiver at home to review the day's behavior, and (5) return the DBRC to the mentor at check-in the next morning.

Researchers at Juniper Gardens Children's Project at the University of Kansas created I-Connect, a free self-management application that can be programmed for individualized self-monitoring goals, intervals, and prompts (screen flash, chime, vibrate) for students (The University of Kansas, 2019).

3.2.2.3 Social Validity

Social validity was assessed for teachers and students. Teacher social validity was assessed through a Likert-type scale ranging from no agreement at 1 to high agreement at 4. The questionnaire included five questions (Appendix A). Teachers were asked to rate each student's improvement (i.e., decrease) in disruptive behaviors and their increase in academic performance. Teachers also rated the efficacy and applicability of the CA-SEL/CICO + I-Connect intervention.

The assessment also included an open-ended question on the practicality of program implementation by other teachers and school staff. A structured interview was conducted to assess student social validity. Students were asked six open-ended questions (Appendix B), including questions on what they liked/disliked about the program, how the program helped them, and how comfortable they were with self-monitoring.

3.2.2.4 Implementation Fidelity

Implementation fidelity on all MMMF lessons was observed by the lead researcher and research assistant using the fidelity implementation checklist. The checklist reviewed whether the lessons were fully taught, partially taught, or not taught at all, along with notation areas to indicate anything that may have impacted implementation and to explain any modifications made by the teacher for each lesson. The checklist included five parts: vocabulary, activities, read-aloud, closure, and meditation.

Two observers collected CICO procedural fidelity from an audio recording of intervention sessions in order to assess whether items on the CICO checklist were accurately implemented. The checklist covered three parts: check-in, teacher ratings at daily intervals, and check-out. CICO procedural data were collected for 20% of sessions for both baseline and intervention conditions across all participants. The percent correct for implementation fidelity was calculated by dividing the total number correct by total number of items on the checklist and multiplying by 100.

3.2.2.5 Interobserver Agreement

Total agreement was computed for IOA. All behavioral data were collected daily and scored. Total agreement was computed by dividing the number of response score agreements

between the coders by the intervals with agreements and disagreements. The agreement score was multiplied by 100 to change to a percentage.

3.2.3 Materials

An MMMF manual was provided to each participating teacher. Included in the manual was a fidelity checklist. An audio recorder was provided to record CICO sessions. Individual tablets were provided for students to self-monitor through the I-Connect application on the tablets. Wireless internet was made available so that the students could self-monitor their behavior using the application. The settings on the application were customized to flash every 30 sec throughout the school day. A researcher tablet with a movie application was also used to video-record sessions to assist with the data collection process. An interval timer application was installed on this tablet for the observer to use while collecting data. Data were recorded at partial intervals by research assistants on a chart using paper/pencil. Additional task analyses and materials included instructions for how to use I-Connect, a task analysis of intervention implementation, and a task analysis for how to use I-Connect. Materials for collecting CICO information were provided, including a paper CICO form (preprinted with behavioral expectations and rating/point scales) for students to receive their daily input from reading teachers. Stickers, snacks, toys, and other rewards and incentives were provided at check-out to the CICO participants when earned.

3.2.4 Procedures

3.2.4.1 Teacher Training

MMMF training for the teachers was provided in a 3-hr session. A slideshow was presented to provide an overview of the curriculum, purpose and highlights of each lesson, and preparation guidance. Each teacher was given a manual, and a lead teacher was assigned to work

with the researcher to address any questions or concerns had by the teacher participants. There were an additional 2 hr of training for CICO that included practice scenarios.

3.2.4.2 My Mind, My Feelings, The Right Way!

MMMF (K–5) was implemented to teach SEL competencies concurrently with CICO and technology-based self-monitoring. The classroom teachers taught MMMF's 10 lessons over a 10-week period. Each lesson lasted 35 min and was taught during the ELA block of instruction.

3.2.4.3 Check-In/Check-Out

CICO (Campbell and Anderson, 2011) was concurrently implemented with the SEL curriculum in order to prompt and reinforce the SEL competencies. The general procedures suggested by Campbell and Anderson (2008) were followed. The main modification made was editing the goals to better align with the SEL competencies being taught in the MMMF curriculum. In general, the following steps were used to implement CICO in this study:

(1) Morning check-in—Each student taking part in the intervention checked in each morning with the homeroom teacher. CICO occurred in the hallway each morning and each afternoon with each student individually. The homeroom teacher examined the prior day's performance and reminded the student of the expected behaviors. The homeroom teacher gave the student the DPR, which listed the expected behaviors to be monitored during the day. The student was assigned points for demonstrating the appropriate behavior throughout the day and for achieving the day's point goal.

(2) Daily feedback—At the beginning of the scheduled time on the DPR, which was broken into five time slots, the student submitted the DPR to each classroom teacher. The teacher then completed the DPR when the period ended. The teacher also provided feedback to the student, along with warranted praise.

(3) Afternoon check-out—When the school day ended, the student submitted the DPR to the homeroom teacher. The homeroom teacher computed the number of earned points for the day for targeted timeframes and the total points goal and provided praise and/or encouragement to the student. If the student met 80% of the goal for the day, a reward could be chosen.

(4) Each of the students took a copy of the DPR home for parent review.

(5) The next day, the process was repeated with the student checking in with the homeroom teacher.

3.2.4.4 I-Connect

During the condition of CICO and self-monitoring, I-Connect was used with targeted students to self-monitor their behavior. At the end of each identified interval, the device signaled self-monitoring questions, and prompts (in the form of a question) appeared on the individual student's screen to allow the student to assess the need for reinforcement. When prompts appeared, the student touched the tablet screen to select their choice of *yes* or *no* in response to each question. Once the answer choice was selected or if there was no response in 6 sec, the next interval began.

3.2.5 Design and Data Analysis

3.2.5.1 Experimental Design

A multiple-baseline design across classrooms (Kazdin, 2011) was used to evaluate the effects of the CA-SEL/CICO + I-Connect intervention. Observational data were concurrently collected from each participating classroom, and the CA-SEL/CICO + I-Connect intervention was staggered across each. Two kindergarten classrooms were included in the first intervention group, the second was two first-grade classrooms, and the third was two second-grade

classrooms. The initial baseline condition began for all classrooms on the same day to assess the characteristics of the pre-intervention behavior. The CA-SEL/CICO + I-Connect intervention was introduced in a time-lagged manner. The order in which the classrooms received the intervention was determined a priori. Following identification of a stable baseline, the CA-SEL/CICO + I-Connect intervention was introduced to the first implementation (two kindergarten classes), and one lesson from the curriculum was taught, followed by one or two lessons per week over an 8-week period. Each tier was introduced to the intervention based on data stability. Once data showed a steady increase in non-prosocial behaviors among students for a minimum of three sessions, the classes were ready to be introduced to the intervention. The second implementation was for first grade; one lesson was taught, followed by one or two lessons a week over a 6-week period. The third implementation was for second grade; one lesson was taught, followed by three lessons a week over 3 weeks.

3.2.5.2 Data Analysis

Visual analysis is frequently used to assess single-case data; it focuses on data aspects such as level, trend, variability, overlap, immediacy of effect, and consistency of data patterns (Lane & Gast, 2014). The standards published by the Institute of Education Sciences What Works Clearinghouse (WWC; 2020) for visual analysis procedures were applied. WWC standards state, "The six visual analysis features are used collectively to compare the observed and projected patterns for each phase with the actual pattern observed after manipulation of the independent variable. This comparison of observed and projected patterns is conducted across all phases of the design (e.g., baseline to intervention, intervention to baseline, intervention to intervention)" (p. E.6). Baseline logic entails prediction, verification, and—when the

intervention is introduced—confirmation of the occurrence of data change after three demonstrations of effect (Ledford & Gast, 2018).

ES calculations were used to augment the visual analysis evaluation of data. Tau-U statistical analyses were chosen due to sufficient trend in baseline (Zimmerman et al., 2018). Most single-case data-analytical techniques focus on linear trend, although there are certain exceptions. Tau-U, developed by Parker et al. (2011), is an exception; it deals more broadly with monotonic (not necessarily linear) trends. Tau-U (Parker et al., 2011) considers the number of baseline points that improve previous baseline measurements, and this number is subtracted from the number of intervention-phase values that improve the baseline-phase values. Tau-U combines nonoverlap between phases with trend from within the intervention phase, making it a strong statistic of the significance of effect utilizing the reasoning of overlap constant with visual analysis (Wolery et al., 2010). Tau-U is an index with greater statistical power than other indices. It is also flexible; one can calculate trend only, nonoverlap between phases only, or a combination. Tau-U also provides the option of trend control. The single-case ES calculator, Tau- U, created by Vannest et al. (2016), was used to calculate the ES for this study.

3.3 Results

Analyses (i.e., social skills, academic competence, and social validity) were impacted by actions taken by schools to respond to the COVID-19 pandemic. These actions prevented completion of posttests/assessments. Visual and statistical analysis is key to the findings reported.

3.3.1 Externalizing Problem Behaviors

The graphs in Appendix H showing the individual means of the six classes represent three demonstrations of persistent decrease of the percent duration of externalizing behaviors

during the reading block by three distinct points in time once the CA-SEL/CICO + I-Connect intervention was introduced. The three implementations demonstrated a functional relation between CA-SEL/CICO + I-Connect and externalizing problem behaviors, a positive response to Q2. The intervention decreased externalizing problem behaviors during the ELA block. When reviewing the baseline among each of the three implementations for the intervention, the baseline levels of externalizing behavior were consistently high, with a percent duration ranging from 16 to 20 instances, indicating that externalizing behaviors were occurring 80% to 100% of the time during the ELA block. After the introduction of the CA-SEL/CICO + I-Connect intervention, an immediate change in trend was observed for each implementation—only once the intervention was introduced. During the CA-SEL/CICO + I-Connect condition, externalizing behaviors consistently decreased, ranging from 0 to 13 instances, indicating that externalizing behaviors were only occurring during 0% to 40% of the time during the reading block. There was no overlap in mean percentage duration of externalizing behaviors from baseline condition to CA-SEL/CICO + I-Connect condition. The decrease in externalizing behaviors observed can indicate an improvement in self-management/regulation, one of the five SEL competencies. This indication provides limited insight into growth in social skills. CASEL (2020) noted that this competency "includes managing emotions, thoughts, and behavior effectively in different situations to achieve goals and aspirations" (self-management).

In general, for the 18 student participants in this study, 5,036 pairwise comparisons impacted data, yielding an omnibus Tau-U value of 0.95 for CA-SEL/CICO + I-Connect and an omnibus effect size of 1, in which data are weighted by the inverse of variance. This can be interpreted as 100% of the students during the intervention demonstrating improved externalizing behavior during the reading block, which can be credited to the intervention. The

confidence intervals for the data demonstrate variability yielding 90% confidence interval = [0.87, 1]. This confidence interval can be interpreted as evidence that this effect is not a false positive. Individual effect sizes in the study for each of the 18 participants generated Tau-U values ranging between 0.92 and 1. This is further demonstrated by a significant *p*-value of 0. The visual analysis displayed consistent treatment effects and large improvement in non-prosocial behaviors for the individual participants, which are consistent with the statistical analysis.

3.3.2 Social Skills Improvement System

Appendix I provides means (pre-intervention) for each domain per student for the SSIS (Gresham & Elliot, 2008). Results indicate the need for the intervention for most students across the assessment areas: social skills, academic competence, and competing problem behaviors. However, determining whether there was a functional relation between the intervention and improved social skills and academic competence (Q1) could not be analyzed. Postintervention means were unable to be collected because of the onset of the COVID-19 pandemic. The school district made the decision to move to online instruction for the remainder of the school year. Teachers worked from home, and with managing the training needed to transition quickly, they were not available to complete the activities remaining for this study.

3.3.3 Implementation Fidelity and Interobserver Agreement

Implementation fidelity assessments were completed for the CA-SEL curriculum and the CICO sessions. The researcher and two research assistants observed all lessons taught in person and collected both implementation fidelity and calculated IOA. Both completed the checklist provided with the MMMF curriculum. Agreement for implementation fidelity indicated that 96% of the lessons met all of the checklist criteria. They listened to 30% of the CICO sessions' audio

recordings, and 94% of the 30% met the CICO fidelity checklist. IOA on externalizing behavior was collected across each phase for 85% of baseline sessions with a mean of 94% agreement and 85% of intervention sessions with a mean of 96.2% agreement

3.3.4 Social Validity

Social validity assessment was not obtained from teachers or student participants because of the move from face-to-face instruction to online teaching due to the COVID-19 pandemic. Not all teachers returned to the school in fall 2020, and administration (i.e., principal) also changed.

3.4 Discussion

The purpose of this study was to evaluate the effects of a multitiered method to improve non-prosocial behaviors of African American learners with or at risk for EBD. The school had previously implemented a school-wide PBIS program. All of the participants had demonstrated that they were with or at risk for emotional and behavioral problems. Screening using the SSIS indicated that most of the participants needed intervention to improve social skills and academic competence and to reduce behavioral problems. The intervention paired a CA-SEL curriculum with CICO including self-monitoring using I-Connect. Essential components of an SEL program were maintained, while changes were made to achieve cultural fit for the targeted population. Brown et al. (2018) identified components (i.e., content delivery and procedures) of an SEL curriculum that are most often altered to increase cultural relevance. In the present study, changes were made to these components. Adapting an SEL curriculum to meet the needs of African American learners is supported by the research of Ryan et al. (2016), who found that the implementation of a universal SEL curriculum failed to grow the social and emotional assets of 39 African American girls in fourth and fifth grades. They found no statistically significant or

practical improvements in the social and emotional assets of the participants. Behavior monitoring (CICO) using technology to prompt, enter, and analyze data has not been extensively studied. This study used I-Connect, a web-based application that supports prompt/enter/analyze tasks for student self-monitoring and teacher assessment of progress. Self-monitoring has been found to increase students' self-regulation (Popham et al., 2016) and to help students have more control over their academic performance (Carter et al., 2011).

This study sought to answer two research questions. First, a functional relation between CA-SEL/CICO + I-Connect and improved social skills and academic competence for African American students in primary grades was examined. Participants were screened using SSIS pre-intervention assessment, and results indicated that intervention was warranted. As previously noted in the results, postintervention assessment using SSIS was not completed because of school shutdown due to the COVID-19 pandemic. However, the findings from visual analysis showed a decrease in externalizing problem behaviors when the intervention was introduced. This finding indicates growth in the self-management competency of the participants, demonstrating growth in their ability to regulate emotions, cognition, and behavior (Dusenbury and Weissberg, 2017). Given the school shutdown, the influence on the growth of academic competence could not be determined.

Second, an examination was completed to determine whether there was a functional relation between CA-SEL/CICO + I-Connect and an additive decrease in externalizing problem behavior following the introduction of the SEL/CICO curriculum for African American students in primary grades. Findings showed that when and only when the intervention was introduced did externalizing problem behaviors decrease. Results showing behavior management intervention with self-monitoring to be effective for students with EBD have been reported by

other researchers. Popham et al. (2016) reviewed studies examining the effectiveness of self-monitoring behavior management intervention for students with EBD. They found that self-monitoring is mild to moderately effective. Bunch-Crump and Lo (2017) implemented CICO with self-monitoring for four students attending a school with PBIS in place. They found all but one of the students to respond to CICO teacher-directed intervention. The nonresponsive showed a decrease in problem behavior once self-monitoring was introduced, and preliminary findings showed a more rapid deceleration of problem behavior in the other three participants during this intervention condition. Wills and Mason (2014) implemented a behavior management intervention using the I-Connect self-monitoring application. They examined its effectiveness on two high school students and found their on-task behavior to improve significantly. None of these studies included an adapted SEL component.

3.4.1 Limitations and Future Research Implications

The results of the study are limited to African Americans with or at risk for EBD. There is a dearth of studies completed with this population and the pairing of a CA-SEL/CICO curriculum with a web-based application that prompts, allows entry, and analyzes data. Results on the growth of SEL competencies were not obtained because of the COVID-19 pandemic, and social validity was not assessed. Both of these measures are important to determining the overall effectiveness and acceptability of the intervention. Follow-up for maintenance of behavior changes could not be completed. Replicating the intervention package with a representative sample of the one used in this study is needed with pre/posttest results for SSIS, along with feedback from teachers and students on the social validity of the intervention. A control-group study would be beneficial in establishing the attributes of the intervention package.

3.5 Conclusion

While it is challenging to implement effective intervention programs across all races/ethnicities in the school population, difficulty is increased when learners have or are at risk for social, emotional, and behavioral problems. These problems can affect relationships with peers and teachers, academic performance, and out-of-school outcomes. Addressing the needs of African American learners is critical given the disproportionality of their labeling and diagnosis with EBD among the overall student population. Adapted SEL programs have been found to be effective in growing social and emotional assets in most competencies for this targeted student population. CICO and self-monitoring have been used to effectively decrease problem behaviors. Each of these interventions needs additional research with African American learners and other targeted groups to determine their effectiveness alone and in combination with each other to improve results and generalizability.

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APPENDIX A

SOCIAL VALIDITY QUESTIONNAIRE (TEACHER)

Teacher's name: _____

Student's name: _____

1. How much improvement did you observe for target students regarding a decrease of disruptive behavior in your class?	No Improvement 1	Slight Improvement 2	Moderate Improvement 3	A lot of Improvement 4
2. How much improvement did you observe for target students regarding an increase in academic performance?	No Improvement 1	Slight Improvement 2	Moderate Improvement 3	A lot of Improvement 4
3. Overall, how effective do you believe this CA-SEL/CICO program was in helping your target students to be more engaged/successful in the classroom?	Not Effective 1	Slightly Effective 2	Effective 3	Very Effective 4
4. To what extent would you recommend this program to students who have similar social and/or behavioral needs?	Not Recommend 1	Possibly Recommend 2	Recommend 3	Definantly Recommend 4
5. If your school was given the instructional materials used for this study and training, to what extent do you think this program would be practical for a teacher, an instructional assistant, or a general education peer to implement within the school setting?	Not Practical 1	Slightly Practical 2	Practical 3	Very Practical 4
6. Please provide any written comments regarding the usefulness, effectiveness, and/or importance of this program for your target students to decrease their disruptive behaviors.	Not Practical 1	Slightly Practical 2	Practical 3	Very Practical 4

Source: Campbell, Burke et al. (2021)

APPENDIX B

SOCIAL VALIDITY INSTRUMENT (STUDENT)

Student: _____

Interviewer: _____ Date: _____

1. Did you feel comfortable meeting with an adult in the morning and afternoon? L SEP

2. Can you remember an instance when meeting with the mentor had a positive impact on your day? (e.g., helped to change your mood, calmed you down, prepared you for class) L SEP

3. How was receiving feedback at the end of every period helpful or not helpful? L SEP

4. Do you think this CA - SEL/ CICO program helped you behave better in class? Why or why not? L SEP

5. What did you like most about CA-SEL/CICO program? L SEP

6. What did you like least about CA-SEL/CICO program? L SEP

Any other comments? L SEP

Source: Campbell, Burke et al. (2021)

APPENDIX C

CHECK-IN/CHECK-OUT FIDELITY CHECKLIST

Teacher: _____ Date: _____

Student: _____

CICO STEPS	Yes (1)	No (0)
1. Did teacher review CICO folder before math (or in the morning, depending on what your study design requires)?		
2. Did teacher positively acknowledge student at check in?		
3. Did teacher review Daily Progress Report (DPR) Goals, and ensure student had the materials needed for math/reading?		
4. Did teacher positively acknowledge student when reviewing DPR?		
5. Did teacher provide contingent feedback at the end of math/reading?		
6. Did student check out with teacher at the end of designated activity?		
7. Did teacher record CICO points with student?		
8. Did Student take CICO form to get parent signature?		
Percent of Steps Completed	_____/8 = _____%	

Adapted from Horner, Todd, Filter, McKenna, Benedict, & Hawken, 2004

APPENDIX D

DAILY CHECK-IN/CHECK-OUT REPORT CARD

Directions: Please review each of the Daily Behavior Report Card items below. For each item, provide either the percentage or rate the degree to which the student demonstrated the behavior or met the behavior goal. **TEACHERS YOU DO NOT HAVE TO TOTAL THE POINTS!!! Thanks :-)**

Student: _____
Date:_____

Goal	**Reading**	**Math**
Be Respectful and Responsible **"Followed teacher directions"**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **tomorrow** **Usually/Always**
Positive Thinking **"Worked consistently on class assignment/ projects**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**
Manage Emotions **"Spoke respectfully to adults and peers"**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**
Self-Monitoring **"Refrained from conversations with peers during academic activities and independent seatwork"**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**
Self Management **"Refrained from repetitive motor behaviors (e.g., table- tapping), vocalizations, and did not play with objects during academic or work time"**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**	**1....2....3.....4...5...6....7....8....9** **Never/Seldom Sometimes** **Usually/Always**

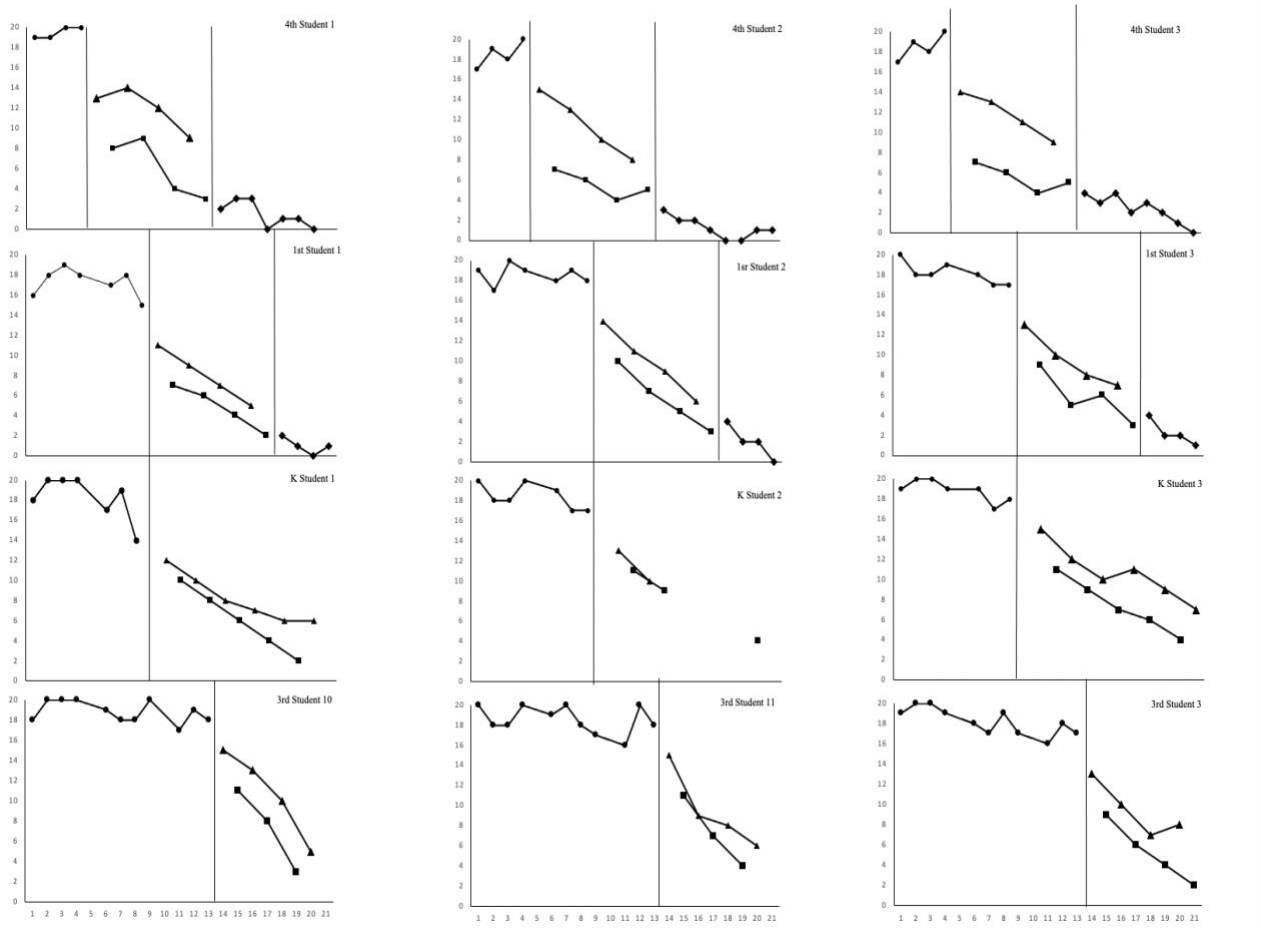
APPENDIX E

SUMMER 2019 STUDY: SOCIAL AND EMOTIONAL LEARNING BOOK SELECTION TO REFLECT AFRICAN AMERICAN CULTURE

Lesson	Suggested book	Cultural adaptation
1. About Strong Start	*My Many Colored Days* by Dr. Seuss	Tacky the Penguin by Helen Lester
2. Basic Feelings 1	*The Feelings Book* by Todd Parr	Today I Feel Silly & Other MOODs That Make My Day by Jamie Lee Curtis
3. Basic Feelings 2	*Jamaica and the Substitute Teacher* by Juanita Havill	I Like Myself by Karen Beaumont Llama Mad at Mama by Anna Dewdney
4. I'm angry	*Mean Soup* by Betsy Everitt	Alexander and the Terrible, Horrible, No Good, Very Bad Day by Judith Viorst
5. I'm happy	*A Bad Bad Day* by Kirsten Hall	Brown Boy Joy by Thomisha Thomas
6. I'm worried	*Arthur's Baby* by Marc Brown	Peter's Chair by Ezra Keats
7. Basic feelings	*The Kissing Hand* by Audrey Penn	What Should Danny Do? by Ganit &Adir Levy
8. What does a good friend do?	*Will I Have a Friend?* by Miram Cohen	Peanut Butter & Cupcake by Terry Border
9. The stop, count, in, out strategy	*The Giving Tree* by Shel Silverstein	Chrysanthemum by Kevin Henkes
10. Finishing up	*I Can't Wait* by Elizabeth Crary	Who do you See? The struggles of an African American Teenage Boy? by Sean George

APPENDIX F

SUMMER 2019 STUDY: INDIVIDUAL MEANS GRAPH OF SIX CLASSES



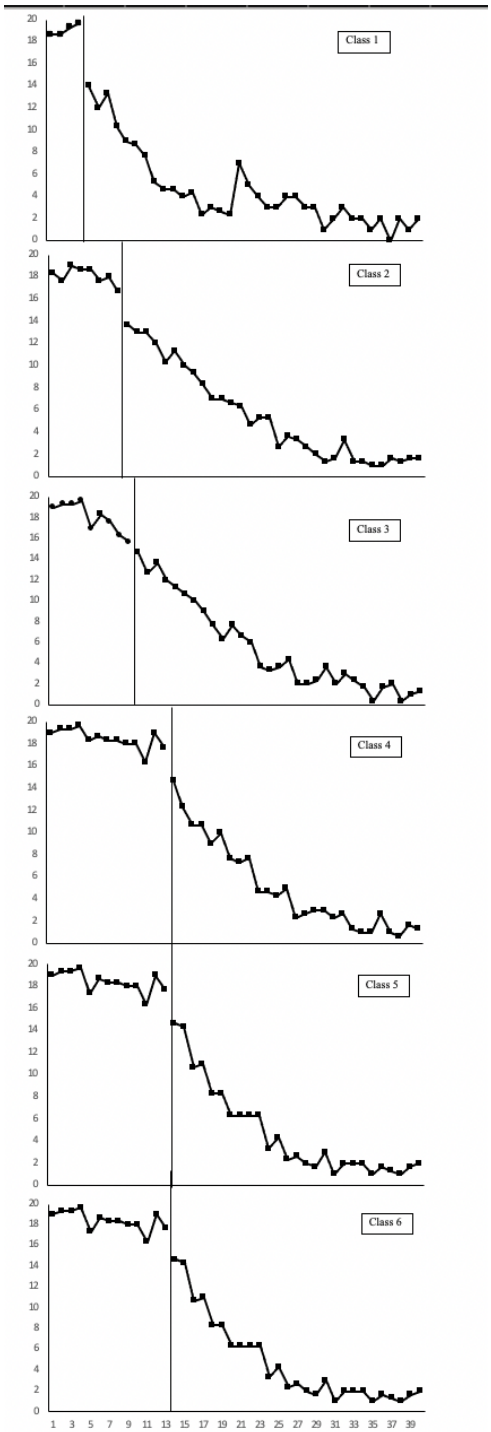
APPENDIX G

SUMMER 2019 STUDY: MEAN DIFFERENCES BETWEEN SEARS-T PRE/POST

	Self -Regulation		Social Competence		Empathy		Responsibility			
Student	Post-Pre	90% CI	Post-Pre	90% CI	Post-Pre	90% CI	Post-Pre	90% CI	Total Score (Post-Pre)	Percentile Rank (Post-Pre)
1	12	13	9	11	1	3	4	6		36
3	14	15	6	7	6	14	11	15	37	43
4	-1	-1	-4	-4	0	0	3	4	-2	-1
5	5	6	3	4	6	14	6	9	20	36
6	7	7	7	9	2	5	7	9	23	33
7	21	22	19	23	9	21	18	24	67	78
8	24	26	24	25	8	28	15	25	63	83
9	11	11	11	13	1	2	9	13	32	46
10	-1	-2	0	0	2	5	-1	-1	0	0
11	22	23	15	18	8	18	8	11	53	64
12	24	25	18	22	15	35	23	29	80	86

APPENDIX H

FALL 2019 / SPRING 2020 STUDY: GRAPH OF INDIVIDUAL MEANS BY GRADE



APPENDIX I

FALL 2019 / SPRING 2020 STUDY: MEANS OF TEACHER PRE-INTERVENTION ASSESSMENT OF SOCIAL SKILLS IMPROVEMENT SYSTEM

	Social Skills		Academic Competence			
Student	Post-Pre	90% CI	Post-Pre	90% CI	Total Score Pre	Percentile Rank Pre
1	76	73-79	14	12-18	343	4
3	56	53-59	14	12-18	385	3
4	62	59-65	7	5-11	336	2
5	57	54-60	14	12-18	371	1
6	51	48-54	14	12-18	389	1
7	68	65-71	7	5-11	409	2
8	72	59-65	10	7-13	365	1
9	63	60-66	7	5-11	327	3
10	61	58-64	7	5-11	334	1
11	63	60-66	3	2-8	357	3
12	48	43-49	7	5-11	397	4
13	42	39-44	5	2-7	315	1
14	51	50-55	14	12-18	339	3
15	63	60-65	8	4-10	320	4
16	72	68-74	10	7-13	389	1
17	54	49-54	3	2-8	357	5
18	51	48-54	10	7-13	412	1