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# An Examination of the Use of the BESS With Rural Appalachian Preschoolers

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# AN EXAMINATION OF THE USE OF THE BESS WITH RURAL APPALACHIAN PRESCHOOLERS

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**APPROVAL OF THESIS**

We, the faculty supervising the work of Savana B. Earnest, affirm that the thesis, *An Examination of the Use of the BESS with Rural Appalachian Preschoolers* meets the high academic standards for original scholarship and creative work established by the Education Specialist in School Psychology and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

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## ABSTRACT

The use of universal behavioral screenings is endorsed by school psychology training programs as a gold standard of practice, but the implementation of these screenings is less common. Due to this, it is crucial that research examines reliability, validity, and all other psychometric properties when implementing a universal behavioral screening. Literature tells us that the BESS TRSP has shown to have moderate-to-high predictive validity and high stability coefficients in a variety of urban and rural populations of preschool and school age children. This research examined stability of high and low risk scores on the BESS TRSP within a rural Appalachian sample of Head Start children. Results revealed that the majority of children whose ratings yielded elevated scores during the first school year, maintained that level of risk going into the second school year. Additionally, the Appalachian sample was compared to other preschool samples from across the United States, including percentage of children receiving at-risk scores. Results showed the Appalachian sample had a lower percentage of at-risk scores when compared to various samples of preschool children in the United States. Future research should focus on rural Appalachian school age children's scores on the BESS teacher rating as well as scores on the self-report and parent report in the same population. Due to the vast geographical area that is the Appalachian region, future research should also focus on preschool and school age children outside of the region managed by the local Head Start agency.

# CHAPTER 1

# LITERATURE REVIEW

Head Start is a place where many children have their first educational experience. It builds their academic and social-emotional foundations for when they are of age to enter the K-12 school system. Due to this crucial developmental time, it is important for educators, families, and mental health practitioners alike to work collaboratively and remediate academic and behavioral needs at this stage to create a smoother transition to kindergarten and put the child on the path to a successful future. This goal can be met through the implementation of Multi-Tiered Systems of Support (MTSS). An important part of MTSS, to be discussed further, is universal screenings for all children.

The current study examined the use of universal behavior screenings for children enrolled in Head Start facilities across the rural Appalachian region. Using results from the Behavioral and Emotional Screening System, Third Edition Teacher Report-Preschool (BESS TRSP) from two school years, the frequency of elevated scores was examined by each area measured by the BESS TRSP as well as the collective number of elevated scores on the Behavioral and Emotional Risk Index (BERI), the composite score on the BESS, between the two school years. The third component of this study compared the Appalachian sample to other samples of preschool age children from across the United States. The percentage of elevated BERI scores were compared between samples to determine which sample had the higher percentage of children with elevated BERI scores.

## The Importance of Early Intervention for Behavioral Difficulties

For many children across the United States, the preschool classroom is their first exposure to the school structure and social interactions with same age peers. Inevitably, they will

display instances of challenging behavior, many of which can be remediated through classroom management techniques such as consistent schedules and engaging activities (LeBel & Chafouleas, 2010). However, if these instances persist, it can put preschool children on a difficult path as they enter the K-12 setting. Currently, in the United States, 1 in 6 children ages 2 to 8 years has a diagnosed mental, behavioral, or developmental disorder with approximately 4% of that being behavioral disorders (Centers for Disease Control and Prevention, 2020a). The most common diagnoses in children ages 2 to 17 years are Attention Deficit Hyperactivity Disorder (ADHD) with 9.4% of US children being diagnosed, and behavior disorders with 7.4% of US children (beginning at age 3) having a diagnosed behavior disorder (Centers for Disease Control and Prevention, 2020a). It is also important to note that in the 2 to 8 year old age group, males are more likely than females to have a diagnosed behavioral, mental, and/or developmental disorder. It is important to note that girls are often underdiagnosed for these disorders due to their tendency to exhibit internalizing symptoms compared to their male counterparts, who typically express externalizing behaviors which result in greater awareness of a behavioral difficulty (Centers for Disease Control and Prevention, 2020a; Tung et. al, 2016). Among these statistics, it is also vital to note that preschool children face an expulsion rate that is three times higher than those in the K-12 setting and these are often attributed to unmet social-emotional needs (LeBel & Chafouleas, 2010; Stagman & Cooper, 2010). African American preschool children are also expelled at a higher rate than their White, Hispanic, and Asian American peers (Stagman & Cooper, 2010). Some contributing factors to mental health and behavioral difficulties include receiving public assistance, having unemployed parents, having teenage parents, and being in the foster care system, all of which can be identified in the preschool years (Stagman & Cooper, 2010).

Should children enter school with these needs going unmet, research indicates that they may face poor academic and social-emotional outcomes as a result. Up to 14% of youth with mental health difficulties receive grades of D or lower and up to 44% of them drop out of high school (Stagman & Cooper, 2010). Ten percent of high school dropouts were attributed to mental health conditions (Stagman & Cooper, 2010). During the course of a school year, children with mental health difficulties can miss as many as 22 days of instruction which can lead to decreased high school GPA, economic hardships, and overall poorer educational outcomes in their early 20's (Grabmeier, 2020; Stagman & Cooper, 2010). The aforementioned statistics are all indicative of an extensive need for early interventions that effectively address current issues and needs that the child has, while also working to reduce future incidences and provide the child with the social-emotional and behavioral skills needed to succeed in the K-12 setting.

**The Role of a School Psychologist in Early Childhood Settings**

School psychologists are typically viewed in public education as "testing machines" and as the gatekeepers to special education services. While their training in assessment is important and has a role in early childhood settings, they also possess unique training in intervention implementation and data-based decision making that, in collaboration with early childhood educators, can help to remediate behavioral and social emotional difficulties at the universal and individual level in early childhood. In the past, the role school psychologists have had in early childhood settings has been focused on children who require services under the Individuals with Disabilities Education Act (IDEA) Part C, which serves children from birth to age 2 who have disabilities and require early intervention (American Psychological Association, 2017). However, in recent years school psychology has evolved into a more proactive practice, thus

expanding the role of school psychologists in early childhood settings (Albritton et al., 2019). School Psychologists play a collaborative role in early childhood settings through the development of partnerships between early childhood educators, physicians, parents/families, and other related service providers (National Association of School Psychologists, 2015). Currently, school psychologists have a variety of roles in the early childhood education setting.

First and foremost, through collaboration with early childhood centers and Head Start programs, school psychologists provide assessments through the use of universal screenings as well as assessments for specialized service through Child Find (National Association of School Psychologists, 2015). At the primary level of intervention, school psychologists are able to assist early childhood educators and early childhood agencies in identifying children who are at risk for behavioral difficulties and are in need of group or individualized services to remediate these issues prior to entering school (National Association of School Psychologists, 2008). Although these screenings are not diagnostic in nature, they provide a starting point for identifying those children in need of assistance meeting goals and expectations (Brown-Chidsey, 2016). School psychologists support universal screening through analysis and interpretation of screening results to determine which children may need additional services to help them acquire foundational behavioral and social skills needed for entry into the K-12 setting (National Association of School Psychologists, 2015).

In situations when children have been adequately progress monitored and have not been showing progress with secondary interventions, a school psychologist will be tasked with assessing the child for eligibility for specialized services under Part B of the Individuals with Disabilities Education Act (2004), which provides children with special educations services in

public schools beginning at age 3 (Slentz, 2010). Part B of IDEA outlines services provided to school age children ages 3 to 22 years (American Psychological Association, 2017; Slentz, 2010). Similar to the public school setting, a 2018 survey showed that the majority of school psychologists in early childhood settings spend at least 26% of their time conducting assessments, which is indicative of a continued need for formal assessments in this age group (Albritton et al., 2019). School psychologists have training in selecting, administering, and interpreting various cognitive, academic, and behavioral assessments to help guide all those involved in the eligibility decision making process (National Association of School Psychologists, 2009). In this situation, school psychologists are typically a part of a multidisciplinary team and conduct a multisource and multimethod assessment process to assist the multidisciplinary team in making a final eligibility decision for the child (National Association of School Psychologists, 2009; Slentz, 2010).

Although assessments make up the majority of a school psychologists' workday, they possess additional training in a variety of areas including school wide practices to promote learning and implementing and monitoring intervention progress which are all of importance in early childhood settings (National Association of School Psychologists, 2014). School psychologists can collaborate with early childhood educators to identify strengths and weaknesses in instructional practices and ensure that the classrooms are using evidence-based practices for instruction (National Association of School Psychologists, 2015). School psychologists also can assist with implementation and monitoring of interventions based on data collected at the universal and individual level. With their training, school psychologists are able to determine whether an intervention will be feasible, whether it is being implemented with

fidelity, and whether or not the intervention needs to be intensified, left as is, or discontinued based on regular progress monitoring data (Lebel & Chafouleas, 2010; National Association of School Psychologists, 2014; National Association of School Psychologists, 2015).

**Specific Difficulties in Rural Preschool and K-12 Settings**

Urban, suburban, and rural areas all provide unique settings and contexts for child development, with all possessing various needs and resource deficits (Miller & Votruba-Drzal, 2013). Despite this, most research related to preschool behaviors has focused on Head Start programs serving urban low income communities and schools who serve middle class families (Lin et al., 2016). This is indicative of a need for more research with rural preschool children, as 20% of American children currently attend a rural school system (Beebe-Frankenberger & Goforth, 2014). It goes without saying that the needs of rural children and families possess a unique set of needs when compared to their urban counterparts. According to the Center for Disease Control (CDC), rural parents who have children with mental health disorders are more likely to report having trouble getting by on their income compared to their urban counterparts and often live in areas that lack amenities such as libraries, parks, and recreation centers (Centers for Disease Control and Prevention, 2020b). Regardless of socio-economic factors, these parents report their mental health and/or their partner's mental health as "fair" or "poor," indicating a need for support for the parent as well as the child (Centers for Disease Control and Prevention, 2020b).

Statistics related to rural children and families indicate a paucity of protective factors. Currently, rural children (when compared to their non-rural counterparts) are half as likely to live in a household with an income of $75,000 or greater and are significantly less likely than non-

rural children to have parents/guardians with a bachelor's degree (Grace et. al, 2006). In 2010, nearly 8 million people living in rural areas met the poverty threshold, with 88% of counties dealing with persistent poverty (poverty rate of 20% or more for a period of 30 years) being rural counties (Beebe-Frankenberger & Goforth, 2014). Combined with high rates of substance use, poor adult mental health, and isolation from specialized services, it may seem as though the cards are stacked against rural children and families. However, some protective factors that are present in these areas include an increased likelihood of enrolling in a Head Start program prior to kindergarten, small class sizes, safer neighborhoods, and a sense of community and belonging (Beebe-Frankenberger & Goldforth, 2014; Grace et, al, 2006).

Often, preschool and early childhood centers use a "refer out" model of service delivery for children due to the lack of staff that are trained to help children with certain difficulties. This poses a barrier for rural families, as many specialized services are located in neighboring metropolitan areas. Transportation for many rural families poses an issue for a variety of reasons including the cost of maintaining a personal vehicle, parent work schedules, inclement weather, and challenging geographic terrain (Selby-Nelson et. al, 2018). Additionally, there is often meager access to specialized services and community resources in rural communities. A common role in school psychological practice is to collaborate and develop relationships with outside community providers in order to have places to refer families to, should their child and/or family require community resources or specialized providers. With the lack of community resources that are ever present in rural communities, many school psychologists are left isolated and may be put in a place to work outside of their scope of practice for the simple fact that their services are the only option for the family. When school psychologists were surveyed, they cited

a lack of specialty physicians, community mental health services, and after school programs as the most difficult part of practicing in rural areas (Beebe-Frankenberger & Goforth, 2018). These issues are all indicative of school systems being the most cost effective place for rural children to receive specialized services.

However, across many school based fields, there are staff shortages and poor provider-to-staff-ratios, thus limiting the services that can be provided. For example, the American School Counselor Association has a recommended ratio of 1 counselor per 250 children; however, during the 2017-2018 school year the average ratio in the United States was 1 counselor per 442 children (Lapan et al., 2012). Similarly, the National Association of School Psychologists (NASP) has a recommended ratio of 1 per 1,000 children regardless of role with an ideal ratio of 1 per 500 to 700 children in order for them to cover their full scope of practice (NASP, 2010). However, the average ratio in the United States is 1 per 1,381 with some states having 1 per 1,500 or greater (Walcott et al., 2017). These numbers alone show that school based providers have significantly higher caseloads than recommended, thus preventing them from providing the full breadth of services they are trained to offer, which creates another barrier to service for rural children.

Another issue with lack of resources in rural communities is specifically related to financial resources to fund assessment items. As discussed previously, school psychologists are qualified to administer and interpret universal screeners that would benefit early childhood settings by identifying children at risk of behavioral and social emotional difficulties, but these assessment methods do come at a cost. There are costs related to purchasing test protocols, administration tools, staff training, adequate staffing to interpret screeners, and much more

(Humphrey & Wigelsworth, 2016). Despite their benefit, many rural districts are strapped for funding and must make difficult decisions on where it should be allocated, with MTSS services like universal screenings not always being of high importance.

## Multi-Tiered Systems of Support (MTSS)

Multi-Tiered Systems of Support is defined by NASP as a framework for providing comprehensive systems of differentiated supports (National Association of School Psychologists, 2016). Essentially, it is a three-tiered system of supports designed to benefit every student. Some key components of each tier in an MTSS framework include evidence based instruction and intervention, and consistent data collection in order to document student progress and make placement decisions based on that data (Center on Positive Behavioral Interventions & Supports, 2019).

### *Tier I- Primary Intervention*

The first tier in an MTSS is a primary intervention tier that serves the entire student population. It is seen as universal because these services are available to all children throughout the total school environment. Proctor et. al (2012) shows that Tier I has many implications for prevention as school wide strategies can help prevent future deficits in children. Additionally, the use of universal screeners can show how an entire student body is responding to school-wide prevention programs (Proctor et. al, 2012). Within a school system, Tier I decisions are frequently made by teams. For an MTSS to be implemented with fidelity, it is vital for all school personnel involved to work cooperatively as a team (Brown-Chidsey, 2016). School wide teams examine data from across grade levels and/or an entire school to help make data-based decisions regarding issues such as individual student progress, school-wide programs, grade level

instructional practices, and curricula (Brown-Chidsey, 2016). One of the most common sources of data examined in Tier I is universal screening data. Universal screening procedures are designed to be provided to multiple raters (children, parents, and teachers) and identify those who may be at risk for behavioral, academic, or emotional difficulties and need to be considered for preventative or intensive services (Kettler (Ed.) et. al., 2014). Additionally, universal screening helps provide school staff with information about specific student's needs and whether or not school wide prevention and/or academic instruction initiatives are effective (Kettler (Ed.) et. al., 2014). A common method of universal screening implementation, whether academic or behavioral, is administration of a curriculum based measure or a behavior rating scale to all children three times per year (fall, winter, spring; beginning, middle, and end of year) in order to have sufficient data points for answering questions about student risk status or intervention effectiveness (Brown-Chidsey, 2016).

### *Tier II- Secondary Intervention*

After analyzing screening and progress monitoring data from Tier I, if a student is determined to be "at risk" or in need of more intensive services than what is offered in Tier I, they will move to Tier II. The National Center on Response to Intervention defines Tier II services as small group instruction that relies on evidence-based interventions that specify instructional procedures, duration, and frequency of instruction (Meyer, 2014; National Center on Response to Intervention, 2010). Tier II serves a smaller percentage of children, approximately 10 to 25% of the student population (PBIS Rewards, 2019). Children in Tier II still receive Tier I schoolwide supports but are also provided with additional services to help them in meeting Tier I expectations (Anderson & Borgmeier, 2010). Tier II services are usually

provided outside of the classroom setting and the interventions are implemented consistently across groups of children with similar behavioral difficulties or academic problems (Anderson & Borgmeier, 2010). Some examples of these groups include group academic interventions, social skills groups, and counseling groups where children share very similar difficulties. A key component of Tier II intervention is that student progress is monitored more frequently to determine the effectiveness of interventions (Brown-Chidsey, 2016). Progress monitoring is the "regular and systematic collection of data about student progress" (Brown-Chidsey, 2016, p.230). Progress monitoring at the Tier II level is collected more frequently than Tier I with the minimum being once a month (Brown-Chidsey, 2016). The length of the intervention is dependent on how often a child is progress monitored. For example, if a student is progressed monitored every two weeks, then they would need to be in the intervention a minimum of 6 weeks before progress is reviewed and decisions about the intervention are made. In the event that a child is not showing sufficient progress in Tier II, one of two things can happen depending on how a school views Tier III. In some schools, Tier III is seen as special education services so if a student does not make sufficient progress in Tier II, then a referral for special education services will be made and the evaluation process begins, pending guardian consent. If special education services are separate from the MTSS, a student who does not make sufficient progress in Tier II will be moved to Tier III with more intensive interventions and/or services (Brown-Chidsey, 2016).

### *Tier III- Tertiary Intervention*

If a student does not meet expected progress in Tier I and Tier II, the student is provided more intensive services at the Tier III level. Typically, this tier serves the smallest

number of children, approximately 2 to 7% of children (Ervin, 2010). The goal of Tier III is to remediate existing problems while preventing future and/or secondary problems for children (Ervin, 2010). Circumstances for why a student would need this level of service vary between temporary circumstances (i.e.: significant life events) to longstanding circumstances such as patterns of interfering behavior that has limited access to instruction, leading to prominent academic and/or social emotional difficulties (Brown-Chidsey, 2016). There are varied definitions of Tier III as some see this tier as a part of special education services while others consider special education services to be completely separate from the three tiers in an MTSS (Brown-Chidsey, 2016; Fuchs & Fuchs, 2008). Consensus on where Tier III falls is dependent on the specific state and district that is implementing the MTSS.

Some characteristics of Tier III interventions include small group and/or one-on-one instruction, daily sessions that last 30 minutes or more, and frequent progress monitoring and data collection (Brown-Chidsey, 2016). Unlike Tier II, progress monitoring in Tier III is more frequent and necessary due to the children at this level being considered higher risk. Progress monitoring should be conducted at least weekly but, depending on the nature of the behavior and the services that the student is receiving, it may need to be conducted more frequently (Brown-Chidsey, 2016). If a district separates Tier III from special education services and a student is not making sufficient progress within Tier III, then an MTSS team may consider a referral for a comprehensive evaluation to determine eligibility for special education services.

### *What does MTSS look like in Rural School Systems?*

Rural school settings face multiple challenges that can make implementing a complex system such as MTSS difficult. The two most common issues in rural districts involve personnel

and financial resources. Rural districts are more likely to have educator positions remain unstaffed or staffed by uncertified teachers (Rosenkoetter et al., 2004). There is a significant shortage of early interventionists and special education teachers in rural areas, thus creating a lack of qualified individuals to implement interventions and lead professional development to train other school staff on MTSS and specific interventions (Rosenkoetter et al., 2004). To this day, there is a recurring issue with retention of highly qualified teachers in rural areas, especially as older staff members seek to retire from public education (Steed et al., 2013). However, in order to create more opportunities for teacher retention in rural areas, many grant programs for university students are providing stipends and additional training for them to work in rural areas in need of adequate staffing (Rosenkoetter et al., 2004). An additional issue in this area related to limited staffing is that staff in rural schools are often required to fill multiple roles and capacities, thus creating less time for them to be engaged in training and professional development related to implementation of MTSS (Beebe-Frankenberger & Goforth, 2014). The second most common issue with implementing MTSS in rural areas involve financial resources. Compensation for teachers and other specialized educators in rural districts is historically below the national average so, as mentioned previously, there is difficulty retaining specialized educators who are trained to provide intervention within an MTSS framework (Pierce & Mueller, 2018; Steed, et al., 2013). Additionally, rural districts continue to deal with limited financial resources, meaning that intervention materials and other financial necessities to implement an MTSS framework may not be a top priority with such a limited budget.

In spite of these challenges, many rural districts and schools across the United States have partially or fully implemented an MTSS framework in their areas (Pierce & Mueller, 2018).

Though this is a step in the right direction, a survey conducted by Swindlehurst and colleagues (2015) found multiple inconsistencies with implementation of MTSS in rural school districts. The most significant inconsistency was implementation across grade levels. Of districts surveyed, many rural districts reported higher levels of implementation at the elementary level than at the secondary level (Swindlehurst et. al, 2015). Some additional inconsistencies included lack of implementation in science and social studies, and reductions in professional development offerings in schools where the degree of implementation was decreased (Swindlehurst et. al, 2015). Schools where staff received a higher amount of training in MTSS showed increased referrals to early intervention services, which is a key component of MTSS and may lead to decreased inaccurate referrals to special education services (Brendle, 2015; Fuchs et al., 2003; Pierce & Mueller, 2018). Despite rural schools overcoming multiple challenges and implementing MTSS in their districts, it is important to note that many rural educators still lack training to collect progress monitoring data and implement interventions with fidelity based on that data, thus presenting a need for rural educators to be provided with adequate professional development and resources required to implement all components of an MTSS with integrity and accuracy (Pierce & Mueller, 2018)

**Case Example.** Since this research is focused on the preschool level, it is helpful to review an example of what MTSS implementation looks like at the preschool level. This case example is from a school district in rural Kentucky and the information comes from the *Preschool Response to Intervention Guidance Manual* (Russell Independent Schools, 2015). The guidance manual used in this district clearly outlines various definitions including RTI, MTSS, Intervention, Accommodation, and Differentiation. Following with best practices, the district

implements a universal screening process for students and screens them for language, development, and articulation. Children are screened prior to enrollment or within 45 days of their enrollment date. The Learning Accomplishment Profile- Diagnostic 3rd edition (LAP-D) is used for the developmental screening, the Clinical Evaluation of Language Fundamentals Fifth Edition is used as the language screener, and the Goldman Fristoe Third Edition is the articulation screener (Goldman & Fristoe, 2015; Hardin et. al, 2005; Wiig et. al, 2013).

***Tier I.*** Within this preschool MTSS, Tier I is core instruction that is completed in the classroom setting. At this level, children receive evidence based instruction (characteristic of MTSS) in the general education classroom that is aligned with the Kentucky Early Childhood Standards. Eighty to ninety percent of children in preschool are in this tier. In order to assess student progress, the children are given benchmark assessments at the beginning, middle, and end of the academic year along with formative assessments in the classroom setting. Before making any decisions about student's progress in Tier I, the student must receive Tier I instruction for a minimum of 4 weeks, with at least 2 days of intervention per week. In order to make decisions about progress, a grade level RTI team convenes to discuss the student's progress and response to core instruction using the LAP-D rescreen as well as any teacher made progress monitoring probes. The teacher made probes are considered, but the LAP-D helps determine if a student stays in Tier I or receives intensive services alongside core instruction in Tier II. Children may be referred for Tier II services in the event that their performance is below the cut score on the rescreen or if the data collected shows that the student has four consecutive data points below the goal line for Tier I.

***Tier II.*** This district notes that Tier II services are supplemental to the core instruction in order to target the skills that require intervention in order to make progress toward mastery of skills outlined in the Kentucky Early Childhood Standards. This instruction takes place 3 times a week in small groups of children with similar difficulties and is taught by personnel who are trained to implement the intervention. Skills are progress monitored every other week in order to collect data regarding student progress. In order to make decisions about interventions and about student progress, the grade level RTI team meets monthly and completes monthly student progress reports. The recommendation for moving children from Tier II to Tier III services is 8 consecutive interventions below the goal line, but the guidance manual also indicates that it is in this tier where the team must consider the steps needed for a special education referral.

***Tier III.*** If a student has 8 interventions below the goal line in Tier II, they begin to receive Tier III services. At this tier, interventions are more intensive and can be implemented individually or in small groups. Tier III intervention is provided along with supplemental and core instruction provided at Tiers I and II. Similar to the other tiers of intervention, Tier III in RISD involves evidence based intervention implemented by a professional trained in the intervention. Children participate in the intervention 6 times a week, with their progress monitored weekly. Just as it is conducted in Tier II, the grade level RTI team convenes monthly to discuss student progress and they must consider the additional steps needed for a special education evaluation as noted in local district guidelines. Before changing interventions or going forward with a special education evaluation, the RTI team must have documentation that the intervention was implemented with fidelity and 8 to 12 data points of intervention with each intervention showing at least 3 probes below the goal line.

## Academic Versus Behavioral MTSS

The above case example of rural MTSS differs from the MTSS discussed in the current research, as RISD has implemented an *academic* MTSS rather than a behavioral one that has been implemented by the Appalachian Head Start agency that the current study focuses on. This example was chosen due to the fact that it includes all of the foundational elements of MTSS. Although they are implemented to meet different needs that children have, they share many similarities. Implementation of both academic and behavioral MTSS involve universal screening and supports for all children (Tier I), interventions for when children do not respond to universal supports (Tier II), and more intensive interventions for children experiencing academic and/or behavioral challenges (Sugai et al., 2010). Both are rooted in evidence based instructional practices, data-based decision making, and a data-based decision making framework for analyzing data and determining the tier that will best meet a student's needs (Hawken et al., 2008). Though the goals of academic and behavioral MTSS are vastly different, the foundations of both lay in evidence-based practice and the three tier system that aims to provide support for all children.

## Assessing Behavior Through Observation

When MTSS is implemented, the question of how to assess behaviors if a student is identified as at risk on a universal screener or is in need of more intensive services at Tier II or Tier III. Behavioral difficulties can arise at any programmatic level, and at any point during an academic year. School psychologists have a role in assessing, educating, and remediating behavioral difficulties at all levels within a school system. This process is initiated through various mediums of assessing behavior. Aside from norm referenced rating scales, a common

method of assessing behavior is through observing the child in various settings during the school day. The two main types of behavioral observations are 1) structured observation and 2) narrative recording.

### *Types of Observations*

**Structured Observation.** Structured Observations are indirect and quantitative methods of assessing behavior. These types of observations are also known as *systematic observations* and have the following features: (1) target behaviors are defined in specific and observable terms; (2) the context in which the observation takes place is pre-selected by the observer; (3) the schedule for the observation is defined as a discontinuous or continuous time period; (4) standardized procedures are used (Salvia et al., 2010).

***Behavior Observation of Students in Schools- BOSS.*** There have been numerous coding systems created for structured behavioral observations (Jiang, et. al, 2019) including the Systematic Screening for Behavior Disorders (SSBD) (Walker et al., 2014), and the Classroom Observation Code (COC) (Abikof & Gittelman, 1985). A common method taught in school psychology programs today is a structured system known as the Behavior Observation of Students in Schools, hereinafter referred to as the BOSS. Like most coding systems, the BOSS measures student's on and off task behavior in the classroom environment. However, an aspect unique to the BOSS is the division of on task behavior into two categories: 1) Active Engaged Time (AET) and 2) Passive Engaged Time (PET) (Shapiro, 2003; Volpe et. al, 2005). AET is coded when a student is actively engaged in an academic task, such as reading aloud or writing an essay and PET is coded when a student is exhibiting behaviors such as listening to a teacher, thus remaining engaged in the task (Volpe et. al, 2005). Off-Task behaviors are coded in one of

the following categories: Off-Task Motor, Off-Task Verbal, and Off-Task Passive. Off-Task Motor behaviors are physical activities not associated with the academic task (i.e.: getting up out of seat) and Off-Task Verbal behaviors are verbal utterances not associated with the academic task (Volpe et. al, 2005). In a similar fashion, Off-Task Passive behaviors are passive disengagement from the task at hand, such as staring out of a classroom window (Volpe et. al, 2005). Behaviors are coded every 4 intervals using the momentary time sampling method using 15 second intervals. Following the 4$^{th}$ interval, the behavior of a comparison peer is coded (Shapiro, 2003; Volpe et al, 2005).

**Narrative.** Narrative recording is an indirect and qualitative assessment of behavior. Unlike the structured methods previously discussed, no quantitative data is generated from a narrative recording. Often times, the observer is going to observe the child without a previously defined definition of the behavior (Sattler, 2014). Narrative recording during behavioral observations can provide a practitioner with a more in-depth picture of a child's behavior and the factors that may be influencing it. This method is also known as *anecdotal recording* and is when observers record any behaviors or events that seem noteworthy. Unlike structured observations, specific time frames and behavior codes are not used in anecdotal recording. Rather, a running record or narrative description of behaviors is written by the observer. (Sattler, 2014).

### Comprehensive Behavior Rating Scales

As mentioned previously, behavior rating scales serve multiple purposes including at the primary and secondary level of an MTSS framework. When a student is found to be "at risk" on a shorter universal screener, the first step to take is to specifically define the problem behaviors to

assist in tailoring interventions or goals for a student's behavior. An essential tool needed to formulate a definition is formal data collected from comprehensive behavior rating scales. The following rating scales are broader in nature and assist practitioners in narrowing down the needs of a student and informing the need for further assessment and/or tailored intervention.

***Behavior Assessment System for Children, Third Edition***

The Behavior Assessment System for Children, hereinafter referred to as the BASC-3, is a comprehensive rating scale designed to "measure the behavior and self-perceptions of children and young adults ages 2 to 25 years" (Reynolds & Kamphaus, 2015, pg. 1). Rating forms are available for parents and teachers with students ages 2 to 21 years 11 months and self-report forms are available for ages 6 to 25 (Reynolds & Kamphaus, 2015). Scales vary between forms but include issues such as school problems (i.e.: learning and attention problems), externalizing problems (i.e.: hyperactivity, conduct problems, aggression), internalizing problems (i.e.: anxiety, depression, somatization), adaptive skills, and the behavioral symptoms index which measures behaviors such as depression, attention problems, atypicality, and withdrawal. Since the self-report form is based on self-perceptions of the student's feelings and behaviors, this form looks at behaviors and other issues that the teacher and parent forms do not, such as school maladjustment, self-esteem, social stress, attitude to school/teachers, alcohol abuse, and relationships with parents (Reynolds & Kamphaus, 2015). Results from all forms of the BASC-3 are reported as t-scores, with a score of 60 to 69 denoting at risk status and scores of 70 and above being considered clinically significant. Composite scores for each form show moderate to high reliability and validity (Reynolds & Kamphaus, 2015). Paper and pencil as well as online

administration are available for the BASC-3, so it is important to examine what individual districts/practices have purchased.

### *Connors Comprehensive Behavioral Rating Scale*

The Connors Comprehensive Behavioral Rating Scale (CBRS) is a multi-informant comprehensive behavior rating scale for children ages 6 to 18 years. Similar to the BASC-3, multiple rater forms are available. Parent and teacher forms are available to assess students beginning at age 6 and self-report forms are available for children beginning at age 8 (Conners, 2010). The age distinction between the adult ratings and self-report ratings is due to the questions on the CBRS being written at a 3rd to 5th grade reading level, thus making it inappropriate to administer a self-report form to children below the age of 8 (Conners, 2020). The CBRS assesses multiple indices including emotional distress, aggression/defiance, hyperactivity/impulsivity, and violence potential (Conners, 2020). There are additional DSM-5 clinical indices for multiple disorders common in school age children including autism spectrum disorder, attention deficit hyperactivity disorder (ADHD- all types), oppositional defiant disorder (ODD), generalized anxiety disorder, and major depressive disorder (Conners, 2020). Scores are reported as t-scores, with scores of 60-69 showing clinical significance and scores of 70 or above denoting many more concerns than are typically reported when compared to the normative sample (Conners, 2010). Online and paper-pencil administration is available for all forms.

### *Conners Early Childhood Rating Scale*

A companion to the CBRS is the Conners Early Childhood (Conners EC) rating scale. This scale assesses behaviors for children in daycare, preschool, and other early education settings between the ages 2 and 6 years of age. It is ideal for determining whether or not a child

is eligible for special education or early intervention services, but it can also be used to help ascertain where teachers and parents see difficulties or delays in the child's behavior and/or development. The Conner's EC examines Behavior Scales and Developmental Milestones (Conners, 2009; Conners & Goldstein, 2009). The Behavior Scales examine behaviors such as hyperactivity/impulsivity, aggression/defiance, anxiety, social functioning/atypicality, anxiety, mood/affect, and physical symptoms (Conners, 2009; Conners & Goldstein, 2009). The Developmental Milestone Scales include adaptive skills, communication, motor skills, play, and pre-academic/cognitive skills (Conners, 2009). Scores are reported as t-scores with scores of 60-69 showing clinical significance and scores of 70 or above denoting many more concerns than are typically reported when compared to the normative sample.

### *Achenbach System of Empirically Based Assessment*

The Achenbach System of Empirically Based Assessment (ASEBA) is a measure of mental competencies and adaptive functioning for ages 18 months to 90 years + (Achenbach et al., 1980). There are 4 levels to the ASEBA: preschool, school age, adult, and older adult that can be used in a variety of settings including educational and clinical settings (Achenbach et. al, 1980). The ASEBA is best known for an empirically based approach, where practitioners assess numerous potential behavior problems by using a multi-informant system (McConaughy, 2001). This system includes a parent rating scale (The Child Behavior Checklist) for ages 1 ½ to 5 (preschool) and 6-18 (school age), a teacher and caregiver rating scale (TRF; C-TRF) for the same age group, and a self-report rating (YSR) for ages 11 to 18 (Rowe et al., 2008). The CBCL assesses a variety of scales broken into competence scales, syndrome scales, total scores and syndrome groupings, and DSM-oriented scales. What is measured on the CBCL is dependent on

the age of the child. Some scales that are exclusive to the Preschool CBCL include emotional reactivity, sleep problems, and social withdraw (Rowe et. al, 2008). On the School Age CBCL, some exclusive measures include activities, social, and school (competence scales), depressive symptoms, social problems, thought problems, and rule-breaking behavior among other scales (Rowe et al., 2008). Both forms of the CBCL measure various DSM-5 markers including ADHD symptoms, oppositional defiance, and anxiety problems (Rowe et al., 2008). Scores on both forms of the CBCL are reported as t-scores with scores of 65 to 69 falling in the borderline range and scores of 70 or greater indicating clinical significance, (Achenbach & Rescorla, 2001; Wu, 2017a).

The two teacher forms available for the ASEBA are the Caregiver Teacher Report Form (C-TRF), used for ages 1 ½ to 5 years, and the Teacher Report Form (TRF), primarily used with school age youth from ages 6 to 18 (Rowe et al., 2008). Scores on both the C-TRF and the TRF are broken up into the following categories: Adaptive Functioning, Social Functioning, Syndrome Scores, Total Scores and Syndrome Groupings, and DSM oriented scales (Rowe et al., 2008). Some scales that are exclusive to the C-TRF are similar to parent report forms and include pervasive developmental problems (DSM scale), emotional reactivity (syndrome scale), and withdrawal (syndrome scale) (Rowe et al., 2008). Scores exclusive to the TRF (school age children) include all adaptive functioning scales including academic performance, happiness, learning, and behaving appropriately. Additional measures exclusively on the TRF are syndrome scales including depressive symptoms, social problems, thought problems, and rule breaking behavior (Rowe et al., 2008). Both the C-TRF and the TRF share measures of externalizing behaviors, internalizing behaviors, and total problems (Rowe et. al, 2008). Scores align with the

CBCL, being reported as t-scores with a score of 70 or more being a mark of clinical significance (Wu, 2017b). Reliability and validity were found to be within acceptable ranges (Wu, 2017b).

The third and final form in the Achenbach system of assessments is the Youth Self Report (YSR), which is a self-report form for children ages 11 to 18 years (Rowe et al., 2008). The YSR shares a similar format to the school age CBCL but the questions are written in the first person (McConaughy, 2001). Competence scales on the YSR include activities and social, while syndrome scales include various difficulties such as anxiety, depressive symptoms, somatic symptoms, attention problems, and rule breaking behavior among others (Rowe et al., 2008). The YSR also measures externalizing and internalizing behaviors while generating a total score (Rowe et al., 2008). Overall, the scales on the YSR are similar to the CBCL and the TRF forms but are normed for ages 11 to 18 years. Parallel to the other forms in the ASEBA, scores on the YSR are reported as t-scores with 70 and above implying clinical significance and 65 to 69 falling in the borderline range (Wu, 2017). Acceptable reliability and validity were also found within the YSR (Wu, 2017c).

## Disorder Specific Scales

When a practitioner finds a clinically significant score in a specific domain of a comprehensive or broadband rating scale or if they receive a client for a specific concern, their next step is to consider administering disorder specific or narrowband instrument. These rating scales were developed to assess symptoms of DSM-5 disorders and other comorbid disorders and can be used in a variety of settings. Although it is beyond the scope of this research to review all such narrow band rating scales, a few are outlined below to illustrate their function and range.

### *Conners Third Edition*

The Conners Third Edition (Conners 3) is another scale in the Conners family of assessments and is a companion to the CBRS and the Conners EC. The Conners 3 is one of the most up to date assessments for attention deficit hyperactivity disorder and other comorbid disruptive behavior disorders including conduct disorder and oppositional defiance disorder (Conners 3®, 2008; Kao & Thomas, 2010). Similar to the companion rating scales, this rating scale is used with children ages 6 to 18 years of age (Conners, 2008). As a multi-informant system, forms are available in parent, teacher, and self-report versions. Like the comprehensive scales, the parent and teacher form are used with children beginning at age 6 and the self-report form is able to be used beginning when the child is 8 years old (Conners, 2008). Along with the DSM-5 scales, the Conners 3 also includes various content scales that measure a wide variety of associated problem behaviors that occur with ADHD (Hambly et al., 2017). The content scales include executive functioning, learning problems, hyperactivity/impulsivity, inattention, defiance/aggression, and peer/familial relations (Conners, 2008). Though research on the DSM-5 version of the Conners 3 is minimal, literature from previous DSM updates show a history of high reliability and moderate to high validity (Hambly et al., 2017). Similar to the CBRS and the Conners Early Childhood, scores are reported as t-scores with 60-69 showing clinical significance and scores of 70 or above denoting many more concerns than are typically reported when compared to the normative sample (Conners, 2008).

### *Multidimensional Anxiety Scale for Children, Second Edition*

The Multidimensional Anxiety Scale for Children (MASC-2) is a disorder specific scale that, when combined with other data sources, can be used to ascertain an anxiety diagnosis, or identify children who are at risk for anxiety and develop a corresponding treatment plan

depending on which scales and subscales denote an elevated score. parent and self-report forms are available for children ages 8 to 19 years old (MHS). The MASC-2 generates two overall scores: a total score and an anxiety probability score (MHS). The Anxiety Probability score measures the extent to which a child is experiencing symptoms similar to youth with generalized anxiety disorder whereas the total score is the overall extent to which a child is experiencing signs and symptoms of anxiety (March 1997; March 2012). The MASC-2 is also comprised of 6 scales that include measures of separation anxiety, obsessions and compulsions (characteristics of anxiety disorders and obsessive compulsive disorder), social anxiety (with two subscales: humiliation/rejection and performance fears), harm avoidance, and physical symptoms (with two subscales: panic and tense/restlessness) (March 1997; March 2012). Similar to other rating scales, scores are reported as t-scores with scores of 60 and above showing statistical significance. Reliability and validity were shown to be moderate to high when comparing diagnosed children with the normative sample (March 1997; March, 2012).

### *Childhood Depression Inventory, Second Edition*

The Childhood Depression Inventory, Second Edition (CDI-2) is another disorder specific rating scale that assesses depressive symptoms in children and adolescents between the ages of 7 and 17 to help ascertain risk of depression and/or a depression diagnosis when applicable. It is a multi-informant system with forms available for parents, teachers, and a self-report form (Kovacs, 2010). Online and paper pencil options are available for administration. The CDI-2 generates a total score that measures the overall extent of depressive symptoms as well as two scale scores: Emotional Problems and Functional Problems (Kovacs, 2010). The Emotional Problems scale measures the extent to which a child is experiencing symptoms such

as negative mood, sadness, irritability etc. (Kovacs, 2003). In addition, the Functional Problems scale measures the extent to which a child is experiencing issues related to ineffectiveness (negative evaluation of abilities) and interpersonal problems (difficulty interacting with peers; feelings of loneliness) (Kovacs, 2003). Scores on the CDI-2 are reported as t-scores with scores of 65 or greater noting clinically significant depressive symptoms (Bae, 2012). Adequate reliability and validity estimates were found (ranging from .71 to .92) (Lopez-Duran et al., 2013).

### *Autism Spectrum Rating Scales*

In the event that an atypicality scale on a comprehensive behavior rating shows clinical significance or if a practitioner receives a client who is suspected of having autism spectrum disorder, there are multiple disorder specific rating scales available to use in a comprehensive evaluation for autism spectrum disorder. One of those options is the Autism Spectrum Rating Scale or the ASRS. The ASRS is one of the first norm referenced Autism Spectrum Disorder rating scales for children ages 2 to 18 years (Goldstein & Naglieri, 2009a). It is a 70-71 (depending on age) item form that evaluates how often children have exhibited ASD behaviors in the previous four weeks based on DSM criteria (Ferguson et al., 2019). The most recent update of the ASRS aligned with the criteria for ASD as it is listed in the DSM-5. There are forms available for parents and teachers with separate forms for early childhood (2 to 5 years) to school age children (6 to 18 years). Options for online and paper/pencil administration are available (Goldstein & Naglieri, 2009a). The ASRS is broken in to ASRS Scales, DSM-5 Scales, and Treatment Scales with some measures being exclusive to either the preschool or the school age form. The preschool (ages 2 to 5 years) form for parents and teachers exclusively measures

Attention/Self-Regulation (a treatment scale) along with all of the scales measured on the school age form (Goldstein & Naglieri, 2009a). On the school age form, Self-Regulation and Attention are separate measures with Self-Regulation as an ASRS scale and Attention as a Treatment Scale (Goldstein & Naglieri, 2009a). Both preschool and school age forms have ASRS scales measuring Social/Communication and Unusual Behaviors. Treatment Scales include peer socialization, adult socialization, social/emotional reciprocity, atypical language, stereotypy, behavioral rigidity and sensory sensitivity (Goldstein & Naglieri, 2009a). Another option within this system is a short form that is 15 questions long and generates a short form score for both age groups (Goldstein & Naglieri, 2009). Scores on the ASRS are reported as t-scores with scores of 60 or above showing clinical significance and scores of 70 or above denoting significantly more concerns than what is typically reported when compared to the normative sample (Goldstein & Naglieri, 2009b).

## Behavioral Screeners

At the Tier I level of an MTSS, a critical step is to examine risk status of individuals or groups of students through the administration of universal screeners (Brown-Chidsey, 2016). Universal screening for behavior is vital to identify the nearly 20% of students who are at risk and in need of more intensive services in order to meet their behavioral needs (Oakes et. al, 2017). The following behavior screeners were designed to fulfill this purpose and can be used in a universal screening format within an MTSS.

### *Behavior Intervention Monitoring Assessment System, Second Edition*

The Behavior Intervention Monitoring Assessment System Second edition (BIMAS-2) is a behavior screener designed to measure baseline (pre-intervention) data as well as children's

progress in behavioral and social emotional interventions. This system is to be used with ages 5 years to 18 years of age. While the parent and teacher forms are for the entire age spectrum, the self-report form is for use with children ages 12 to 18 years. It is a brief questionnaire that takes less than 20 minutes to administer, making it ideal for universal screenings at the Tier I level (McDougal et al., 2009). Similar to other screeners, it is a multi-informant system with parent, teacher, and self-reports available. A feature unique to the BIMAS-2 is that there is a non-standardized clinician report form that assesses behavioral functioning typically assessed in mental health settings (McDougal et al., 2009). Online and paper-pencil administration are available for all forms of the BIMAS. The BIMAS-2 scores are broken into two categories: Behavioral Concern and Adaptive Functioning. Behavioral Concern assesses conduct (defiance, physical aggression, etc.), negative affect (symptoms of depression and/or anxiety), and cognition/attention (behaviors synonymous with ADHD) (McDougal et al., 2009). Scores on the Behavioral Concern scale are reported as t-scores with scores of 60-69 denoting at risk status and scores of 70 and above indicate high risk status (McDougal et al., 2009). The Adaptive Functioning area of the BIMAS-2 measures academic functioning and social skills. Unlike the Behavioral Concern scale, a lower score in this area is cause for concern. Adaptive functioning scores are also reported as t-scores with scores of 40 or below being cause for concern in this area (McDougal et al., 2009). Reliability and validity for the BIMAS-2 was found to be in the high range (McDougal et al., 2009).

### *Behavioral and Emotional Screening System, Third Edition*

A part of the BASC-3 family of assessments, the Behavioral and Emotional Screening System Third edition (BESS-3) is a brief behavior screener that measures the behavioral and

emotional functioning of children in preschool through 12th grade (Kamphaus & Reynolds, 2015; Oakes et. al, 2017). Just like the BASC-3, the BESS-3 is a multi-informant system with forms available for teachers, parents, and self-reports. Teacher forms are available for preschool (ages 3 to 5) and child/adolescent (grades 3-12), parent forms are also available in the preschool and child/adolescent versions (Kamphaus & Reynolds, 2015). The student (self-report) form is available for use with grades 3 through 12 (Kamphaus & Reynolds, 2015). Reliability and validity measures were found to be in the moderate to high range for each form of the BESS-3 (Reynolds & Kamphaus, 2015). Similar to the BIMAS-2, the BESS-3 is ideal for use in an MTSS for a universal screening to ascertain behavioral risk or need for more intensive intervention or services for behavioral difficulties. In fact, it is one of the most popular choices for school psychologists, with 68% of school psychologists using the BESS-3 as a universal screener at the Tier I level (Benson et al., 2019).

The areas measured on the BESS-3 teacher and parent forms include externalizing behaviors (ex: acting out, verbal/physical aggression), Internalizing Behaviors (typically associated with anxious or depressive symptoms), and Adaptive Skills (skills to maintain daily functioning) (Reynolds & Kamphaus, 2015). The student form measures internalizing behaviors, Self-Regulation (behaviors related to ADHD symptoms), and Personal Adjustment (ex: relationships with peers/parents, self-resilience, and self-esteem) (Kamphaus & Reynolds, 2015). All forms generate a total score known as the Behavioral and Emotional Risk Index which is a measure of overall behavioral and emotional risk (Kamphaus & Reynolds, 2015). The BERI is reported as a t-score with scores of 61 to 70 denoting at risk status and scores of 71 or higher denoting extremely elevated risk status (Reynolds & Kamphaus, 2015). Index scores are reported

as raw scores, with at risk status depending on the child's age. The BESS-3 scoring protocol clearly outlines these measures for practitioners, making risk status easy to interpret.

### *Systematic Screening for Behavior Disorders, Second Edition*

The Systematic Screening for Behavior Disorders Second Edition (SSBD-2) is a multi-gated screening system that was designed for use in an MTSS framework (Walker et al., 2014). The 2nd edition update released online and paper-pencil administration (Walker et al., 2014). Unlike other screeners, this is not a multi informant system, but rather a system for teachers to screen their classes and determine which children may need more extensive behavior services. Multigated assessments involve combining multiple assessment methods into sequential order to identify subgroups of students from a larger group (Kilgus et al., 2016). The SSBD-2 is often considered the "gold standard" due to this multigated process (Walker et al., 2014). This particular screener measures a variety of behaviors at various stages of the assessment process including externalizing behaviors, internalizing behaviors, maladaptive behaviors, adaptive behaviors and critical behavior events (Walker et al., 2014). The SSBD-2 process begins with a rank order process. In this, teachers are provided with a description of internalizing behaviors and externalizing behaviors and are tasked with ranking their class on who best matches those descriptions. Students in the first spot are the ones who most resemble the description of each behavior (Walker et. al, 2014). Following this process, the top 3 students in each category (3 for externalizing, 3 for internalizing) pass through the first "gate" and move on to stage two (Walker et al., 2014). In stage two, teachers complete a checklist of critical event behaviors. Critical event behaviors are those that are high intensity, low frequency behaviors (i.e.: stealing, fire setting, etc.), and their presence is cause for concern (Lane et al., 2010; Walker et al., 2014). In addition,

teachers also complete a rating of the presence of maladaptive and adaptive behaviors to generate the *Combined Frequency Index* (Walker et al., 2014). If a student exceeds normative criteria, then they pass through the second gate and move to stage three of the assessment process. In Stage 3, a trained professional, such as a school psychologist, observes the student in academic settings (structured), and on the playground (unstructured) to confirm teacher judgement of student's behaviors (Lane et. al, 2010; Walker et al., 2014). Research shows adequate reliability and strong validity when compared to other behavioral measures (Walker et al., 2014).

## The Importance of Reliability and Validity Within Rating Scales

When making a decision about which rating scale to use, practitioners must look at the referral concerns, but it is equally important to examine the reliability and validity of the scale they intend to use. Reliability is a measure to which an assessment tool produces stable and consistent results (Phelan & Wren, 2005). Essentially, a reliable assessment tool produces similar scores each time an assessment is administered. An equally important element of assessment is validity. A valid assessment tool is one that measures the construct that it is supposed to measure (Phelan & Wren, 2005). For example, if a behavior rating system says it measures symptoms of anxiety, but it measures symptoms of depression, this would not be considered a valid assessment tool. It is important that these two psychometric properties be assessed by practitioners prior to use of a rating scale or assessment tool.

## Head Start: From the Federal to the Local Level

Due to the fact that this investigation focuses on data from a Head Start setting, it is important for both academic researchers and practitioners to understand the vast history of this organization and how it came to be in the United States.

### *The War on Poverty and the Beginning of Head Start*

Following the death of President John F. Kennedy, Lyndon B. Johnson assumed the role of the presidency and was briefed by the Council of Economic Advisors on Kennedy's plans for various anti-poverty initiatives along with the current economic state of the nation (Vinovskis, 2005). After being briefed by Walter Heller, chairman of the Council of Economic Advisors, Johnson enthusiastically agreed to continue with President Kennedy's initial plans to combat poverty. His response to Heller was "That's my kind of program. I'll find money for it one way or another. If I have to, I'll take away money from things to get more to the people" (Vinovskis, 2005, pg. 36). During his State of the Union address in January 1964, President Lyndon B. Johnson declared an "unconditional war on poverty" in the United States (Johnson, 1964). Additionally, within this speech, he recommended the most federal support in US history go to programs in education, healthcare, employment training/re-training, and helping the physically and economically handicapped (Johnson, 1964).

Immediately following that address, various committees were formed to discuss anti-poverty initiatives for various populations. President Johnson appointed Sargent Shriver to oversee this process. Shriver would later become the director of the Office of Economic Opportunity (OEO), the office responsible for programs including Job Corps, VISTA, and of course, Project Head Start (Office of Head Start, 2019; Vinovskis, 2005). During deliberations within the OEO, early childhood education was initially not on the radar of the anti-poverty movement. It was not seen as an essential infrastructure to combat poverty. As a matter of fact, Sergeant Shriver, leader of the OEO, testified before congress stating that it was not the responsibility of his office to offer advice or information on education (Vinovskis, 2005).

However, thanks to the efforts of various congressional committees and known scholar Urie Bronfrenbrenner, the role of early childhood education in combating poverty was brought to the forefront and Project Head Start was formally announced by President Johnson in 1965 (Early Childhood Learning and Knowledge Center, 2019; Vinovskis, 2005).

### *The Improving Head Start for School Readiness Act of 2007*

Though Head Start began in 1965, it has been through multiple reauthorizations including in 1998 where performance standards and teacher qualifications were reviewed and changed (Early Childhood Learning and Knowledge Center, 2019; Tipton, 2008). The most recent reauthorization was signed into law in 2007 under the administration of George W. Bush (Early Childhood Learning and Knowledge Center, 2019). The Improving Head Start for School Readiness Act of 2007 brought many significant changes, with some of the most prominent focusing on child eligibility and teacher qualifications. With this act, homeless children were to be deemed automatically eligible for Head Start and granted agencies could fill 35 percent of their spaces with children from families with incomes between 100% and 130% of the poverty line (Tipton, 2008). Through a memorandum from the Office of Head Start, agencies could immediately begin serving 35% of eligible children so long as the needs of families at or below 100% of the poverty line, those eligible for public assistance, and homeless families were met first (Tipton, 2008). An additional part of this reauthorization that created significant change was that 10% of children enrolled in local agencies must be children with disabilities beginning with the 2009 fiscal year (Tipton, 2008; US Department of Health and Human Services, 2007). With regard to teacher qualifications, the 2007 reauthorization brought about significant changes to the qualifications that must be present in a Head Start classroom. Beginning in 2013, 50% of

classroom teachers in Head Start Programs must hold a bachelor's degree while teaching assistants are required to hold a Child Development Associate (CDA) credential or be simultaneously enrolled in a CDA program while working in the classroom (Tipton, 2008; US Department of Health and Human Services, 2007). Along with administrative changes (Tipton, 2008), this reauthorization of Head Start expanded the availability of services to more children and increased training requirements for its teachers in order to provide stronger and more effective services to students from various circumstances.

### *Head Start Services*

At the federal level, the Office of Head Start outlines a variety of services available, but those services do tend to vary across state lines and even between sites. Though the primary enrollment age of Head Start children is 3 to 4 years old (US Department of Health and Human Resources, 2020), Head Start services are available to pregnant women, infants, and toddlers. Pregnant women, infants, and toddlers make up approximately 20% of Head Start enrollment and are provided services through the Early Head Start program (US Department of Health and Human Resources, 2020). The Early Head Start program provides many different services for young children before they transition into the traditional Head Start model at age three. Early Head Start offers home based services through weekly home visits that aim to help parents support and foster their child's development (Early Childhood Learning and Knowledge Center, 2020). Center based services are also available which operate similar to a traditional daycare setting, with the same goals in place as home based services.

When a child reaches ages 3, so long as they continue to meet eligibility criteria, they are of age to enroll at a Head Start center and can continue until they reach the required age for

kindergarten in their state, which is typically around 5 years old. These centers are what many traditionally think of when Head Start is mentioned in day to day conversation, although Head Start does go beyond the scope of a traditional schooling model. The three areas of service emphasized by the Office of Head Start are Early Learning, Health, and Family Well-Being (US Department of Health and Human Resources, 2020). All Head Start centers offer meals for children with many others offering social services, health services, and more (US Department of Health and Human Resources, 2020; Ludwig & Miller, 2007). Outside of those services provided within the center, Head Start also connects families to outside medical, dental, and mental health providers to ensure that children are obtaining essential medical and mental health services that they need (US Department of Health and Human Resources, 2020). Head Start not only takes care of the child while they are at their centers, but also the child's family. This includes assisting the parents with their own goals through connecting them with job placements, housing programs, continued education, and parent training programs to assist in strengthening the parent-child relationship (US Department of Health and Human Resources, 2020: Ludwig & Miller, 2007).

Many of the services that are outlined at the federal level are the same services that are provided at the local level, within the agencies where the current research is focused. In addition to the health services that are outlined at the federal level, the local agency offers special needs/education referrals, services for children with disabilities, transportation, and nutrition services. The holistic nature of the Head Start program translates to the local level, where agencies offer parent training programs, parent involvement meetings, family literacy programs, opportunities for family volunteers, and opportunities for parent involvement in child initiated

literacy activities (Appalachian Council, 2020). Overall, the services and mission of Head Start at the federal level translates to implementation and action to service children and families within the local agency.

**Structure of Mental Health in the Local Head Start Agency**

As this research has a focus on mental health of Head Start children, it is also important to examine how mental health and behavioral health services are obtained and provided for children within the local Head Start agency. Local Head Start agencies, particularly in rural Appalachia, very rarely have a mental health provider on staff. Due to this, the local Head Start agency will use a "refer out" model of mental health services. Children are screened yearly for behavioral and mental health difficulties by Head Start staff. If a student is identified as elevated on any of these screeners, then the refer out process begins.

When a student is identified as elevated, Head Start will initiate the process to refer a child to an outside mental health provider. As mentioned previously, Head Start agencies very rarely have a mental/behavioral health provider on staff to provide direct services. Though it is not written in any Head Start guidelines, it is favorable that a provider come to the agency to provide services in order to reduce the burden on families and so that the provider is able to obtain a naturalistic observation of behavior in the child's classroom. If there are concerns outside of mental health and behavioral health, the Head Start agency is tasked with referring out to the Local Education Agency (LEA) for an evaluation under Child Find, a section of the Individuals with Disabilities Education Act that mandates all children with disabilities be identified, located and evaluated (Individuals with Disabilities Education Act, 2004; Smith, 2005).

This model does not come without its difficulties. In many instances, the local Head Start agency is located in a rural area with limited nearby resources. This creates difficulty in finding a mental or behavioral health professional that is able to travel a longer distance to provide services to the student at the Head Start site. Due to their location in a rural area, agencies must also take into consideration whether or not the professional has an opening on their caseload to provide these services. Often, rural providers serve clients from a variety of places, leading to being overtaxed and unable to provide necessary services. A more significant difficulty is a lack of training amongst outside providers. Working with preschool children requires additional training, and those who have the specialized training in working with preschool clients are often scarce in rural areas.

**Purpose and Need for Study**

The current research investigated multiple facets of the use of the BASC-3 BESS TRSP (Kamphaus & Reynolds, 2015) using a sample of rural Appalachian preschool children. The BASC-3 BESS comes in parent, teacher, and self-rating forms, and can be used with children as young as 3:0 (Kamphaus & Reynolds, 2015). This investigation examined the preschool teacher form (for children ages 3 to 5), hereinafter referred to as BESS TRSP (Greer et al, 2015). Data were collected from BASC-3 BESS screenings conducted by the school psychologist for a Head Start organization located in the central Appalachian region during the 2017-2018 and 2018-2019 school year and examined stability of risk from one school year to another. This research also included a comparison of various samples of preschool children and examines disclosure of risk levels and other related findings.

As previously discussed, there are multiple barriers in implementing MTSS within a rural school system (Swindlehurst et al., 2015). Alongside the financial barriers and lower teacher pay (Swindlehurst et al., 2015), there are also issues with non-certified teachers filling specialized positions who then will seek out higher paying positions when they earn their credentials (Johnson, 2015). When looking at these barriers collectively, the resulting issues are a lack of staff trained in evidence based practices and MTSS as well as a lack of confidence amongst staff in implementing an MTSS (Johnson 2015, Swindlehurst et al., 2015). The current study highlights the need for continued staff training in assessment, evidence based practices, and all components of an MTSS to ensure fidelity of implementation even whilst managing the systemic barriers that are present in rural school districts.

**Research Questions**

Question 1: What percentage of children presented with elevated risk in both the 2017-2018 and 2018-2019 school year when analyzed collectively and by individual county?

Question 2: Of the children who presented with low risk scores in 2017-2018, how many maintained that low risk status in 2018-2019? Of those who presented with elevated risk, how many maintained an elevated risk status between school years?

Question 3: How does the percentage of preschool children with elevated scores in the current study compared to other samples of preschool children in the United States with elevated scores?

# CHAPTER 2

# METHOD

## Participants

As mentioned previously, this is a threefold study. The first two components of this study used data collected from a Head Start agency in Central Appalachia. This agency serves approximately 850 children and families. They operate 9 stand-alone centers and, through collaboration with local Boards of Education, operate the Head Start program in 108 elementary schools across 11 rural counties in Central Appalachia. All counties served by this agency have populations of less than 90,000 with 7 counties having populations of less than 15,000. All families served fall below the poverty line and in 8 out of the 11 counties, >25% of children live in poverty.

This study will be assessing BASC-3 BESS screener scores for 66 female children and 65 male children (N=131). These children were in attendance for both the 2017-2018 and 2018-2019 school years. The subset of children from the 1,000 surveyed was selected based on their enrollment in Head Start for both the 2017-2018 and 2018-2019 school years. This inclusion criterion was included in order to measure changes in risk categories between both administrations. For the 2017-2018 school year, the children ranged in age from 3 to 4 years and in 2018-2019, they ranged between 4 to 5 years of age. The sample represents 9 of the 11 counties served by the local Head Start agency with 21 different sites represented between the two school years.

For the third component of this research, the approximately 900 participants of varying genders and ethnic backgrounds come from varying samples of preschool age children from across the United States. Their educational enrollment varied across samples, ranging from Head

Start agencies to public preschools and elementary schools. These participants come from various samples of scholarly research and studies and data were collected by multiple investigators (Dever et al., 2018; DiStefano et al., 2016a; DiStefano et al., 2016b ; Dowdy et al., 2013; Greer et. al, 2015; Kamphaus & Reynolds, 2015; Kettler et. al, 2017; Moore et al., 2020; Opuka, 2019)

**Procedure**

The 2017-2018 school year was the first year that this screening was implemented at the local Head Start agency, so the first step of implementation involved a pre-service training conducted by the licensed school psychologist. This training reviewed the administration of the BESS TRSP and touched on trauma informed school systems. During the 2017-2018 and 2018-2019 school years, the licensed school psychologist at the Head Start agency administered BESS TRSP rating scales through Q-Global, an online scoring and administration system (Pearson, 2021), to teachers and teacher aides in the centers and elementary schools served by the agency. A paper and pencil option were also made available, and the school psychologist data were then organized by county and by student name into a Microsoft Excel document, and children with elevated classifications were highlighted for follow up. Overall, scores were collected for about 1,000 children across the 11 counties served. The data were redacted by the school psychologist and the subset of 131 scores was pulled from the 1,000 scores available.

For research question three, the investigator conducted web searches using a variety of databases on a personal computer between July and December 2020, in an effort to aggregate scholarly journal articles which used the BESS as a research tool. Multiple databases were used when searching for literature including the NASP, Marshall University Libraries, PsycINFO, EBSCO Host, SAGE Publications, and Science Direct. Inclusion criteria were as follows: (1) at

least one instrument used in the study was the BESS TRSP Second or Third edition; (2) children in the sample of participants were no older than 5 years of age.; and (3) the study was conducted in the United States.

Criterion one and criterion three were included to ensure that the comparison samples were closely related to the Appalachian sample in age and country of origin. Ethnicity of the participants and their location in the United States was not an exclusionary factor. Due to the BESS-3 TRSP being only four years out from its 2015 release during the initial phase of this research, it was recognized that literature on the third edition had the potential to be limited and including the 2nd edition allowed for additional analysis and a greater amount of literature to be included in this analysis.

**Instruments**

The Behavioral and Emotional Screening System (BASC-3 BESS TRSP) is a screening system that measures behavioral and emotional functioning in children in preschool through grade 12 (Oakes et, al, 2017). It can be administered in a paper and pencil format or through Q-Global, an online scoring and administration system (See Appendix A and B) (Oakes et. al, 2017). It is ideal for use in a universal screening system for early identification of behavior or emotional risk (Kamphaus & Reynolds, 2007)).

The screener measures maladaptive behavior, which is defined as the "behavioral and emotional strengths and weaknesses" of preschoolers (Kamphaus & Reynolds, 2007, p. 1) and is composed of ratings of externalizing, internalizing, and adaptive behaviors. Using the screener, teachers rate children's behaviors from the past few months using a 4-point Likert- scale (Greer et.al, 2015). Raw scores are converted to t-scores with a mean of 50 and a standard deviation of 10. T-scores of 61 and above are considered "at risk" and may be classified as elevated risk

(T=61-70) or extremely elevated (71 or higher) (Greer et al., 2015). The form used in this research is the Teacher Rating Scale- Preschool, which is available for use in children ages 3 to 5 years old and can be completed by teachers or daycare providers (Kamphaus & Reynolds, 2015).

### *Reliability and Validity of the BASC-3 BESS TRSP*

The BESS manual (Kamphaus & Reynolds, 2007) provides the following reliability and validity estimates: internal consistency reliability (.94-.95), interrater reliability (.76), test-retest reliability (.85), and concurrent validity (.55 and higher). Split-half reliability estimates (based on both male and female children) are .95 for 4-5 year old children and .94 or 3 year old children (Kamphaus & Reynolds, 2007).

## Analysis

Frequency counts were conducted to determine the number of children with low and high risk scores in each category of the BESS TRSP and how many of those scores were maintained from one school year to the next. The literature used in question three was reviewed by the primary investigator to determine ethnicity and gender makeup, age of children in the respective sample, disclosure of risk status, and associated findings. Following this, the literature in which risk status was disclosed was both quantitatively and quantitatively compared to the percentage of elevated risk status from the Appalachian sample.

# CHAPTER 3

# RESULTS

**Research Question 1: What percentage of children presented with elevated risk in both the 2017-2018 and 2018-2019 school year when analyzed collectively and by individual county?**

Collectively, during the 2017-2018 school year, 0.8 percent of children presented with elevated overall risk on Behavioral and Emotional Risk Index (BERI). During the 2018-2019 school year, as shown in Table 1, there were more children that presented with elevated risk, increasing the percentage of those with elevated overall risk to 2.3%, a 187% increase between the two school years. In the 2017-2018 school year, County 1 presented with 5.8% of children with Elevated Risk on the BERI. The following school year, County 2 had 7.7% of children with Elevated BERI scores, County 4 had 5.8%, and County 9 had 2.6% of children with elevated BERI scores.

**Table 1**

*Percentage of Elevated Risk Status on the Behavioral and Emotional Risk Index Score*

| | 2017-2018 | | | | 2018-2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | **Elevated Scores** | | **Extremely Elevated Scores** | | **Elevated Scores** | | **Extremely Elevated Scores** | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| **County 1** | 1 | 5.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 2** | 0 | 0 | 0 | 0 | 1 | 7.7 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 4** | 0 | 0 | 0 | 0 | 1 | 5.8 | 0 | 0 |
| **County 5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 6** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 7** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 8** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **County 9** | 0 | 0 | 0 | 0 | 1 | 2.6 | 0 | 0 |
| **Total** | 1 | 0.8 | 0 | 0 | 3 | 2.3 | 0 | 0 |

During the 2017-2018 school year, 4.6% of the sample showed elevated risk status on scores of Externalizing Behavior during the 2017-2018 school year. Additionally, .8% of children showed extremely elevated scores in this area during the same school year. In 2018-2019, the percentage of children showing elevated risk status was 6.9%, a 50% increase from the previous school year. Additionally, 1.5% of children showed extremely elevated risk status during the 2018-2019

school year. In 2017-2018, there were five counties with children showing elevated risk in Externalizing Behaviors and one county with children presenting with extremely elevated risk (See Table 2). As shown in Table 3, during the 2018-2019 school year six counties had children showing elevated risk in Externalizing Behaviors and two counties with children showing extremely elevated risk.

**Table 2**

*Percentage of Elevated Risk Status on Scores of Externalizing Behaviors During the 2017-2018 School Year*

2017-2018

| | **Number of Elevated Scores** | **Percent of Elevated Scores** | **Extremely Elevated Scores** | **Percent of Extremely Elevated Scores** |
|---|---|---|---|---|
| **County 1** | 1 | 3.3 | 0 | 0 |
| **County 2** | 1 | 7.7 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 0 | 0 | 1 | 5.8 |
| **County 5** | 1 | 6.6 | 0 | 0 |
| **County 6** | 1 | 8.3 | 0 | 0 |
| **County 7** | 0 | 0 | 0 | 0 |
| **County 8*** | 1 | 50 | 0 | 0 |
| **County 9** | 1 | 2.6 | 0 | 0 |
| **Total** | 6 | 4.6 | 1 | .8 |

* Indicates less than five children enrolled in Head Start for both the 2017-2018 and 2018-2019 school years.

**Table 3**

*Percentage of Elevated Risk and Extremely Elevated Risk Status on Scores of Externalizing Behavior for the 2018-2019 School Year*

2018-2019

| | Number of Elevated Scores | Percent of Elevated Scores | Extremely Elevated Scores | Percent of Extremely Elevated Scores |
|---|---|---|---|---|
| **County 1** | 2 | 6.7 | 0 | 0 |
| **County 2** | 3 | 23 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 1 | 5.8 | 1 | 5.8 |
| **County 5** | 1 | 6.6 | 0 | 0 |
| **County 6** | 0 | 0 | 0 | 0 |
| **County 7** | 0 | 0 | 0 | 0 |
| **County 8*** | 1 | 50 | 0 | 0 |
| **County 9** | 1 | 2.6 | 1 | 2.6 |
| **Total** | 9 | 6.9 | 2 | 1.5 |

* Indicates less than 5 children enrolled in Head Start for both the 2017-2018 and 2018-2019 school years.

Table 4 outlines the percentages of elevated risk status on scores of internalizing behaviors for the 2017-2018 school year. County 1 presented with 3.3% of teacher ratings yielding elevated risk scores, which indicates a collective percentage of .8% of children with elevated risk in the area of internalizing behaviors. The following school year, as shown in Table 5, 7.7% of children in County 2 presented with elevated risk scores in internalizing behaviors. Collectively, during

the 2018-2019 school year, .8% of children had elevated risk scores in this area. During both school years, no children presented with extremely elevated scores in externalizing behavior.

**Table 4**

*Percentage of Elevated Risk Status on Scores of Internalizing Behaviors During the 2017-2018 School Year*

2017-2018

| | Number of Elevated Scores | Percent of Elevated Scores | Number of Extremely Elevated Scores | Percent of Extremely Elevated Scores |
|---|---|---|---|---|
| **County 1** | 1 | 3.3 | 0 | 0 |
| **County 2** | 0 | 0 | 1 | 7.6 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 0 | 0 | 1 | 5.8 |
| **County 5** | 0 | 0 | 0 | 0 |
| **County 6** | 0 | 0 | 0 | 0 |
| **County 7** | 0 | 0 | 0 | 0 |
| **County 8** | 0 | 0 | 0 | 0 |
| **County 9** | 0 | 0 | 0 | 0 |
| **Total** | 1 | .8 | 2 | 1.5 |

**Table 5**

*Percentage of Elevated Risk scores on Internalizing Behaviors During the 2018-2019 School Year*

2018-2019

| | Number of Elevated Scores | Percent of Elevated Scores | Number of Extremely Elevated Scores | Percent of Extremely Elevated |
|---|---|---|---|---|
| **County 1** | 0 | 0 | 0 | 0 |
| **County 2** | 1 | 7.7 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 0 | 0 | 0 | 0 |
| **County 5** | 0 | 0 | 0 | 0 |
| **County 6** | 0 | 0 | 0 | 0 |
| **County 7** | 0 | 0 | 0 | 0 |
| **County 8** | 0 | 0 | 0 | 0 |
| **County 9** | 0 | 0 | 0 | 0 |
| **Total** | 1 | 0.8 | 0 | 0 |

As indicated in Table 6, 7.6% of children had elevated adaptive behavior scores during the 2017-2018 year. Taking into consideration two counties which had fewer than 5 children meet inclusion criteria for this research (County 7 and 8), percentages of elevated risk status in adaptive behavior ranged from 2.6% to 66% of children by county. Seven out of the nine counties indicated children having elevated risk scores in adaptive behavior during the 2017-2018 school year. During the 2018-2019 school year, as shown in Table 7, the collective percentage of children with elevated risk in the adaptive behavior domain decreased to 4.6%, a 39% decrease. Fewer counties reported at risk children in this area, with County 1 reporting 6.6% of children, County 4 reporting 5.8%, County 5 reporting 6.6%, County 7 reporting 33%,

and County 8 reporting 50% of children with elevated risk. For County 7 and County 8, it is important to note that there were fewer than five children who met the inclusion criteria (i.e.: being in attendance at Head Start during *both* the 2017-2018 and 2018-2019 school years).

**Table 6**

*Percentage of Elevated Risk Status on Scores of Adaptive Behavior During the 2017-2018 School Year*

2017-2018

| | **Number of Elevated Scores** | **Percent of Elevated Scores** | **Number of Extremely Elevated Scores** | **Percent of Extremely Elevated Scores** |
|---|---|---|---|---|
| **County 1** | 3 | 10 | 0 | 0 |
| **County 2** | 1 | 7.6 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 0 | 0 | 0 | 0 |
| **County 5** | 1 | 6.6 | 0 | 0 |
| **County 6** | 1 | 8.3 | 0 | 0 |
| **County 7*** | 2 | 66 | 0 | 0 |
| **County 8*** | 1 | 50 | 0 | 0 |
| **County 9** | 1 | 2.6 | 0 | 0 |
| **Total** | 10 | 7.6 | 0 | 0 |

* Indicates fewer than five children enrolled in Head Start for both the 2017-2018 and 2018-2019 school years.

**Table 7**

*Percentage of Elevated Risk scores on Scores of Adaptive Behavior During the 2018-2019 School Year*

| | 2018-2019 | | | |
|---|---|---|---|---|
| | **Number of Elevated Scores** | **Percent of Elevated Scores** | **Number of Extremely Elevated Scores** | **Percent of Extremely Elevated Scores** |
| **County 1** | 2 | 6.6 | 0 | 0 |
| **County 2** | 0 | 0 | 0 | 0 |
| **County 3** | 0 | 0 | 0 | 0 |
| **County 4** | 1 | 5.8 | 0 | 0 |
| **County 5** | 1 | 6.6 | 0 | 0 |
| **County 6** | 0 | 0 | 0 | 0 |
| **County 7*** | 1 | 33 | 0 | 0 |
| **County 8*** | 1 | 50 | 0 | 0 |
| **County 9** | 0 | 0 | 0 | 0 |
| **Total** | 6 | 4.6 | 0 | 0 |

* Indicates fewer than five children enrolled in Head Start for both the 2017-2018 and 2018-2019 school years.

**Research Question 2: Of the children who presented with low risk scores in 2017-2018, how many maintained that low risk status in 2018-2019? Of those who presented with elevated risk, how many maintained an elevated risk status between school years?**

Frequency and qualitative analysis show that 130 children presented with overall low risk status in 2017-2018. Analysis shows that of those 130 children, 128 children maintained low risk status in the 2018-2019 school year. One student during the 2017-2018 school year showed elevated risk status and that was maintained into the 2018-2019 academic year.

**Table 8**

*Cumulative Risk Status on the BERI score of the BESS-3 TRSP.*

| | Low Risk Status | Elevated Risk Status |
|---|---|---|
| **2017-2018** | 130 | 1 |
| **2018-2019** | 128 | 3 |

**Research Question 3: How does the percentage of preschool children with elevated scores in the current study compare to other samples of preschool children in the United States with elevated scores?**

Of the nine articles meeting selection criteria, the investigator found that risk status was disclosed in five of the articles. Of those that were comparing normal risk scores and elevated risk scores, each sample yielded higher percentages of children with normal or low risk BERI scores, ranging between 78% and 81% of children as shown in Table 9 (DiStefano et al., 2016b ; Moore et al., 2020). In these samples, as indicated in Table 9, percentages of children with elevated risk status fell between 12% and 14%. The Moore et al. (2020) results also yielded 6.5% of children receiving extremely elevated scores.

When comparing movement between risk categories, of the articles that disclosed this information, 88% of the children in the Opuka (2019) sample (including those who presented with elevated risk at both administrations) and 81% of the children in the Greer et al. (2015) sample maintained the same risk status on the second administration that they did on the first. As shown in Table 9, the Greer et al. (2015) sample saw 6% of children moving between risk categories (i.e.: normal risk at first administration, elevated risk at second administration). The

Opuka (2019) sample saw 22% of participants with elevated risk at the first administration and low risk at the second administration.

The final article that disclosed risk status came from the BESS-3 normative group (Kamphaus & Reynolds, 2015). Risk status in this sample was disclosed by age group (ages 3 to 5). Eleven percent of female children in both age groups (3 years; 4-5 years) presented with elevated risk status. Concurrently, the normative sample found 21% of male children in both age groups presented with elevated risk status.

**Table 9**

*Research Using the BESS-TRSP*

| Source | Gender | Race/Ethnicity | Age | Risk Status Disclosed? | Findings |
|---|---|---|---|---|---|
| Greer et. al, 2015 | Female-376<br>Male-366 | 53.1% African American | Preschool Age | Yes | Results found a high agreement level with 81% of children maintaining the same risk status between the first and second administration of the BESS-TRSP. Six percent of children saw a movement between risk categories (i.e.: normal risk to elevated or extremely elevated risk status). |
| BESS-3 Normative Sample (Kamphaus & Reynolds, 2015) | Female-22<br>Male-42 | Not Disclosed | 3 years-32<br>4-5 years-32 | Yes | Eleven percent of females in both age groups (3 years and 4-5 years) presented with elevated risk status. Concurrently, 21% of males in both age groups had elevated risk status. |
| Enrichment Program (Opuka, 2019) | Female-9 | All participants were African American | 5 years- 9 | Yes | Fifty-five percent of the participants in the enrichment program had elevated risk status at the pre and post intervention stages. 22% of participants presented with elevated risk status pre intervention and low risk status post intervention. Lastly, 33% of participants exhibited low risk status at both the pre and post intervention stages. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Dowdy, Chin, & Quirk, 2013 | Male- 57%<br><br>Female- 43% | Latinx-94%<br><br>Anglo- 3%<br><br>African American- 1% | 3 years- 32%<br><br>4 years- 68% | No | --- | |
| Dever, Dowdy, & DiStefano, 2018 | Male- 51%<br><br>Female- 49% | African American- 46.4%<br><br>White- 39.1%<br><br>Hispanic- 9.5% | Preschool Age | No | | --- |
| Moore et. al, 2020 | Female- 57.3% | Latinx- 75.3% | Preschool Age | Yes | Approximately 12% of teacher ratings yielded a high risk status on the BESS BERI score. Eighty percent of the sample was noted to be of normal/low risk based on the BERI score from teacher ratings. | |
| Kettler, Feeney Kettler, Dembitzer, 2017 | Male- 60% | Not Disclosed | 3 years- 28%<br><br>4 years- 53%<br><br>5 years 19% | No | | --- |
| Distefano, Ene, & Leighton, 2016 | Male- 54.2%<br><br>Female- 45.9% | Caucasian- 63.3%<br><br>African American- 17.9%<br><br>Other- 5.3% | 3 to 5 years old | No | | --- |
| DiStefano, Greer, & Liu, 2016 | Female- 48.6%<br><br>Male- 51.4% | Cacuasian-37%<br><br>African American- 35.9%<br><br>Hispanic- 10.2% | Not disclosed | Yes | Results of teacher ratings found that 78.8% of children were found to be at the normal risk level while 14.7% of children were elevated and 6.5% were extremely elevated | |

# CHAPTER 4

# DISCUSSION

This study focused on the use of the BESS-3 TRSP in a population of rural Appalachian preschool children enrolled in Head Start programs across the region. Qualitative and quantitative analyses focused on presence of low, elevated, and extremely elevated risk scores between two school years. Additionally, a meta-analysis of literature was conducted comparing the Appalachian sample to culturally diverse samples from across the United States and how risk statuses differed from those found in rural Appalachia.

## Research Question 1

During the initial administration conducted during the 2017-2018 school year, only County 1 indicated a child with an elevated BERI score, consisting of 5.8% of the individual county and .8% of the entire sample. At the second administration during the 2018-2019 school year, 7.7% of children in County 2, 5.8% of County 4, and 2.6% of children in County 9 had an elevated BERI score. Collectively, 2.3% of the sample presented with an elevated BERI score during the 2018-2019 school year. Differences in the composite BERI score between the 2017-2018 and 2018-2019 school years showed a 187% increase in children showing elevated risk levels.

In the 2017-2018 school year, when analyzing scores of externalizing behavior, six out of nine counties had children with elevated scores, with percentages ranging from less than 3% to 50% (in a county with fewer than five children enrolled during both school years) of teacher ratings yielding these results. Overall, 4.6% of the sample presented with elevated externalizing behavior scores. In the same school year, 5.8% of children enrolled in County 4 presented with extremely elevated scores in the area of externalizing behavior (.8% of the collective sample).

The following school year, six out of nine counties had children with elevated externalizing behavior scores. Similar to the previous year, percentages of children with elevated scores ranged from less than 3% to 50% (in a county with fewer than 5 children enrolled during both school years). In total between the two school years, there was a 50% increase in children presenting with elevated externalizing behavior scores. During that same year, 5.8% of County 4 and 2.6% of children in County 9 presented with extremely elevated externalizing behavior scores. Collectively, 1.5% of the sample had extremely elevated scores in externalizing behavior, an 87.5% increase from the previous year.

Greater stability and some decreases in elevated scores were present when examining internalizing and adaptive behaviors. During the 2017-2018 school year, .8% of teacher ratings yielded elevated scores in internalizing behaviors. That same year, 1.5% of children in this sample had an extremely elevated score in this area. The following year, .8% of children had elevated internalizing behavior scores and zero children presented with extremely elevated scores.

When examining scores of adaptive behaviors during the 2017-2018 school year, 7.6% of children had elevated scores in this area. This included 10% of children in County 1, 7.6% of children in County 2, 6.6% of children in County 5, 8.3% of children in County 6, 66% of children in County 7 which had fewer than five students enrolled during both school years, 50% of County 8 which also had fewer than five children enrolled during both school years, and 2.6% of children in County 9. No county had children presenting with extremely elevated adaptive behavior scores during this school year. The following year, 4.6% of children presented with elevated adaptive behavior scores (see Table 8 for analysis by individual county) and zero

children presented with extremely elevated scores. Results related to adaptive behavior saw a 39.5% decrease in elevated scores.

The significant year-to-year percent changes engendered questions regarding the disparities, with particular interest in the 187% increase in elevated BERI scores and the 87.5% increase in extremely elevated scores of externalizing behaviors. Upon further investigation and discussion with Head Start staff, it was found that during the first year this screening was implemented, there had been some major shifts with staffing, requirements of teachers, and the overall culture of the agency. Alongside the new screening being implemented, there had been changes in observation requirements for teachers. Teachers were now expected to have a structured classroom observation twice per year and participate in a new teacher coaching initiative. Neither had been done in previous years and thus, the teachers were not accustomed to having someone come and evaluate them. Adding in the new teacher evaluations and the new universal screening for children, it created an issue of teachers not being adjusted to having to fill out this amount of paperwork. Another issue that emerged was a belief, which was promoted by previous leadership, that if teachers had higher percentages of children with elevated mental health scores it was a negative reflection on their teaching abilities. This resulted in teachers filling out the form in a more favorable light in order to prevent any punitive action being taken against them. Head Start staff also noted a high percentage of teachers calling about behavior concerns with children who were not identified as elevated on the BESS TRSP during the initial implementation of the screener in the 2017-2018 school year.

After these issues were discovered, the licensed school psychologist employed by the Head Start agency realized a need for continued training each school year in both assessment and trauma informed practices in the classroom to increase the mental health knowledge base of

Head Start teachers. Specific components of the trauma informed schools' trainings included Adverse Childhood Experiences (ACES) and the impact that common risk factors for mental health and behavioral issues in Appalachia (i.e.: foster care, poverty, lack of access to healthcare, the opioid epidemic, and children in "grandfamilies" [being raised by grandparents or great grandparents]) had on their performance in the classroom. The goal of this training was to educate teachers on the fact that implementation of the screener was to intervene in a much deeper systemic problem, rather than being punitive against their teaching skills.

**Research Question 2**

When examining the stability of scores, meaning the maintenance of elevated risk level between one school year and the next, it was found that in 2017-2018, one student had an elevated risk level on their BERI composite score. This, again, is believed to relate back to the first year of implementation and Head Start teachers' perceptions about possible punitive outcomes and the subsequent staff education occurring between school years. The following school year, results showed a 229% increase in children with elevated risk status on the BERI composite score. The one student who presented with elevated risk in 2017-2018 maintained that elevated level in the following school year, with additional children from the previous year showing elevated risk in 2018-2019.

**Research Question 3**

In addition to the quantitative analyses conducted, this research also looked at various literature that used the BESS-3 TRSP in research and whether or not they disclosed elevated risk status in their results. The literature encompassed a variety of different cultures, ethnicities, and genders, some similar to the current Appalachian sample and some different. Yet, all were

located in the United States. Out of the nine samples examined, five disclosed risk status on the BERI score of the BESS. The first sample from Greer et. al (2015) was a sample of predominately male African American preschool children. That body of research, similar to the current study, examined movement between risk statuses on the BESS TRSP. Results of Greer et. al (2015) found that 81% of children maintained the same risk level (i.e., normal risk at time one and time two) while .6% of children saw their scores change between categories. The Appalachian sample saw a higher percentage of children moving between categories, with 1.5% of children presenting with no risk at the first administration and elevated risk at the second administration. There were also a greater number of children in the Appalachian sample that maintained low risk status between the first and second administration, with 98% of scores fitting this description.

The second sample that disclosed risk status was the normative sample used to develop the BESS-3 TRSP (Kamphaus & Reynolds, 2015). This sample was made up of preschool children from 3 to 5 years of age. When looking at risk status in this age group, Kamphaus & Reynolds (2015) found that 21% of three-year-old males presented with elevated risk level on the BERI score, compared to 0% in the Appalachian sample. In a similar trend, the normative sample yielded 11% of three-year-old females with elevated risk. There were no three year old females in the Appalachian sample that had elevated BERI scores. In the 4-5 year age group, 2.3% of 4-5 year old males in the Appalachian sample presented with elevated risk status compared to 21% in the normative sample. Eleven percent of 4-5 year old females in the normative sample presented with elevated risk compared to 0% in the Appalachian sample. Overall, the Appalachian sample presented with fewer children yielding at risk scores than the BESS normative sample.

The third piece of literature that disclosed risk status was from a sample of five-year-old females who were given the BESS-3 as both a pre and posttest for a behavioral enrichment program (n=9) (Opuka, 2019). In order to best compare this sample, because it was comprised of 5-year-old females, Opuka (2019) was only compared to five-year-old females from the Appalachian sample (n=18). Results found that, within the Appalachian sample, 100% of the 5-year-old females received low risk BERI scores at both BESS administrations, compared to 33% of the females from Opuka (2019). Fifty-five percent of the children in the Opuka (2019) sample obtained at risk scores at both administrations and 22% received elevated scores at the first administration but saw a decline in those scores at the second administration.

Moore et al. (2020) studied a sample of predominately Latinx preschool age children using the BESS-3 TRSP, with more than half of the sample being female (57.3%). Their results found that 80% of the children were classified as low risk based on teacher ratings and 12% of teacher ratings yielded a higher/elevated risk status on the BERI score. Those results yielded a higher percentage of children showing elevated scores when compared to the Appalachian sample, with only 2.3% of teacher ratings yielding elevated/at risk scores. Thus, 97% of the Appalachian sample was classified as normal/low risk, a higher percentage than the Moore et al. (2020) sample.

The fourth and final sample that disclosed risk status came from DiStefano et. al (2016b). Their research team examined the use of the BESS-3 TRSP in a predominately Caucasian sample (37%) and the majority of children being male (51.4%). Results yielded a higher percentage of children being found to have elevated or extremely elevated scores than the Appalachian sample. In the DiStefano et al. (2016) sample, 14.7% of scores were elevated and 6.5% were extremely elevated, which is significantly higher than the 2.3% of elevated and 0% of extremely elevated

scores in the Appalachian sample. The Appalachian sample also yielded a higher percentage of children who were found to be of low/normal risk based on teacher ratings.

**Implications for Practice**

One of the most important implications that this research has for future practice, is staff education. During the 2017-2018 school year, fewer children than expected were receiving elevated risk teacher ratings, which also happened to be the first year that the local agency used the behavioral screener and a universal screening system. There was an agency wide misconception that a higher percentage of elevated scores would reflect poorly on the educators and possibly cost them their jobs. It is because of situations like this that practitioners who are working as part of an MTSS team, both in the early stages of implementation and in stages where the team is evaluating the tools they use, ensure that the staff who will be collecting the data are well informed on the student centered goals of the MTSS process.

The increase in the number of children identified as elevated risk on their overall composite scores during the 2018-2019 school year is indicative of the benefits of ongoing staff training both on assessment and the systemic needs of preschoolers in Appalachia. As discussed previously, rural districts often lack specialized staff who can lead these trainings and often have a high rate of staff turnover each school year. Appalachia is not an exception to this longstanding issue. As discussed previously, the licensed school psychologist from the local Head Start agency was very familiar with these issues in rural areas and saw the potential for collaboration between Head Start and other local agencies. In order to alleviate the barrier of specialized staff, the local university in the area was contacted to lead a three day long training for Head Start staff that focused on preschool behavior supports and MTSS. This is merely one example of how this barrier can be navigated but it does not negate the importance of ongoing professional

development in assessment and other systemic issues in Appalachia which emphasizes the need for early identification through screening processes such as this one. Due to this, it is very important that, going forward, the local Head Start agency and those similar in structure provide ongoing staff training on a yearly basis to develop the knowledgebase of new staff, and, to continue to refine the skills of returning staff.

**Limitations and Future Research**

The most significant limitation with this research has to do with geographic location. As many are aware, the Appalachian region covers portions of 12 states and the entire state of West Virginia, an estimated population of 205,000 people (Cedar Lake Ventures, 2018). This particular sample was selected from nine counties, localized to one state. Although this sample provided results that can be used to benefit the specific facilities and preschoolers in this region, it cannot be generalized to the entire Appalachian region. Each state and locality covered in the region has its own set of challenges and the needs of young children could potentially differ from the sample used. Further research should expand into multiple states and/or school districts across the region in order to produce results that are able to be generalized to the entire Appalachian region, rather than one specific set of counties.

Based on the above information, future research also has the potential to focus on gender differences of BERI scores using the BESS-3 family of assessments. After conducting the analysis where the Appalachian sample was compared to various samples from literature, it was found that there were no female children who showed elevated or extremely elevated BERI scores. All elevated scores were attributed to male children during both school years. Research has shown that girls are often missed or under diagnosed when it comes to various mental, behavioral, and developmental disorders that occur in childhood (i.e.: ADHD, autism, etc.) due

to a variety of reasons including symptom presentation and existing biases. However, further research and replication of this study should take heed of gender differences in scores that may arise on this instrument and others.

Although, when compared to other American cultures, the Appalachian population is unique in its own regard, a limitation of existing research is related to geographic location and ethnic diversity. The sample used in this study was limited in ethnic diversity due to its location. The counties in this research are all predominately white, with as many as 98% of the population being listed as non-Hispanic White (Cedar Lake Ventures, 2018.). An additional limitation was found with existing literature surrounding the use of the BESS-3 TRSP. Although this assessment is widely used in scholarly research and in daily practice, very few authors disclosed collective risk status of their specific samples. This limited the number of samples available to compare the Appalachian sample to. Future research should focus on level of risk in diverse populations, in order to develop results that can be generalized to the greater population.

Of the 131 children in this sample, it was surprising to find that so few children presented with elevated BERI scores. There is an existing perception in academia and professional practice that children from low socioeconomic status households lack necessary behavior supports or that their difficulties are a direct result of being from a lower socioeconomic background. Although statistics and literature show that there is a higher prevalence of behavioral difficulties in children from lower socioeconomic backgrounds, results from this research raise questions about the level of supports provided by the Head Start agency and how it could affect student's scores on the BESS TRSP. Further research should examine the behavior supports and social emotional instruction provided by Head Start agencies and how it affects children's development and thus, their risk levels on behavior screeners like the BESS-3 TRSP.

The Appalachian region spans across 13 states, all with varying levels of need. Future research has potential for replication across Appalachia in order to obtain data that are more generalizable to the entire region. As mentioned above, the sample that this research worked with is predominately comprised of white children, due to the location of the agency being in a predominately white area. Replication of this study with culturally and ethnically diverse samples would provide further information on the use of this instrument in multiple populations and provide data that are more representative of the collective population of the United States. Replication in and outside of the Appalachian population would also be of great use to many entities including public school districts, Head Start agencies, and private preschool centers who are in the beginning stages of implementing an MTSS process for their preschool children. As discussed previously it is vitally important to select a universal screener that is reliable and valid for use in the population(s) that a district or agency is serving. Replication will aid in informing districts on the use of the BESS-3 TRSP and its potential effectiveness for screening their children for early signs of behavioral difficulty.

Further investigations should also focus on reliability and validity of screening such as the BESS TRSP. Standard II.3.3 of the NASP Principles for Professional Ethics focuses on the selection of reliable and valid assessment tools, emphasizing the importance of analyzing the psychometric properties of these assessments for proper implementation and use (NASP, 2020). A potential topic of interest with respect to validity are concurrent validity studies comparing the BESS TRSP to other behavior screeners that were discussed previously such as the BIMAS-2. This would require the investigator to work in tandem with the local Head Start agency and administering two screeners to either a select group of children or to all of the children served by the agency. Following administration, investigators should examine the scores from each

screening to find if children who were flagged as elevated in certain areas on the BESS TRSP were also flagged as elevated in those same areas measured by the BIMAS-2. For example, concurrent validity would be present if a child received an elevated score on the internalizing behaviors area measured by the BESS TRSP and received an elevated score in the negative affect skill area on the BIMAS-2.

Validity analyses could also be taken one step further to examine predictive validity. There are multiple ways for these studies to be conducted, but it is important to include an outcome measure for this type of research, as predictive validity focuses on measuring future behavior. One potential way this research could be conducted is through a collaborative effort between the local Head Start agency and specialized staff from universities, school districts and nonprofit agencies to assist in creating an outcome measure that aligns with the areas measured by the BESS TRSP. The BESS TRSP should be administered at the beginning of the school year as is common practice. Then, in the middle of the school year, the outcome measure should be administered to teachers. Analysis would involve comparing elevated scores in all areas measured by the BESS TRSP with results of the outcome measure to examine how well the BESS TRSP is able to predict future behaviors in children as the school year progresses. Some additional considerations for future research with predictive validity include using other norm referenced screeners as the outcome measure or using the measures provided by the respective curriculum used by the Head Start agency or school district.

As mentioned previously, reliability is another psychometric property that should be examined in future research. When examining this with preschool children, a study of interrater reliability would be most appropriate due to the significant development that children experience during the preschool years. This would create difficulty and potential inaccuracy in a test-retest

reliability study. With an interrater reliability study, researchers should consider the use of classroom aides as well as Head Start teachers to fill out the screenings early in the school year and compare the ratings from both individuals to examine stability between scores to examine interrater reliability of the BESS TRSP.

After conducting this research and associated analyses, an additional question arose about examining this type of assessment in an age range outside of preschool. Literature on this region is limited and this population is often overlooked in research, thus showing the need for further research with a variety of samples of children. The Appalachian region has its own unique set of needs and behavioral concerns, especially as the children of the opioid pandemic reach school age. As many practitioners know, the BASC family of assessments, including the BESS, spans up to age 21. A potential focus for future research would be with school age children in the same region using the school age teacher response form. Research has the potential to be expanded outside of the school setting using parent response forms for the BESS to compare risk levels between developmental periods. Essentially, there is potential for research with Appalachian children to stretch further than preschool age and to obtain information from the home environment as children develop.

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# APPENDIX A

MARSHALL UNIVERSITY
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Office of Research Integrity

May 21, 2020

Lanai Jennings, PhD
School Psychology Program
South Charleston Campus
Marshall University

Dear Dr. Jennings:

This letter is in response to the submitted abstract for Savana Earnest. This study involves analyzing de-identified data provided by the local HeadStart agency. After assessing the abstract it has been deemed not to be human subject research and therefore exempt from oversight of the Marshall University Institutional Review Board (IRB). The Code of Federal Regulations (45CFR46) has set forth the criteria utilized in making this determination. The information in this study does not meet the federal definition of human subject research and is therefore not subject to Common Rule oversight. If there are any changes to the abstract you provided then you will need to resubmit that information for review and determination.

I appreciate your willingness to submit the abstract for determination. Please feel free to contact the Office of Research Integrity if you have any questions regarding future protocols that may require IRB review.

Sincerely,

Bruce F. Day, ThD, CIP
Director