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Early Screening and Identification of Preschool Children Affected by Serious Emotional Disorders

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EARLY SCREENING AND IDENTIFICATION OF PRESCHOOL
CHILDREN AFFECTED BY SERIOUS EMOTIONAL DISORDERS

BY

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DEDICATION

To Jim, my best friend and husband, whose unwavering support and commitment to my vocation has made this study and my career possible.

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This research study became a reality only as a result of the huge support I was provided by my academic committee, community preschools, and personal mentor throughout this long project. I owe my deepest gratitude for the time, patience, advice, and encouragement that each member of this research team provided.

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- Aiken County Preschools. In order to protect identity I have not named the preschools however without their willingness to partner with me for this study and ongoing support this dissertation would not have been possible. The enthusiasm of the teachers and advice from the directors on challenges along the way reinforced to me the importance of my purpose for this study.
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ABSTRACT

Mental illness has surpassed physical health problems as the leading cause for morbidity and mortality in American children. National prevalence of serious emotional disorders in the 0-5 age group has ranged from 9.5% to 14.2%. Of the 15 million children affected by mental illness, less than 20- 25% receive any treatment. Nationwide, early screening, identification, and treatment of preschoolers with emotional or behavioral disorders have become a critical priority in order to reduce the increasing burden of healthcare costs for mental illness and psychiatric care. The purpose of this study was to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of SED. A second purpose was to evaluate the success of facilitating access of children into the community mental health system to provide early intervention. Three community preschools in Aiken South Carolina participated in this study. The Child Behavior Checklist Teacher Form and Language Development Survey were utilized to screen children from 18 months to five years of age. The Assessment of Teacher Burden was completed by teachers to provide feedback about the screening process and impact on their workload. Analysis was completed utilizing descriptive statistics, Chi Square, and General Linear Model procedures. Results of the CBCL C-TRF identified 25% of the sample with borderline or clinical findings in one or more of the 14 behavioral syndromes. The LDS identified 39% of the sample having verbal delays. Access to the community mental health system was difficult and only one preschool was successful in providing follow up due to mental

health therapists available at that center. The results indicated that a teacher led screening process was feasible for preschool children as a method for early identification of SED. Inferential analysis identified several indirect factors that may have influenced findings of this study. Variation in scores associated with gender and race of children was identified. Teacher educational background and type of center that the teachers worked also impacted results. Further research on teacher screening for serious emotional disorders in preschoolers is needed as well as increases in mental health service providers.

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CHAPTER I

Introduction

Mental illness has surpassed physical health problems as the leading cause for morbidity and mortality in American children (Hughes & Wright, 2006; National Alliance on Mental Illness, 2007, Substance Abuse and Mental Health Services Administration, 2011). Of the 15 million children affected by mental illness, less than 20- 25% receive any treatment (Centers for Disease Control, 2006; Edelsohn, Braitman, Rabinovich, Sheves, & Melendez, 2003; Evans, 2006; Knitzer & Cooper, 2006; NAMI, 2010; Satcher, 2004). The Center for Disease Control (CDC) reported public health studies with the prevalence of serious emotional disorders to be 13-20%, or one in five children, during the years 2005-2011 (2013). The prevalence of mental illness has risen and suicide has moved up to the second leading cause of death in children age 12-17 (Perou, et al., 2013).

There are many terms used to describe mental illness in children. The term Serious Emotional Disorders (SED) has been most often used with childhood disorders and is defined as “diagnosable mental health disorders with extreme functional impairment that limits or interferes with the ability to function in the family, school, and/or community” (Stroul, 2002 p.3). For adults, people over the age of 18, serious mental illness is the equivalent term used in federal regulations for any diagnosable psychiatric disorder that affects work, home, or other areas of social functioning (Insel, T. 2013). Major mental illness refers to the classic psychiatric diagnoses that are based on

symptoms and behaviors described by or observed of the client. The detailed criteria are provided in the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000).

Children are often not labeled with a major mental illness in early childhood in order to avoid stigma and to validate diagnoses. Delay in psychiatric diagnosis has been appropriate when attempting to differentiate behaviors associated with the varying developmental stages of childhood.

South Carolina, like all states in America, shares the burden of mental illness that occurs in children. In 2009, South Carolina (SC) Department of Mental Health (DMH) served 30,422 children. Unfortunately, an estimated 25,000 went without mental health treatment. Children with SED comprised 51% of the children treated by DMH in 2010. In partnerships with First Steps, and the Department of Health and Environment Control (DHEC), DMH treated 1551 children age five and under in community mental health centers. A total of 13,950 children were treated in school by DMH mental health counselors. The SC Department of Education reported serving 3,054 children with autism spectrum disorders. Unfortunately, state budget cuts have resulted in fewer schools in the partnership program and fewer DMH staff to provide interventions (Joint Citizens and Legislative Committee on Children, 2011).

National prevalence of serious emotional disorders in the 0-5 age group has ranged from 9.5% to 14.2% (Brauner & Stevens, 2006). A recent study by Carter and associates (2010) found that 21.6% of 5-year olds transitioning to school settings were identified as having one or more psychiatric disorders with impairment. The risk of having multiple disorders was 5.8%.

The American Academy of Pediatrics (2006) included childhood mental impairments that impose functional limitations in major life activities as developmental disorders or developmental disabilities. Early identification of children born with predisposing risk factors for delayed development or developmental disorders has been vital to effective treatment during neurobehavioral development in the first years of life (Dawson, Sterling, & Faja, 2009). Early detection of developmental disorders has been lower than actual prevalence and illuminates a shortfall in the current healthcare delivery system for children (Zero to Three, 2012).

Risk Factors Associated with SED

Preschool children have been especially vulnerable for SED and developmental disabilities due to ecological factors that interfere with optimal brain development. During the first years of life, studies have shown rapid neuronal proliferation occurring within the brain along with development of cognition, personality traits, and patterns of speech and communication (DiStephano & Kamphus, 2007; Roza, Hofstra, Ende, & Verhuist, 2003; Sosna & Mastergeorge, 2005). Research has demonstrated the importance of the first three years of life in establishing the foundational emotional health required to prepare children to effectively engage in cognitive tasks (Thompson, Goodvin, & Meyer, 2006; Zeannah & Zeannah, 2009). Emotional development precedes thought and language development (Hart, 2011). Failure to develop healthy emotional responses can lead to early onset behavioral problems that can evolve into a variety of health and behavior problems amplified in adolescence, including school failure, delinquency, and antisocial behavior (Blair, Finger, & Marsh, 2010; Brauner & Stephens, 2006; Wakschlag & Danis, 2009).

Early childhood is also a vulnerable period due to limited opportunities for external observations of behavior outside the immediate family. Minimal contact with health care providers during brief well baby visits may not provide an adequate glimpse of the child's psychological development and behavior patterns (Essex et al., 2009; Theoktisto, 2009). Parents' views of "normal" behavior vary widely, and when accompanied by genetic predisposition of mental illness in families, contribute to emotional/behavioral disorders being overlooked or left unidentified (Barnard, 1999; Burstein, Ginsberg, Petras, & Ialongo, 2009; Luby, Xuemei, Belden, Tandon, & Spitznagel, 2007). Delays in identification of disorders and subsequent treatment can negatively impact the cognitive development, social skills, and school success of young children (Joint Citizens & Legislative Committee, 2013; Lerner, 2005; Weisz, Sandler, & Durak, 2005).

Preschool children have been vulnerable to the quality of care provided to them by their parents or caregivers. Emotional and cognitive development has been shown to be significantly influenced by a child's surrounding ecology, and children can easily be traumatized by neglect, direct abuse or exposure to violent events in their home or neighborhood (Brotman, et al., 2005; Harvard University, 2010; Letourneau, Schoenwald, & Sheidow, 2004). Significant numbers of children have also been victims of physical and sexual abuse and/or witnessed violence (Stagman & Cooper, 2010).

Abuse and family violence has been shown to trigger traumatic stress disorder which, left untreated, has been associated with aggression and anti-social behavior (Blair, Finger, & Marsh, 2010; Meltzer, Doos, Vostanis, Ford, & Goodman, 2009; Wu & Kahn, 2005). Children who were exposed to physical and sexual abuse of their mothers were

significantly more likely to develop depression and anxiety (McFarlane et al., 2007). Children who were sexually or physically abused themselves were four times more likely to develop major depression or commit suicide during childhood and throughout their lifespan (Angold & Egger, 2007; Briggs-Gowan, Carter, Augustyn, McCarthy & Ford, 2010; Pliszka, 2003; Rudolf & Hughes, 2001; Waksclag & Danis, 2009).

Children age 0-5 have many risk factors for developing SED and for lack of detection or intervention until they enter school. The 0-4 age period of children has been shown to be a critical period for neuronal development and thus cognitive and emotional development. Multiple risk factors have been identified as reasons for lack of detection until preschool or kindergarten. These include: the mental health of the parents/caregivers, ecology of the home and neighborhood, exposure to trauma and violence, isolation within the home, lack of parental understanding of normal early childhood development, and parental mental illness/substance abuse.

Importance of Early Intervention

Early identification of children age 0-5 with emotional and/or behavioral disorders has shown clear advantages for the long term lifetime success of the child. Early identification and intervention can prevent or mitigate the negative outcomes of mental illness that ravages quality of life in adolescence and adulthood (Arango, 2010; Essex, et al., 2009; Roza, Hofstra, Ende & Verhuist, 2003; Sosna and Mastergeorge, 2005). Screening and early intervention for developing mental illness in young children has been shown to be essential for parents to promote school success for their child and to ensure social and financial independence as the child matures into adulthood (Henderson & Strain, 2009). Nationwide, early screening, identification, and treatment of

preschoolers with emotional or behavioral disorders have become a critical priority in order to reduce the increasing burden of healthcare costs for mental illness and psychiatric care (DiStephano & Kamphaus, 2007).

Despite the relative importance of early screening and intervention, there are few studies focused on screening tools for preschool age children (Angold & Engler, 2004; DiStephano & Kamphaus, 2007; Scheerings & Haslett, 2010). Additionally, many infants, toddlers, and preschool age children with social-emotional developmental delays and disorders have not been identified, or when identified, have not received needed services and intervention (Huang, Stroul & Friedman, 2005; Sosna & Mastergeorge, 2005; Zimmerman, et al., 2009).

Merikanges' study team found that only 36% of children with mental illness receive services and the majority of that group receives six visits or less from a provider over their lifetime (2011). Similar to other medical diagnoses, early detection, screening, and treatment of early childhood mental illness is far more effective and less costly than late in the child's life when the damage is done and a maladaptive personality formed (Sosna & Mastergeorge, 2005). The generational cycle of illness and the extreme economic burden of SED will continue until adequate mental health care is available to every child and family.

The importance of theory-driven empirical research to prevent and cure SED cannot be over-emphasized. These disorders can be catastrophic to children and families, shattering any hopes of a normal life course. Estimated US costs in dollars of inadequate funding for children's mental health services includes: 32 billion to school systems, 14 billion to child welfare systems, 9 billion to juvenile justice, 3 billion to provide health

care to treat chronic physical problems resulting from untreated mental health disorders, and 1 billion in society costs due to lost productivity as adults (Geller and Biebel, 2006).

Lack of psychiatric care and or inadequate insurance funding contributes to youth with mental illness being committed to the juvenile justice system. Of the youth in the juvenile justice system, over 70% have diagnosable mental health problems (81% female, 67% male) and 27% have disorders that are severe and require immediate intervention (International Society of Psychiatric Nurses, 2010; Coccozza, Skowrya, & Shufelt, 2006). A study in California found that mental health was a critical gap in juvenile justice services. California spends \$10.8 million annually for state detention facilities to house children because of lack of mental health services in the community (Berkely Center for Criminal Justice, 2010). In 2006, Geller and Biebel reported that every night at least 2000 children waited in detention facilities for community mental health services. Given the lack of identification of mental illness, and access to prevention and treatment, further research is necessary to identify the best way to screen for SED in the 0-5 age range. Additionally, more research on facilitating access to care for the same age group is needed.

Purpose of Study

The purpose of this study was to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of SED. A second purpose was to evaluate the success of facilitating access of children into the community mental health system to provide early intervention. Current evidence has shown the benefit of using teachers in the school or child care setting as effective observers in identifying children with SED (Cai, Kaiser, & Hancock, 2004; DiStefano & Kamphaus,

2007; Ferdinand, et al., 2004; Kerr, Lunkenheimer, & Olson, 2007; Rescorla, 2005).

This study used the Child Behavior Checklist Teacher Report Form (C-TRF) designed for children ages 18 months to 5 years as a screen for SED. The CBCL C-TRF is part of the Achenbach System of Empirically Based Assessment (ASEBA) which includes the Child Behavior Checklist (CBCL) 1.5-5 and the Language Development Survey (LDS). Results from these survey instruments will be compared to the DSM-IV (2000) diagnosis by mental health professionals as reported from parents/guardians.

Research Questions

This study seeks to answer the following questions:

1. What is the feasibility of implementing a teacher screening process for preschool children as a method for early identification of SED?
2. What is the perceived burden of screening children ages 1-5 with the CBCL-CTRF by preschool teachers?

Summary

Mental illness has been found to affect a significant number of children with associated long term psychiatric, educational, and social consequences when left untreated. Preschool children were found to be at high risk for developing mental illness when exposed to unhealthy environments, lacking the critical attention needed for nurturing or lacking focused interactions with care givers needed for social, emotional, and cognitive development. Research over the last two decades has identified mental illness in very young children and correlates early dysfunction with chronic mental illness in adults. Despite what is known, limited progress has been made in translating this knowledge into actual practice or standards of care in communities. This study's aim is

to evaluate the feasibility of teacher screening for mental illness and successful referral to the community mental health system for those children that screen positive.

CHAPTER II

Literature Review

This chapter reviews the current state of the science on young children affected with serious emotional disorders and the value of intervening early to promote best possible outcomes. The conceptual framework that anchors this research is explained in detail. Screening methods published in the literature are described, including the types of measures, methods for observing child behavior, and age specifications for each instrument. The challenges associated with access to mental health services, as well as the systems of care available to children, are discussed in context with this study setting.

Theoretical Framework

The theoretical foundation for prevention and treatment of children with SED is based on the dynamics within the child's ecology. The Human Ecology theory was established by Bronfenbrenner (1979) who thought a child's life and emotional development were based on a complex network of interconnected systems that encompass individual, family, and extra-familial factors. The most distal influences include societal, economic, and cultural influences on the child's family and community. The Human Ecology Theory has been readily accepted and incorporated into multiple aspects of healthcare and psychological interventions such as Head Start programs.

A middle range theory proposed by this author (Robey-Williams, 2011), Ecological Impacts on Neuronal Development, captures essential elements of Bronfenbrenner's Ecology theory related to child emotional and cognitive development.

This theoretical model emphasizes the inter-relational importance of the child's overall ecology, parent-infant interaction, genetic factors, prenatal-fetal exposure, nutrition, parent support system, and environmental factors. The child's ecology, unto which they are conceived, is the independent variable and healthy development the dependent variable. The core axiom is that all facets of the child's ecology affect healthy physical, cognitive, and emotional development. The four concepts that contribute to the child's ecology are safe home and basic needs met, freedom from exposure to violence either directly or indirectly via family/neighborhood violence, quality of parent-child interaction that extends backward into pregnancy, and cognitive stimulation which encompasses all contacts including extended family, peers, daycare, school, and so on. These variables are collectively responsible for the neurological development in the child. Brain injury or damage in utero or after birth will directly affect neurological development in the child. Neurological impairment also will directly affect the child's ability to engage with its ecology; hence the model depicts a two-way relationship. A conceptual model is provided (Figure 2.1) which highlights the factors contributing to the emotional health of preschool children (noted in yellow).

The Ecological Impact on Neuronal Development posits that factors in a child's ecology are the independent variables that effect the healthy development of cognition/intelligence, physical health, and personality (dependent variables). A child's behavior and ability to successfully interact with family and establish relationships with others is the outcome influenced by these multiple variables.

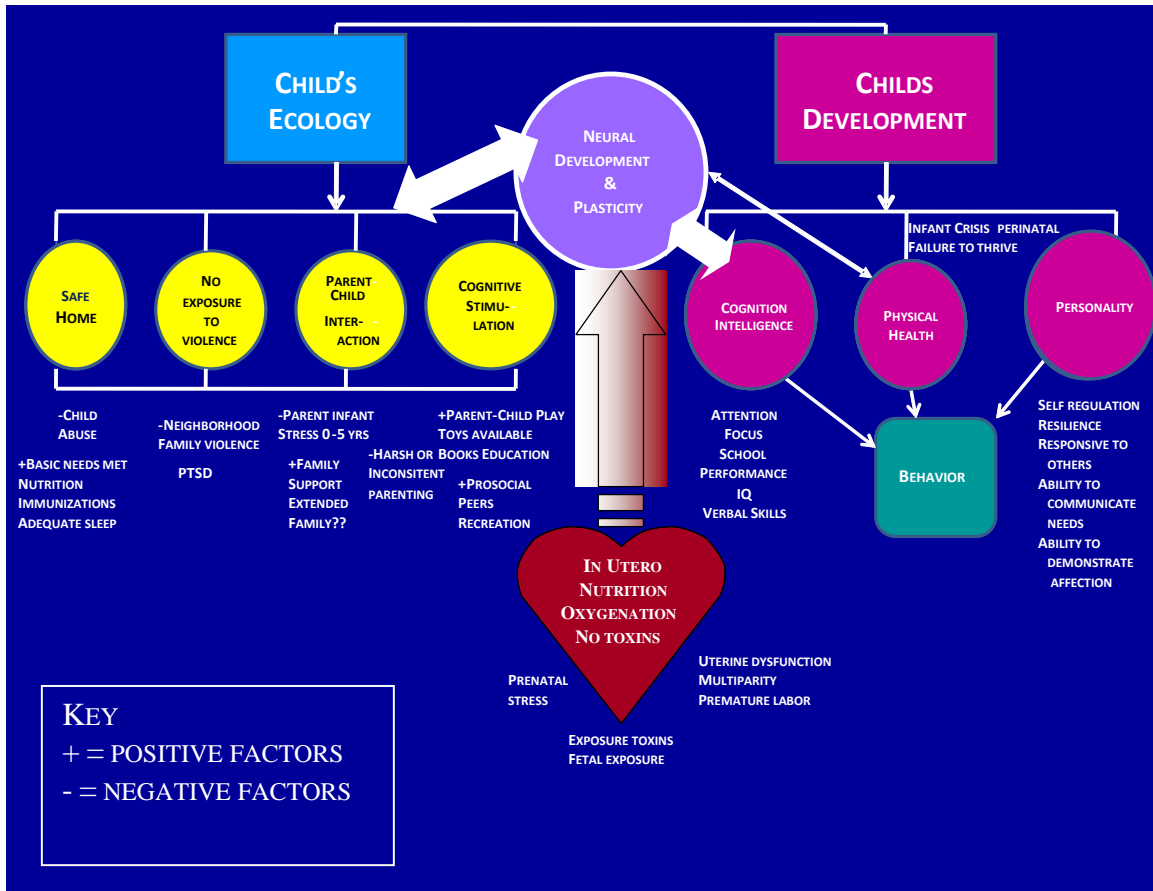


Figure 2.1 *Ecological Impacts on Neuronal Development*

Prevalence of Serious Emotional Disorders

In review of the current literature, children with serious emotional disorders (SED) were predominately 11-12 years of age, male, within economically disadvantaged families, and had family issues or disrupted households (Aztaba-Poria, Pike, & Deater-Deckard, 2004; Edelsohn, Rabinovitch, & Portnoy, 2003; Evans et al., 2001; Evans & Boothroyd, 2002; Gibbons & Lavigne, 1998; Kelly et al., 2003; Mark & Bruck, 2006; Miller & Taylor, 2005; Rosenzweig, Brennan, & Ogilvie, 2002; Sills & Bland, 2002; Thomas, Conrad, Casler & Goodman, 2006; Zito, Safer, Gardner, Soeken & Ryce, 2006). The most prevalent psychiatric diagnoses included: Attention disorder hyperactivity disorder (ADHD), depression, and autism/ pervasive developmental disorder.

The National Health and Nutrition Examination Survey (NHANES) surveyed 3,042 children and adolescents ages 8-15 during the years from 2001 to 2004. The study found that 13% of the respondents had at least one of the six targeted mental health disorders in the last year, with ADHD being the most common at 8.6%. The lifetime prevalence for a severe mental disorder was 21.4%. Children from lower socioeconomic status were more likely to report having ADHD, while children from higher socioeconomic status were more likely to report having anxiety disorder. Interestingly, more children with ADHD had consulted with a mental health professional (55%) while significantly less had sought consultation for anxiety disorders (32%). Mexican-American children had significantly higher rates of mood disorders but their families were much less likely to seek treatment than families of Caucasian children (NIMH, 2009).

The 2011-2012 NHANES found that 7.5% of children ages 6-17 used prescription medications during the past six months for emotional or behavioral difficulties. Males 12-16 were the highest age/gender with 10.2% using prescription medications. Non-Hispanic white children were the highest consumers of medication at 9.2% followed by Non-Hispanic black (7.4%) and Hispanic (4.5%). Children below the poverty level were more likely to use prescription medications than children of families above the poverty level. Children insured by Medicaid or Children's Health Insurance Program (CHIP) were more likely to use prescription medications (9.9%) versus children privately insured (6.7%) or uninsured (2.7%) (Howie, Pastor, Lukacs, 2014).

Socioeconomic Factors and SED

Children from low-income households in 2008 (< 200% federal poverty level) had almost twice the incidence of mental illness, 7.8% compared to 4% for children above the federal poverty level. Only half of those children received any treatment (National Center for Children in Poverty, 2013). In 2012, 440,000 South Carolina children lived in poverty. Of these children 93,000 received special education, 25,400 were the subject of a child maltreatment investigation, 17,000 were referred to family courts due to juvenile delinquency charges, and 800 lived in foster care (Joint Citizens and Legislative Committee on Children, 2013).

A study by Evan's team (2011) found that childhood poverty is associated with brain impairments. A 14 year longitudinal study following 195 children measured physiological stress load, measures of cortisol, epinephrine, norepinephrine, blood pressure, and body mass index (BMI). The results demonstrated that lifelong poverty was associated with high stress and a 20% reduction in working memory. Working memory was defined as the short term memory required for learning and brain development.

Developmental Age and Emergence of SED

The incidence of SED is significantly high in American youth. Current estimates are 13-20% of children (CMS, 2013) and the projected demand for mental health services is expected to increase by 100% in 2020 (NRC & IOM, 2009). Coupled with substance abuse, psychiatric illness and the need for intervention has become critical for all ages of youth in our US healthcare system.

Preschool children ages 2-5 have very similar rates of mental disorders as older children and adolescents (ISPN, 2010). The crux of the problem is that many parents do not understand that the problematic behavior they observe with their child is indicative of SED. Pediatricians are also reluctant to diagnose a psychiatric disorder based on parent reports, the child's young age, and stigma associated with mental illness. Children this age with behavioral disorders are three times more likely to be expelled from preschool or day-care than older children in the regular school system (Children's Defense Fund, 2014; Gilliam, 2008).

In Colorado, a statewide survey of preschools found that 11% of the children attending Child Care Centers and Family Child Care Homes exhibited challenging behavior. The top three behaviors were "hurts self or others" (23%), "disrespectful/defiant" (14%), and "irritable, mad, or frustrated easily" (10%). Preschool providers reported that 10 per 1,000 children were expelled from their programs over the last 12 months due to challenging behavior (Hoover, Kubicek, Rosenberg, Zundel & Rosenberg, 2012).

It is known that preschool children who had access to quality healthcare, comprehensive mental health screens, and assessments had better outcomes. Preschools that had access to mental health consultation had lower expulsion rates. Clearly, children with challenging behavior require the benefits of a preschool setting for structure, socialization, and early childhood education curriculum in order to improve the child's resilience and succeed academically (Children's Defense Fund, 2014).

The National Research Council and Institute of Medicine (2009) identified the lifetime prevalence of mental disorders as 46.6% with half of these disorders emerging by

age 14. Expanded knowledge of cognitive and emotional development coupled, with improved systems of care for infants and toddlers, has brought about acceptance that serious emotional disorders/mental illness do, in fact, emerge in preschool children.

One of the most common early emerging behavior disorders in preschool children is Attention Deficit Hyperactivity Disorder (ADHD). ADHD is considered the most common disorder affecting about 7% of US children (CDC, 2013). This disorder has been shown to be easily treated with multiple forms of medication. However when left untreated, cognitive development and learning capability were negatively impacted (Baker, Neece, Fenning, Crnic, & Blacher, 2010; Edmund, Sonuga-Barke, & Halperin, 2010).

In addition to ADHD, Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), and Adjustment Disorders all have been apparent early in childhood. The behaviors associated with these disorders were stable over time, and continued in the preschool and school age youth. The incidence of Conduct disorders (ODD and CD) was 3.5% (CDC, 2013). Adjustment disorders have been reported in as many as 70% of hospitalized children (Flory, Yehuda, Grossman, New, Mitropoulou & Siever, 2009; Encyclopedia of Mental Disorders, 2011). Mood disorders were the most common diagnoses for all hospital stays with US children (CDC, 2013).

Pervasive Developmental Disorders, which includes autism spectrum disorders, affected one in 68 or 1.47% of 8-year old children (CDC, 2014). The prevalence of Autism has increased 64% since 2006. This is attributed to both improved detection by parents and pediatricians, and an increase in actual incidence of the disease. There is great debate as to why the increased prevalence and more public health studies are

required to answer the question. In autism spectrum disorders normal developmental milestones were missed after 6-8 months of age. Infants have demonstrated delays in attending to their name and to objects pointed out by their caregivers. Toddlers have demonstrated delays in speech triggering referrals for formal testing by two years of age (Bishop, et al., 2012). The wide variation in autism spectrum symptom presentation by children can only be effectively managed when astute observation and vigilant diagnostic skills are deployed by healthcare providers to address various components of the disorder.

Asperger's syndrome is an example of an autism spectrum disorder that has challenged teachers in school systems nationwide. Children with Asperger's, considered a higher functioning form of autism, demonstrate normal verbal skills and cognitive development. However deficiencies are observed in social skill and emotional intelligence development. Behavioral issues often do not become apparent until the child is pressed to adapt to the social world of school. Unfortunately, without proper psychiatric care, these children often are removed from traditional classrooms and placed in special education programs.

Anxiety, depressive, and other Axis I disorders have shown an increase in incidence with increasing age. The incidence of anxiety disorders was 3% and depression 2.1% (CDC, 2013). This pattern raised several questions. Has the incidence of Axis I diagnoses actually increased with age? Or has the psychopathology been present at an earlier age but not identified or diagnosed due to inadequate knowledge of differentiating problem behaviors from variations in normal behavior based on developmental age (Wooley & Muncey, 2004)?

Current evidence has shown that mood disorders can be diagnosed in preschoolers with the appropriate assessment and observation skills for the age group (Luby et al., 2009). Improved screening methods have identified younger children with mood disorders which would not have been identified a decade ago. Children are also affected by the increase in physiological and ecological stressors as they develop. As children mature and become more independent, high risk behavior and substance abuse become more prevalent (Mrakotsky & Heffelfinger, 2009). It could be that multiple factors intrinsic to children and extrinsic factors associated with the study of children that contribute to the pattern of increasing incidence of mental illness as children age.

The origin of mental illness is still not thoroughly understood. It is also unclear why children from lower income families have a higher incidence. Research over the last two decades suggests that the stress response during fetal development and during critical periods in the formative preschool years can negatively impact cognitive and emotional development. The evidence is compelling and supports early identification of mental health issues in pre-school children.

Importance of Early Intervention

Early identification of mental health disorders has proven to be crucial for optimal development of infants and children (APA, 2014; CMS, 2013). Intervening early has been found to reduce disability, ameliorate the effects of the disorder rather than becoming entrenched in the child's developing personality, and costs much less to manage (Children's Defense Fund, 2010). As a part of this movement, the American Academy of Pediatrics recommends assessment of psychosocial, mental health, and

substance use for parents and children during well child visits from newborn to age 21 (2014).

The prenatal period has also become a focus of concern for both the mother's emotional well-being and the overall optimal development of the fetus. In Canada, stress, depression, and anxiety was found to affect 15%- 25% of pregnant women (Kingston, McDonald, Tough, Austin, Hegadoren & Lasiuk, 2014). In a study in Hawaii, women were interviewed during their first prenatal visit for depression, anxiety, and substance abuse. The study found 61% of the pregnant women screened positive for at least one mental health issue. The top categories of issues were: anxiety (13%), alcohol use (13%) with 5% reporting problem drinking, and depression (5%) (Goebert, Morland, Frattarelli, Onoye, Matsu, 2006).

In 2012, the American Congress of Obstetricians and Gynecologists reaffirmed their commitment to screening for depression during and after pregnancy. Rationale was twofold; first, depression was a very common occurrence; one in seven women treated for depression during the year before and/or after pregnancy. Second, children have better behavioral health outcomes when their mothers are not depressed or the depression is effectively treated (ACOG, Committee Opinion #453, 2010).

In South Carolina, The Department of Health and Human Services launched Birth Outcomes Initiative (2011) to improve birth outcomes and prevent premature deliveries. The six core objectives included implementation of a universal screening and referral tool (SBIRT) for physicians' offices to screen pregnant women (post-partum as well) for tobacco use, substance abuse, alcohol use, depression, and domestic violence (SC DHHS, 2014). The prenatal cause and effect impact of toxin exposure from mother to fetus is

tangible and measurable. The impact of stress and presence of mental illness during pregnancy is less clear. Following birth, the importance of bonding with a primary caregiver is critical to the child's future development and ability to form healthy relationships (UCDMC, 2014). Pregnant women need to be safe, nourished, and surrounded by loving people who support them and ease their stress. This is a prevention intervention to insure children are born with the best opportunity for neurodevelopment (Szalavitz & Perry, 2010).

Quality mother-infant relationships provide the emotional foundation for child development and require the emotional availability of both partners for success. Many factors (Table 2.1) have been shown to interrupt emotional availability for the infant and mother/caretaker (Hart, 2011; Perry & Szalavitz, 2006; Paulsen, 2002; Rosenblum, Dayton, & Muzik, 2009; Szalavitz & Perry, 2010). Studies showed that both genetic transmissions of psychiatric illness as well as poor ecology created mutual stress and dysfunction for both the infant and mother (Bolten, Wurmser, Buske-Kirschbaum, Papousek, Pirke, Hellhammer, 2011; Goodman, Rouse, Connell, Broth, Hall, Heyward, 2011; Hudson, Dodd, & Bovopoulos, 2011; Kingston, Trough, Whitfield, 2012; McCrory, DeBrito, Viding, 2011; Walker, Wachs, Grantham-McGregor, Black, Nelson, Huffman, et al., 2011).

Early screening of infants and toddlers has been found effective in improving the ecology as well as fostering nurturing interactions necessary for child neurodevelopment (Perry & Dobson, 2013; Gaskill & Perry, 2014).

Table 2.1

Barriers to Emotional Availability

Infant Factors	Mother Factors
Prematurity/Low birth weight	Teen Parent
Health/Illness	Health/Illness
Fatigue	Fatigue
Nutrition/Iron Deficiency	Isolation
Neurobehavioral Disabilities	Overwhelmed with day to day issues
Temperament	Debilitating Life Circumstances
Developmental Vulnerabilities	Mental Illness/Substance Abuse
Exposure to toxins	Poverty
Exposure to violence	Domestic Violence
Delays in basic needs being met	Lack of Parenting Support/Lack of Parenting Skills

The relationship established between mother/caregiver and infant in the first days of life has been crucial to the emotional development of the child (Leerkes, Blankson, & O'Brien, 2009). The infant's nervous system exists in a fragile state in the first months of life. Caregiver attention and support provide the external regulation required to prevent the infant's system from being overwhelmed. The absence of support causes cortisol levels to spike. Over activation of cortisol stimulates both the primitive parasympathetic system and the sympathetic system. Normally these systems oppose each other and create balance in hormonal response. When these systems are triggered concurrently during the formative infant years, it can result in antisocial behaviors that develop as the child ages (Hart, 2011). Neuroendocrine physiology during intrauterine life allows the developing fetus to be vulnerable to maternal toxins and stress hormones. Early

identification of high risk mothers during pregnancy has been effective in improving child mental health outcomes (Lester, Marsit, & Bromer, 2014).

The first relationship the infant has with the mother or primary caregiver serves as the model for future relationships. When the dyad formed a secure attachment the infant has learned to trust (De Hann & Gunnar, 2009; Hart, 2011; Perry & Szalavitz, 2006).

When the caregiver responded to the infant's needs, the behavior demonstrated that the child was worthy of love. Conversely, when the caregiver was unresponsive, the infant has learned to distance and withdraw. Insecure attachment at infancy has been found to be associated with disruptive behavior disorder (Belden, Sullivan, & Luby, 2007; Broussard & Cassidy, 2010; Dayton, Levendosky, Davidson, & Bogat, 2010; Johnson, Dweck, & Chen, 2007; Leerkes, 2010; Lobo, Barnard, & Coombs, 1992; Mantymaa, Paura, Luoma, Vihtonen, Salmelin & Tamminen, 2009; McCall, Groork, & Fish, 2010). Lack of attachment during infancy coupled with an unresponsive parent has been found to lead to oppositional disorder in older children (Flouri, Mavroveli, & Tzavidis, 2010; Hart, 2011; Steiner & Remsing, 2007; Thompson, Goodvin, & Meyer, 2009). Early interventions to foster secure attachment have been successful in preventing disruptive behaviors in high risk children who were identified (Cicchetti, Ragosch, & Toth, 2006; Hoffman, Marvin, Cooper & Powell, 2006; Stronach, Toth, Rogosch & Cicchetti, 2013).

Secure attachment, ability to trust, mutual responses to communication, were all factors critical to personality development. Dysfunction during this formative period contributed to personality disorders in adults (Ingram & Price, 2009). Inability to trust has been shown to lead to paranoia or avoidant personality. Insecure attachments and ambivalence toward relationships has led to schizoid or schizotypal disorders. Social

withdrawal has led to anxiety in passive children or aggressive behavior/conduct disorder in children who externalize (Rockhill, Collett, McClellan, & Spelz, 2009).

Infant behavior also affects the parent-child dyad in bonding effectively. Normal newborn behavior includes cuddling toward the caregiver, grasping and holding with fingers, and rooting toward the breast. Researchers have observed some newborns, shortly after birth, lack this innate cuddling response. These infants also have demonstrated the inability to soothe using routine “mothering” interventions. ‘Difficult babies’; those who are difficult to soothe or make comfortable, have shown a propensity to grow into children with behavioral disorders or who develop mental illness later in childhood (Dombrowski, Timmer, Blader & Urquiza, 2005; Egger & Angold, 2006; Lavigne et al., 1993; Liu, 2004; Powell, Smith, & Fox, 2007; Steiner & Ramsing, 2007). Early intervention has been effective with babies who have excessive crying or inability to soothe. Better outcomes were found with an empathetic non-blaming approach toward parents focused on diagnosing the cause of the infant’s discomfort while also building the parents’ capacity to support their child (Gilkerson & Gray, 2014).

Postnatal psychological stress has been shown to influence both mother and child after birth as well. A hostile environment of verbal and/or physical abuse has produced chronic stress response in young children (Schechter & Willheim, 2009). In a London study, marital dissatisfaction, although indirect to the child, predicted internalizing problems for the child (Atzaba-Poria, Pike & Deater-Deckard, 2006).

Thompson and colleagues (2008) found that marital conflict and domestic violence produced emotional flooding in children. The children’s heightened sensitivity to parental distress and anger contributed to over involvement in parental conflicts and

difficulty regulating their own emotions. Early childhood intervention with families has been found to be effective in reducing emotional flooding and enabling the child to appropriately regulate their response to stimuli and improve resilience and behavior (Fraser, et al., 2013; Gaskill & Perry, 2014; Mence, et al., 2014; Thompson, 2011).

The challenge of providing early intervention to this age group required gaining access to the family unit. Often the caregivers themselves were not aware of their child's issues. The National Survey of Child and Adolescent Well Being study found caregiver depression negatively affecting CBCL scores in 19-month to 36-month old children in families with child welfare histories. Only 2% of the children were receiving any mental health services. After parenting skills training was provided to those caregivers, over 19% of the children received mental health services (Horwitz, et al., 2012). Meeting families where they live in their neighborhoods has been the most effective way to reach children and intervene with parent education and support. Screening programs have been recommended for early identification of mental health in children. Key agencies have provided parent education on the web (Mental Health America, 2014; NAMI, 2014; Zero to Three, 2014) but to reach high risk families, focused effort must be launched in communities via schools, pediatrician offices, and childcare centers.

Recent advances in neuroscience have identified avoidable factors linked to serious emotional disorders (SED) in children (McCroroy, DeBrito & Viding, 2011; Weisz, Sandler, & Durak, 2005). These factors include a quality fetal environment, successful infant-parent bonding and attachment, attentive and sensitive parenting to facilitate the child's emotional regulation, protection against exposure to violence and abuse, and consistent expectations and boundaries without harsh discipline (CDC, 2013;

Zeanah & Zeanah, 2009). Early detection of emotional disorders in infants and preschool children has been found to be essential in targeting the needs of high risk families (Briggs-Gowan, Carter, et al., 2013) as well as insuring early childhood social and emotional competency, peer acceptance, cognitive development, and school achievement (McCabe & Altamura, 2011).

Childhood Maltreatment and Trauma

Very young children have been directly affected by the adults and environment in which they live (Pumariiega & Rothe, 2003; Rifken-Graboi, Borelli, & Enlow, 2009). The developing brain is influenced by the interaction of the perceptual information received by the child and by feedback from the attention systems, threat and stress regulatory processes, and learning mechanisms (Sanchez & Pollack, 2009). Early maltreatment during the toddler stage of development has been linked to abnormal cerebral cortex and limbic system structural development (Dombrowski et al., 2005; Sanchez & Pollack, 2009). Children exposed to trauma and neglect or family violence may exhibit symptoms consistent with diagnoses seen in older children and adults. These include post-traumatic stress disorder (PTSD), ADHD, depression, conduct disorder, and ODD (CMS, 2013).

Despite our knowledge of the devastating effects of child abuse on children's brain and emotional development, child maltreatment continues to plague our nation. Federal statistics from 2010 (HHS, 2012) reported an estimated 3.3 million referrals for maltreatment to an alleged 5.9 million children. Of those investigations 60.7% were screened positive for maltreatment. Neglect was the highest finding at 78.3%, physical abuse was 17.6%, and sexual abuse was 9.2%. Children with disabilities were highest at

risk for child maltreatment. The largest single age for maltreatment was infants under one year (12.7%). Young children remain the primary victims for physical and sexual abuse with 80% being under the age of four years. Children found to experience multiple forms of maltreatment (neglect and abuse) were 40.8% of the 754,000 total incidents. The national victim rate was 10 per 1,000 children. National fatalities from maltreatment in 2010 were 1537 or 2.07 deaths per 100,000 children. Recurrence of abuse within six months of initial report also increased from previous years and was 3.2% of cases. Maltreatment in foster care also increased in 2010 and was reported to be 4.3% of total cases (HHS, 2012).

In 2010, South Carolina reported that 12,191 children had maltreatment at a rate of 11.3/1,000 children. A total of 43,155 reported cases resulted in 12,191 substantiated neglect or abused children. Neglect accounted for 66% of cases followed by physical abuse 35.9%, and sexual abuse 5.3%. SC reported 25 fatalities or 2.3 per 100,000 children (HHS, 2012).

Sexual Abuse

Sexual abuse was a frequent occurrence with 1 in 4 girls and 1 in 6 boys abused before the age of 17. Most children were abused by nonfamily friends or acquaintances who were known and trusted (50%). A slightly smaller incidence of sexual abuse was perpetrated by family members (40%). The median age for reported sexual abuse in children was age nine but more than 20% of children were sexually abused before age eight. Children who were victims of forcible sodomy, sexual assault with an object, and forcible fondling were usually under the age of 12. Reports of sexual abuse in children

were most always accurate with a very small fabrication rate of 0.5% (Darkness to Light, 2010).

The significance of sexual abuse is not only the victimization and trauma that affects children at the time of the abuse, but the long term emotional pathology that plagues the child into adulthood. Multiple studies and clinical experience have shown a strong correlation between sexual abuse experienced in childhood and long term emotional disorders into adulthood (Darkness to light, 2010; McFarlane et al., 2003). Table 2.2 details long term outcomes of sexual abuse in childhood.

The incidence of child abuse and neglect has continued to rise in the US and has been an even larger problem in SC. South Carolina incidents were higher, with physical abuse being twice that of the national rate. Deaths associated with abuse were also higher in SC. Toddlers and preschool children have been shown to be extremely vulnerable to maltreatment, neglect, and exposure to violence as their brains form and neuronal pathways developed. The CDC estimated the overall US cost of confirmed child maltreatment to be \$124 Billion per year. This equates to a lifetime cost of \$210,012 per surviving victim and estimated loss of \$1,272,900 in medical costs and loss of lifetime productivity per child death (CDC, 2012). These statistics, although daunting, pale to the emotional devastation and personal cost to children and families who survive and suffer from long term emotional disabilities associated with abuse.

Traumatizing Interventions

Children have not only been traumatized by their parents or perpetrators of violence. Healthcare professionals, emergency medical providers, police, and mental health professionals intending to treat children have caused further trauma to be inflicted

Table 2.2

Long Term Outcomes of Sexual Abuse in Children

Increased pathology when forced to keep sexual abuse a secret
Increased pathology when adults do not believe child's report of sexual abuse
Post-Traumatic Stress symptoms
Increased sadness and incidence of Major Depression
Increased difficulty with school and lower school success
High risk for eating disorders in young girls
Difficulty with transition into adulthood and risk failure financially
Increased risk of physical injury in adolescents
Sexual abuse survivors report increased risk for drug and alcohol use (70-80%)
Increased psychiatric and substance abuse disorders (3X greater) in adulthood for sexually abused girls
Increased incidence of psychological treatment for substance abuse and suicidal ideation in 70% of male survivors
Increased perpetration of violence or victimization of other in males sexually abused
Long term behavior problems including sexual promiscuity are common in children who are victims of sexual abuse
Increase in teenage pregnancy (3X) in women who report childhood rape
Girls who have their first pregnancy in their teens often (60%) experienced molestation, rape, and attempted rape preceding the pregnancy
Sexual abuse often leads to first teen pregnancy (60%)
Abuse as a child is associated with 50% of women in prison
Sexual abuse as a young children has been reported in 75% of serial rapists

due to unknown triggers for the child (Perry & Szlavitz, 2006), improper techniques (Dallam, 2010), or inappropriate/insensitive management of behavioral crises (Anna Foundation, 2005; Gains Center, 2006). Teachers and therapists focused on the child's chronological age and not the individual child's emotional development have also been a

source of trauma for children with attachment and neuro-regulatory disorders (Perry & Dobson, 2014).

Screening Preschoolers for Mental Illness

Screening preschool children for mental health issues has been recommended by multiple agencies (AAP, 2013; APA, 2014; Children's Defense Fund, 2010; CMS, 2013). The American Academy of Pediatrics and Centers for Disease Control and Prevention recommend screening for developmental delays at every well-child preventive care visit (2013). Several evidence based surveillance kits are available to providers. The standard screens include developmental milestones, autism spectrum disorders, and ADHD. Currently no standardized screen for preschool mental illness exists in SC. The current focus of SC is targeting high risk children already referred for state services and enhanced preschool programs to improve school readiness and scholastic success (SC Health and Human Services, 2013; SC Joint Citizens and Legislative Committee on Children, 2013).

The National Early Childhood Technical Assistance Center compiled a compendium of developmental screening and assessment instruments that emphasize the social and emotional development of children from birth to age five. SC preschool providers have been required to achieve early learning standards as a contingency for licensure (SC COR Alignment, 2013). Specific screening or assessment for SED has not been incorporated into those standards.

A multitude of screening instruments are available for children. Several have been tested with youngsters age 0-5 and have demonstrated acceptable psychometric properties (Beg, Casey & Saunders, 2007; Briggs-Gowan, Carter, Irwin & Wachtel,

2004; Brown et al., 2005; Egger et al., 2006; Gleissner et al., 2008; Kendall et al., 2007; Massachusetts General Hospital, 2008; Minnesota Department of Health, 2008; Pavuluri et al., 2006; Saxe et al., 2003; Skovgaard et al., 2004). In preparation for this study, five different tools were reviewed in depth (Table 2.3). Key factors compared for use in this study were age range of children studied, reliability, ease of use, time to complete the screen, ease of scoring, and cost. The Child Behavior Checklist –Teacher Report Form (CBCL C- TRF) was selected for this study based on its strong psychometric properties, age range, and moderate cost.

Table 2.3

Selected Screening Instruments

INSTRUMENT AUTHOR YEAR	AGE	RELIABILITY	TIME REQUIRED	PROS	CONS
CHILD BEHAVIOR CHECKLIST TEACHER REPORT ACHENBACH 1997	1.5-5 YEARS	TEACHER SCALE N=1728 NORMED SAMPLE 700 MEAN CORRELATION .72 R= .81 TEST RETEST RELIABILITY ON LANGUAGE DEVELOPMENT .95	10 MIN.	TEACHER REPORTING SPANISH PROVIDES SCORES AND COMPARISONS FOR AFFECT ANXIETY PDD ADHD ODD LANGUAGE DEVELOPMENT	SOFTWARE 195.00 \$50/100 TESTS
BEHAVIOR ASSESSMENT SYSTEM FOR CHILDREN SECOND EDITION REYNOLDS & KAMPHAUS 2005	2-21 YEARS	INTERNAL CONSISTENCY .80 INDIV SCALES AND .90 COMPOSITE SCALES TEST RETEST RELIABILITY .7-.8 INTERRATER RELIABILITY .57-.74 VALIDITY COMPARED TO CBCL CORRELATIONS .7-.8	10-20 MIN.	SPANISH	SOFTWARE 259.00 \$28/25 TESTS
EARLY CHILDHOOD BEHAVIOR SCALE MCCARNEY	36-72 MONTHS	N=1314 INTERNAL CONSISTENCY .9	20 MIN	SUBSCALES CONSIST OF ACADEMIC PROGRESS SOCIAL RELATIONSHIPS	SOFTWARE 105.00

INSTRUMENT AUTHOR YEAR	AGE	RELIABILITY	TIME REQUIRED	PROS	CONS
1992		CORRELATION COEFFICIENT .81-.88		PERSONAL ADJUSTMENT	\$30/50 TESTS
BRIEF INFANT-TODDLER SOCIAL AND EMOTIONAL ASSESSMENT SCREENING FOR SOCIAL EMOTIONAL PROBLEMS AND DELAYS IN COMPETENCE BRIGGS-GOWAN CARTER, IRWIN, WACHTER, CICCHETTI 2004	12-36 MONTHS	PARENT SCALE N =209 INTERNAL CONSISTENCY .79 TEST RETEST RELIABILITY .87	7-10 MIN.	AVAILABLE IN SPANISH	TESTS AND SCORING GUIDE 110.25 /25 TESTS
TEMPERAMENT AND ATYPICAL BEHAVIOR SCALE BAGNATO NEISWORTH SALVIA HUNT 1999	11-71 MONTHS	N=1000 INTERRATER RELIABILITY .81-.94 INTERNAL CONSISTENCY .88- .95 HIGH TREATMENT AND SOCIAL VALIDITY.	SCREENER 5 MIN. ASSESSMEN T 15 MIN.	BEHAVIOR DESCRIBED IN 4 CATEGORIES DETACHED HYPERSENSITIVE- ACTIVE UNDERREACTIVE- DYSREGULATED	95.00

The Child Behavior Checklist was originally developed in 1966 (Achenbach) based on case histories of children. Over several decades the Child Behavior Checklist has evolved into multiple tools one of which is the Teacher Report Form (Achenbach, Edelbrock & Howell, C., 1987). Utilization of an age appropriate measurement instrument has been necessary for adequate diagnosis, treatment, and monitoring of outcomes in children. In pre-school children the CBCL C-TRF has demonstrated consistent efficacy.

The CBCL C-TRF includes 99 items related to school performance and adaptive functioning. Some examples are: "Acts too young for age"; "Cries a lot"; "Hits others". Teachers are asked to describe these behaviors based on how the child behaves now or in the last two months. These behaviors are scored by

teachers as '0' if not true, '1' somewhat true or sometimes true, '2' very true or often true. The CBCL C-TRF also provides opportunity for the teachers to list problems not provided on the tool as well as information about special needs, disabilities, or illnesses they know about the child.

When the CBCL C-TRF teacher results are entered into the computerized scoring system, the behaviors are categorized by symptom type and a graphic display is generated that includes: total score, T score, and percentile. The computerized scoring system compares each of the syndrome categories to an extensive database based on age and gender of the child. The resulting T scores for each syndrome indicate the level of clinical pathology based on the historical database of previous studies. Multiple data points result for each child and include six syndromes: Emotionally Reactive, Anxious/Depressed, Somatic Complaints, Withdrawn, Attention Problems, and Aggressive Behavior. The syndromes are further divided into internalizing behavior (first four listed) and externalizing behavior (last two listed). Stress problems are another result identified based on seven behaviors. In addition, DSM IV diagnoses have been linked to the syndromes. These include the following disorders: Affective, Anxiety, Pervasive Developmental, Attention Deficit/Hyperactivity, Oppositional Defiant. These data are conveniently presented in a graphic format easily understood by teachers and parents, demonstrating where the individual child scores compared to the historical database.

Screening by Teachers

Preschool teachers are in an excellent position to observe social skills, peer relations, and child response to tasks that require sustained focus. Teachers have greater

ability to evaluate children's competence to manage structured tasks where parents have greater opportunity to observe health related complaints and problematic behavior.

Achenbach & Edelbrock (1984) encourage multiple perspectives on child behavior and value the variation in assessments from different perspectives because the different views of the child are valid based on different contexts of the child's experience. Childhood experiences, parental influence, teacher relationships, and environmental factors constitute components of the ecology that surrounds every child.

Teachers are a huge asset in observing early childhood behavior. All preschools are required to evaluate their effectiveness in preparing children for school readiness. A preschool based NIMH study found that children identified as high risk for mental health problems while in preschool showed less oppositional behavior, less aggression, and were less likely to require special education services three years after enrolling in a comprehensive school based mental health program (NIMH Child and Adolescent Violence Research, 2009). Offering the services at the preschool facilitated the children receiving the much needed services.

The CBCL C-TRF was found to offer several key advantages over other instruments. The ability of preschool teachers to screen children was a strength in two ways. First, the teachers observe children daily and know their behavior patterns. Second, the efficacy of screening children long term depends on use of a tool that is reliable and easy to use by non-mental health professionals. Selecting an instrument with proven reliability in the preschool age group was critical. And finally, this instrument was economical and easy to score with an available software program to track children and compare multiple observations.

Access to Care

Screening young children is only the first step toward preventing or treating SED. Convincing parents to pursue professional psychiatric treatment remains the next hurdle. Parental follow through to actually initiate treatment appointments and continue with ongoing treatment has been an even greater challenge given our current healthcare system. A sobering study of over 7,600 children age 7-11 found that 95% of the children did not receive services by any healthcare provider regardless of diagnosis or behavior disorder (Jensen, Goldman, Offord, Costello, Friedman, Huff, Crowe, et al., 2011).

A child's access to treatment was found to be directly related to their caregiver's ability to provide health insurance. In 2007, 3.4 million children had no insurance, 7.6 were without insurance for part of the year, and 14.1 million or 22.7% were underinsured. In 2009, a total of 29 million children were enrolled in Medicaid and another 7 million in the Children's Health Insurance Program CHIP (Kogan, et al., 2010). A study by the National Center for Children in Poverty found in 2012 that 7% of infants and toddlers living in low income homes were still not covered by insurance. The majority, 75%, were covered by public insurance (NCCP, 2014). The Affordable Care Act continues to evolve through the various stages and implementation dates. It is not clear yet how changes in the Affordable Care Act will ultimately affect children's access to mental health care.

Derigne and her team (2009) surveyed the National Study of Children with Special Healthcare Need to determine the prevalence of unmet needs. Analyses found that of the 67% of children who needed mental health care or counseling in the previous 12 months, 20% did not receive it. Moreover, parents of uninsured children were more

likely to report unmet mental health needs than insured children. Parents of children covered by public health insurance programs were able to access more mental health services.

A study comparing pre and post parity law implementation utilized results of the National Survey of America's Families. A probability differences-in-difference model rate of service use was compared. Regression analysis indicated that parity laws would not affect children's access to mental health services (Barry & Busch, 2008).

SAMSHA's 2010 National Survey on Drug Use and Health indicated that greater than 60% of respondents have not accessed treatment. The National Center for Children in Poverty (NCCP, 2013) reported that 75-80% of children in need of mental health services did not receive them. Healthcare reform was intended to increase access to care and parity for mental health treatment. No clear indicators suggest anything has changed to improve access.

State governments now have the option to amend their Medicaid programs to provide chronic disease management. In the amended Medicaid programs, annual wellness visits were to eliminate out of pocket expenses for most preventative services (US Department of Health and Human Services, 2011). The economic downturn however, has states cutting programs, and the improvements proposed by the Federal plan have not been fully realized. South Carolina has been second to Alaska in cutting mental health budgets; a 23% reduction from 2009 to 2011 (NAMI, 2011; SC Joint Citizens and Legislative Committee on Children, 2011), which resulted in significant decreases in access to services.

Access to care is not just an issue with under insured and uninsured families. Harpaz-Rotem, Leslie, & Rosenheck's (2004) study of insurance claims exposed service delivery issues with funded children. Regardless of the type of insurance, mental health treatment is very expensive. A study of expenditures for children age 5-17 during the years 2007-2009 found the annual cost to be \$2,224 per child (Davis, K., 2012). Comparing the same data to other health conditions, mental health treatment exceeded the top five conditions including asthma, trauma, bronchitis, and otitis media (Romer, 2011).

Current review of SC Blue Cross and Blue Shield coverage found that claims for mental health and substance abuse treatment are subject to the same deductibles and coinsurance maximum claims as medical claims. Preauthorization was required for inpatient hospitalization, partial hospitalization, intensive outpatient hospital care, outpatient electroshock therapy (ECT), and mental health professional services including neuropsychological testing. Exclusions included psychological testing for learning disabilities, or for educational purposes (2014). Despite the plethora of studies in the literature that have described government funded programs, in reality access to quality mental health care remains a struggle families must face at all socioeconomic levels (Behrens, Lear, & Price, 2013; Davis, 2010; Mandel, Guevara, Rostain, & Hadley, 2003; Martin & Leslie, 2003).

Economic issues, marginal reimbursement from Medicaid, and the aging physician workforce have also played a role in the numbers of practicing child and adolescent specialists. Access to mental health services for infants or preschool children has been very limited due to scarce availability of specialists and lack of coordination of

care between pediatric primary care, developmental specialists, and child psychiatry (Angold & Egger, 2007; Mulder, Koopmans & Lyons, 2005). Unfortunately, many communities in the US lack systems of care for children with SED. Additionally, most communities have relied on state level mental health departments to provide services to children, despite the fact that state mental health departments have been significantly understaffed for the volume of children they serve (National Center for Children in Poverty, 2010).

The US healthcare system does not meet the needs of children for specialized mental health care. Less than half the children that need the services get any kind of treatment while only 20% obtain treatment from a mental health worker trained to work with children (AACP, 2013; APA, 2014). The situation is even harder with child psychiatrists. The Graduate Medical Education National Advisory Committee recommends a ratio of 15.4 Child Psychiatrists for 100,000 individuals served. Currently, the SC provider ratio is 9.33/100,000 children and Georgia's is 8.23/100,000 children (North Carolina Subcommittee on Mental Health, 2014). In a 2012 survey conducted by the Children's Hospital Association, the time it took for a child to be seen by a child psychiatrist was an average of 7.5 weeks. To see a pediatric developmental specialist took an average of 14.5 weeks (AACAP, 2013). In the Aiken-Augusta region, the wait times for an appointment with a child psychiatrist have been six months or longer.

It is a known trend that both adults and children with mental illness are being treated by primary care providers (PCP), not psychiatric specialists. This was validated with findings that almost 50% of children with mental illness were managed exclusively by their PCP (Harpaz-Rotem, Leslie, & Rosenheck, 2004). Additionally, insured

children had a lower rate of outpatient service utilization. This could be directly related to the practice of insurance companies limiting payment only for physician visits and prescriptions.

Another study found that children with private insurance were limited in obtaining inpatient admissions (Mark & Bruck, 2006). In fact, the children most likely to be hospitalized were children with Medicaid or whom were “wards of the state” (Heflinger; Simpkins, & Foster, 2002; Nixon, 2006). Lack of parity in mental health (in many states), and a significant disparity in service delivery was based on the child/family’s insurance status (Geller & Biebel, 2006; Goodell, Barry, Shem & Lott, 2014; Mark & Bruck, 2006).

Outpatient therapy has not usually been covered by private insurers or at best minimally reimbursed with high associated co-pays. An association was found between inpatient admissions co-occurring more often when children were managed by child psychiatrists. This could reflect the concentration of higher acuity levels of children under psychiatrist’s care considering half the children in this study were managed by their PCP. Higher admission rates may also reflect psychiatrist’s savvy use of the insurance system in order to provide much needed therapy for their patients. Psychiatrists have learned how to maneuver the treatment plan to obtain the appropriate care for their patients dependent on the type of insurance coverage they have (Harpez-Rotem, Leslie & Rosenheck, 2004).

Children with private insurance were more likely to be underinsured (24.2%) versus children with public programs (14.7%). The negative consequences of children underinsured were greater odds of not having a medical home, difficulty obtaining

referrals and coordinated care, lack of family centered care, and difficulty obtaining specialty care (Kogan et al., 2010). Prior to the current parity laws, managed care companies limited access to treatment (Cohen, Snowden, Libby & Ma, 2006; Cook, Fitzgibbon, Burke, & Miller, 2004; Evans et al., 2003; Fontanella, Early, & Phillips, 2008; Vinson, Brannon, Baughman, Wilce & Gawron, 2001).

Despite attempts to improve access to mental health treatment with recent parity legislation and the Affordable Care Act, 60-90% of children with mental health disorders do not seek or receive services. Aside from limitations with insurance coverage, there were multiple barriers that blocked access to treatment. The most noteworthy barrier was social stigma. A second barrier was lack of screening or missed opportunities by parents, educators, and physicians to identify mental health disorders. A third barrier was poorly coordinated services, especially splitting medical care and mental health care as separate entities. A fourth barrier was lack of mental health services in the schools where children are most likely to receive or seek help. The fifth barrier was shortages of mental health providers; physicians, advanced practice nurses, midlevel providers, psychiatric nurses, and therapists who have specific expertise in child mental health. This was especially true for the preschool age group (ISPN, 2010; Murphy, Vaughn & Barry, 2013).

Systems of Care

The system of care (SOC) philosophy established by Stroul and Friedman (1986) was originally created as a treatment design for children with SED. SOC is defined as, “A comprehensive spectrum of mental health and other necessary services, which are organized into a coordinated network to meet the multiple and changing needs of children and their families” (Stroul & Friedman, 1986 p.3). The SOC framework has placed the

child and family as central focus of eight surrounding services required to promote optimal outcomes. These services include mental health, social, educational, healthcare, substance abuse, vocational, recreational, and operational services. The specific values essential to this model specify that services should be community based, child centered, family focused, and culturally competent (Boothroyd, Banks, Evans, Greenbaum & Brown, 2004; Stroul, 2002).

Effective treatment of SED requires an ecological approach. Extended family, school, religious affiliations, pro-social peers in the neighborhood, all have been protective factors and important for successful treatment. Evidence-based interventions incorporated as part of SOC have demonstrated positive outcomes in the treatment of children with SED (Apter & King, 2006; CDC, 2013; Evans & Armstrong, 1994; Henggeler et al., 1999; Henggeler, et al., 2002; Huey et al., 2004; McClellan, 2005; Sheidow et al., 2004). A recent system of care evaluation in the state of Indiana found youth who received the best services with high wraparound fidelity had 82% reliable improvement in behavior outcomes versus youth without a wraparound program showing only 55.6% improvement (Effield, McIntyre, & Walton, 2010).

Current evidence has shown the best outcomes for children with SED have been treatment programs that are comprehensive involving systems of care (CDC, 2013). Outpatient treatment that was individualized for the child/family system, culturally competent, and was focused on the ecology of the child had better outcomes. Prevention programs focused on early intervention with high risk mothers during pregnancy have been especially effective in reducing the incidence of mental illness in children observed

during longitudinal studies over several decades (Olds, Henderson, Klitzman, Eckenrode, Cole, & Tattlebaum, 2006).

Summary

The incidence of mental illness is widespread and reported to occur more frequently in high risk and economically disadvantaged families. Limited access to care and inconsistent outcome measures are significant barriers to effective treatment nationwide. Despite the plethora of research focused on children with SED, limited translational research addressed the application of evidence-based interventions in community settings for children in the 0-5 age group.

Early identification and intervention to prevent mental illness has taken on new meaning for infants and families. Neurobiology studies of fetal development suggest prevention of mental illness starts during pregnancy by insuring an optimal fetal environment in-utero. Prevention extends after birth in protecting infants and preschoolers from psychological stress and trauma. Early screening and intervention have become priorities in treatment for long term prevention of mental illness; nevertheless, only a small percentage of children have been screened as high risk, and even fewer have received follow up treatment.

Mental health screening and assessment instruments for very young children have become widely available and standardized with replicated studies. The recommendation by CMS for standardized screening programs for infants and toddlers nationwide has already started and is expected to identify potential delays in social and emotional development in young children (CMS, 2013). Linking screening tools to actual medical diagnoses is expected to improve reimbursement of mental health services for children.

Continued work to tease out the sensitivity issues with the current DSM-IV system and the new DSM-V system for diagnosis in very young children has helped promote the adoption of DSM-V (Strickland, Jones, Ghandour, Kogan, & Newacheck, 2011).

Evidence-based interventions have demonstrated successful outcomes for children (Carr, 2009). Barriers continue to impede access to treatment even when screening suggests significant need for intervention. Parental fear of stigma, fear of criticism for their parenting skills, or more basic inability to access the mental health system are just three reasons children may not receive mental health treatment. Clearly comprehensive community case management models of care that incorporate the child's family, school system, and ecology have shown to be superior to episodic or inpatient care for long term outcomes.

The theoretical framework described in this chapter provides a basis for the ecological elements contributing to neurological and emotional development. The feasibility of screening preschoolers and referring to community resources has been shown to be a basic first step in addressing the system of care necessary to promote optimal mental health in children. Understanding the barriers in accessing care, the gaps in community services, and what drives parent/caregiver decision making to follow through to obtain treatment for their child has been essential in understanding the issue of mental health service delivery to preschoolers.

Chapter three provides an in depth description of the research proposal to study the feasibility of screening preschool children. The study design, setting, operational description of the population, community and preschools has been provided. Procedures for this study, including protection of patient rights, maintaining confidentiality, informed

consent, and research methodology, have been described in detail. The instruments used for this study were described in depth and include The Child Behavior Checklist Teacher Report Form (CBC C-TR), The Language Development Survey, and the Assessment of Teacher Burden. The process for teacher training and their role in screening the children was provided. The plan for referral to mental health workers those children who screen positive was described as planned. Finally the statistical analysis planned for this study was explained and related to each research question.

CHAPTER III

Methodology

The aim of this study was to test the feasibility of using preschool teachers to screen children for emotional or behavioral disorders. This chapter provides the details on study design, setting, participants, informed consent, instruments selected, study procedures, and data analysis. Three different preschool facilities were utilized for this study. Referrals for mental health treatment were provided to families of children who screened positive. Psychiatric diagnoses from screening results by teachers were compared to professional psychiatric evaluations for those children who successfully followed up with mental health referrals through validation discussions with parents/caregivers.

Design

This was a descriptive feasibility study designed to examine: a) The feasibility of teachers screening preschool children with the CBCL C-TRF, and b) The predictive validity of the screening done by teachers as compared to a diagnostic interview completed by mental health providers. Teachers were asked to complete the CBCL C-TRF. Parents were given the option to complete the CBCL. Children who scored within the 'at risk' range were referred to a mental health provider. These children were followed by the PI to determine if follow up with a mental health provider was achieved.

Setting

Aiken South Carolina was the community setting for this study of preschool children. A snapshot of Aiken County was provided in Table 3.1. The federal definition of family was persons in a household who were related by blood or marriage. Additional important facts include:

- The number of preschool age children was 11,085 or 7% of the population (2003 data) (Aiken County First Steps, 2010).
- Aiken County offered 37 preschools.
- Several community agencies provide day care for children with special needs.
- The Tri-Development agency serves children and adults with cognitive disabilities.
- First Steps has two locations and provides a variety of services to families (Aiken County, 2011).
- In South Carolina, 62.7% of children age 2-17 with emotional, developmental, or behavioral problems received mental health services (SC State Health Facts, 2007).

Psychiatric Services. The Aiken community was fortunatly has both inpatient and outpatient child psychiatry services as well as a variety of community agencies that serve children with special needs. Aurora Pavilion is a 64-bed psychiatric hospital affiliated with Aiken Regional Medical Centers and has a child psychiatry inpatient unit. A child and adolescent outpatient psychiatry program is also provided. Aiken Psychiatry and Psychotherapy Associates provides outpatient psychiatry services including one child psychiatrist who offers comprehensive child psychiatry services. Aiken Barnwell Mental Health, part of the SC Department of Mental Health, provides services to children five years and older. University of South Carolina- Aiken provides psychological assessment

Table 3.1

Aiken County Snapshot

Aiken 2010 Census Data Characteristics	Population Characteristics	
Population	City	County
	48,005	160,099
% Families	65.7%	
Median Age	39.5	
Median Income	49,484	
Per Capita Income	28,200	
Diversity		
Black	24.6%	
White	69.6%	
Asian	1.9%	
Households below poverty level	8,449	
% Single Mothers	47.3%	
% Births to Moms with less than HS education	25.7%	
% of people age 18-24 not completing High School	16.7%	
Less than adequate prenatal care	34%	
Children who are over age in 3rd Grade	18%	
3rd Graders performing below Basic on PACT Reading	11%	
3rd Graders performing below Basic on PACT Math	15%	
Children eligible for Free/Reduced lunch (5K)	52%	

Source: National Health Interview Survey, 2007
Aiken County First Steps, 2007

and therapy services for school-aged children. This Psychology Clinic is led by faculty of the Master's program in Clinical Psychology.

Three agencies specialize in treatment of children who have been abused. The Cumbee Center and Child Advocacy Center provide services to women and children who are victims of abuse. The Cumbee Center provides free and confidential 24-hour emergency services to victims of domestic violence and sexual assault. A safe house shelters up to 25 battered women and their children in a safe confidential location in Aiken County. Additionally the Cumbee Center offers crisis and long term counseling, emergency shelter, legal advocacy, and multiple community outreach programs (Cumbee Center, 2013).

The Child Advocacy Center provides forensic interviews utilizing a structured interview protocol called "Child First". Medical examinations are provided as well as multidisciplinary team staffing that is interdisciplinary and includes law enforcement and Department of Social Services. Trauma focused counseling is provided to victims. Community outreach is provided and a prevention program called "Stewards of Children" is offered to any community agency requesting this for safe care of children (Children's Advocacy Center of Aiken, 2013).

Children's Place is a specialty child development center that receives referrals for children who have behavioral issues, victims of neglect and/or abuse, or high risk families who require parenting support and case management (Aiken County, 2011). In addition to the therapeutic day care center, Children's Place provides therapeutic interventions including play therapy to children ages 1-5. Two new grant funded programs provide therapeutic intervention to families in the home. Families Matter is a

family strengthening program that works to reduce identified risk factors for child abuse and neglect. Family Check-Up provides three home visits with a master's level mental health provider to recommend a family-based intervention tailored to the needs of the family to address high risk children with early developmental and/or behavioral issues (Children's Place, 2013).

Preschool Sites. This study involved parents and teachers of children enrolled in three preschool child development programs located in Aiken County, South Carolina. The first preschool, University of South Carolina – Aiken, is a university-based child development program designed to provide child care for the children of college students. This program enrolls 40 children ages six weeks to five years.

The second facility, Tiny Treasures, is a child development center located in New Ellenton (population 2250), which is a small municipality located in southeast Aiken County. This is a privately owned/operated facility with 10 employees. The center provides preschool for 72 children and an after school program for 54 children up to the age of 12 years.

The third facility, Children's Place, is located in downtown Aiken. Children's Place is a not-for-profit agency supported by grants, community donations, and the United Way. It was designated as a high scope early childhood education program that has been a part of the Aiken community for over 30 years. It serves 70 preschoolers and 35 children in an after school program and summer camp. Programming includes a Parent Support Network, and Interact drama classes designed to enhance social skills and self-esteem for elementary, middle, and high school students (Children's Place, 2012). The 2009 annual report summarized the following services delivered: Occupational

Therapy 2064 units, Physical Therapy 1436 units, Speech Therapy 2673 units, Mental Health counseling sessions 1196, and a 16 week parenting class.

Participants

Parents of children age 1-year to 5-years were participants in this study. Parents were informed about the study and asked to participate; and completed a written informed consent (Appendix A). Children were the subject of this study but were not directly involved in the screening. Children were the recipients of mental health referral and intervention when they screened positive and if the parents' consented to such care. I expected that the ethnic backgrounds and socioeconomic status of the parents/children would be consistent with the community. Details of demographics are provided in the results section.

Teachers of preschool children also participated in this study and volunteered for inclusion. Each teacher received an overview of the study purpose, procedure, and design. Teachers agreed to participate by completing a written consent (Appendix B). Summary demographics in total of the participating teachers for this study are included in results. Data describing feedback from the teachers has also been summarized. Following consent, teachers received a competency based training session on use of the CBCL C-TRF screening instrument (Appendix C).

Inclusion/Exclusion Criteria. Teachers who worked directly with the children from each of the child care centers were included in this study. Parents or primary caregivers of children ages 1-5 years who attend one of the three child care facilities were included in this study. The children themselves were not actual participants of the screening, but only the subject of the screening tool completed by the adults. Children

currently in treatment by a child psychiatrist were excluded. English speaking teachers and parents were required due to limited access to interpreters for this study.

Parents with mental health issues themselves were not excluded. The PI had limited contact with parents and would not know their history unless they chose to disclose it. Children of abusive parents could be high risk for SED, so it was important to include them in this study. It was also important to include children for screening whose parents have mental health disorders due to the higher associated risk of SED.

The number of parents/children required for this feasibility study was set at 30. This was based on the moderate effects measured by the CBCL tools in previous studies and goal for statistical power of 0.8. As a pilot study, it was not certain that a large sample would be achieved. I estimated that 100 children would be screened during the 6 month study period. Based on the current volume of children at each center, a total population of 170 children would be available from all three centers. If 60% of the parents' consented to the study, that would provide a sample of 100. Current prevalence of SED in children has been reported by CDC (2013) to be about 20%. It was expected that minimally 20 children would screen positive. Children's Place as a special needs preschool has a higher prevalence of children with mental health issues. The parents at this facility were expected to consent more readily since they have sought out special care for their child. Additionally, it was expected that this center would have a higher percentage of children who screened positive. This center was also expected to have more children excluded due to active treatment from a child psychiatrist.

Instruments

There are three screening instruments that are part of the Achenbach System of Empirically Based Assessments (ASEBA) Preschool forms and profiles that were used for this study. The Child Behavior Checklist Caregiver-Teacher Report Form (CBCL C-TRF), The Child Behavior Checklist (CBCL), and the Language Development Survey (LDS). The primary instrument for this study, the CBCL C-TRF, measures maladaptive behavior and is completed by teachers that directly work with children ages 1-5 (Appendix D). This instrument was chosen because of the high reliability and validity reported over the last two decades. The instrument has also been specifically studied with children age 1-5 years and was relatively inexpensive to purchase for day care programs to utilize long term. The three combined instruments are scored together.

An additional questionnaire was designed for this study to obtain feedback from teachers regarding the burden of screening preschool children as a part of their normal workload. This survey was Assessment of Teacher Burden.

Child Behavior Checklist Teacher Report Form. The CBCL C-TRF instrument has 99 items with 17 specific to daycare and preschool contexts. Teachers rate each item as 0–not true, 1-somewhat true or 2 –very true or often true of the child now or within the last two months. An example was question 21 that asks the teacher to rate the child's behavior “disturbed by any change in routine”. Question 100 asks the teacher to write in any problems the child has that were not listed already in the instrument and to then score them 0-2. The CBCL C-TRF also includes demographic information about the child, the preschool, how well the teacher knows the child, and

open ended questions about any known illnesses or disabilities (child), what concerns the teacher the most, and what are the best things about the child.

The CBCL C-TRF instrument was developed with a normative sample as part of the 1999 National Survey of Children, Youth, and Adults. The final 2000 CBCL C-TRF had a normative sample of 1192 children. Demographics for the normative samples were: gender 588 boys and 604 girls; ethnicity was 48% non-Latino White, 36% African American, 8% Latino, and 9% mixed or other. Socioeconomic status included 47% upper, 43% middle, and 10% lower status. Distribution by region of US included 29% Northeast, 17% Midwest, 32% South, and 22% West (Rescorla, 2005).

Test-retest reliability for the CBCL C-TRF was analyzed utilizing Pearson correlations on a group of 59 children with a mean interval of 8 days. The result was a mean r of .81 for the C-TRF and total problems r was .88. Pearson correlations and t tests of differences between mothers' CBCL ratings of 68 children with a mean interval of 8 days showed the total problems r was .90 and across all scales r was .85 (Achenbach & Rescorla, 2000). Test re-test reliability for the LDS was .97 in a sample of 33 toddlers assessed over a 1-month period (Rescorla, 2005).

Cross informant reliability for the CBCL inter-parent agreement mean r was .61. Caregiver (CBCL) – teacher (C-TRF) agreement r was .65. Stability of scale scores was measured over a 12- month interval for mothers and stability r s were significant at $p < .01$. Pearson r s between scale scores for C-TRFs completed over a 3-month interval by teachers showed stability. All syndrome's r s were significant at the $p < .01$ level with the exception of somatic complaints, which was significant at the $p < .05$ level (Achenbach & Rescorla, 2000). Criterion validity of the CBCL C-TRF was examined by comparing

referred versus non-referred children matched on age, gender, SES, and ethnicity.

Preschool items discriminated significantly ($p \leq .01$) between referred and non-referred children for mental health follow up (Achenbach & Rescorla, 2000).

Syndrome categories were constructed with factor analyses. The Root Mean Square Error of Approximation for both genders combined was .06 for the CBCL and .07 for the C-TRF. A range of .03 to .07 indicates good fit (Achenbach & Rescorla, 2000). The syndrome categories correspond to DSM IV diagnoses.

Child Behavior Checklist. The CBCL (Appendix E) can be completed by parents, parent surrogates, or others who care for children in family settings. The content is the same as the teacher version except the demographic information asks about the parent's work and which parent completed the tool. The computerized program compares side by side scores by each parent and teacher to understand better the perspective of child behavior identified by each.

Recent studies continue to confirm the validity of the CBCL as well as utilize it as a gold standard comparison for newer instruments (Griffith, Nelson, Epstein, & Pederson, 2008; Liu, Cheng, & Leung, 2011; Gardner, Lucas, Kolko, & Campo, 2007). Syndromes associated with pain were statistically significant for internalizing behavior at $p < 0.001$ and externalizing behavior at $p < 0.05$ level (Arruda & Bigal, 2009). A factor analysis of the CBCL used with children with autism spectrum disorders found it to be valid with the coefficients of the three scales $\geq .80$ (Pandolfi, Magyar, & Dill, 2009).

Language Development Survey. The language development survey (LDS) can be completed by parents or anyone closely associated with the child who can evaluate the

child's use of vocabulary and phrases. For the purpose of this study the preschool teachers completed the language development survey.

The LDS provides two measures of language capability (Appendix F). The first measure is the average length of multi-word phrases and the second is the number of words that the child is reported to use spontaneously. The LDS includes questions related to risk factors for language delays, reports five of the child's best word combinations, and asks the parent to circle words currently used by the child on a list of 310 word vocabulary. Test re-test reliability for the LDS was .97 in a sample of 33 toddlers assessed over a 1-month period (Rescorla, 2005). Based on previous studies, both sections of the CBCL and LDS can be completed by most respondents in about 20 minutes (Rescorla, 2005).

Instrument scoring. ASEBA provides a windows based computer program that calculates cross informant comparisons for up to eight tools per child. The CBCL C-TRF, CBCL, and LDS are all combined for this scoring. Syndrome scale scores are calculated for each child. There are seven syndromes: emotionally reactive, anxious/depressed, somatic complaints, withdrawn, sleep problems, attention problems, and aggressive behavior. Raw total scores are compared to the national normative sample that was collected in the original research by the authors (Achenbach & Rescorla, 2000).

Normalized T scores are assigned to raw scores on each syndrome scale. A T score of 50 is assigned to all raw scores at or below the 50th percentile of the normative group. T scores from 51-70 are assigned according to percentiles of the normative sample. T scores from 71-100 are assigned in relation to equal intervals of the raw scores

above the 98th percentile in the normative sample. T scores 64 and below are considered to be normal findings. T scores 65-70 are borderline clinical range and suggest behavioral issues that require further assessment. T scores of 70 or above suggest clinical pathology. For purposes of this study, any syndrome scoring 65 or above was reported to parents and mental health referral recommended (Achenback & Rescorla, 2000).

Assessing Teacher Burden. Teachers were provided with a brief survey (Appendix G) after the first month of the study. This provided insight into the burden of participating in the study and time required for completing the CBCL C-TRF during the course of their workday. It also provided feedback as to the value the teacher's placed on screening in the preschool setting.

In summary, the long term goal of this study was to establish the feasibility of screening in preschools and thus initiate a community movement to screen young children for mental illness during the vulnerable period of neurologic and cognitive development. These instruments were chosen because of the proven reliability and validity as well as the age appropriateness and ease of questions for teachers and parents. In addition, the instruments were economically feasible so that day care programs would be able to utilize them long term after the conclusion of this study.

The feasibility of teachers' ability to screen children was measured by the percentage of teachers participating in the study, the reliability of the CBCL C-TRF performed by teachers, and a brief teacher feedback questionnaire. This questionnaire provided insight from the teachers regarding the time required to complete screenings as well as the value of this screening process as it relates to their workload.

Protection of Human Subjects

Standard procedures for institutional review and approval were completed prior to initiating the study. Following dissertation committee approval, the proposal was submitted to the University of South Carolina Institutional Review Board (IRB). A flow diagram of the study procedure is provided in Figure 3.1. Verbal approval from all three preschools had been obtained from their directors, and written approval was obtained before the project was initiated. Written approval was obtained from Children's Place board of directors following proposal defense. USC-A preschool is a division of USC and thus the USC IRB provided oversight.

Assuring Confidentiality

Teacher C-TRF forms were completed on paper as recommended by the preschool directors. Data entry and scoring was completed on the PI's personal computer and stored in encrypted files. This computer was secured with an access code and maintained with a current software protection system. ASEBA calculations required identified data. Scoring sheets were printed and provided to the study parents only.

Data for dissertation was de-identified and entered into SAS database for statistical analysis. The PI's computer remained secured throughout the study. Analysis print outs were only provided to the parents. During data collection, the paper forms were transported in a locked briefcase to avoid loss of any confidential documents. At completion of this study, identified data on the PI's computer will be purged and destroyed utilizing approved methods recommended by USC information technology department.

Safety Plan

In the event of an emergency at the preschool, the PI would follow all procedures of the agency. If a parent or teacher had become emotionally distressed while completing the CBCL, or any time during study interactions with the PI, the PI would have stopped the research process to provide appropriate emotional support to the participant. If participants required referral for their own mental health issues, appropriate mental health services would be recommended for them. Behavioral outbursts by parents or children were managed following the emergency procedures of the particular preschool. Any emergency situation would be reported to the dissertation committee chair to determine if further reporting was necessary.

In the event a mandatory reportable disclosure was necessary, the PI would have notified the Director of the preschool for appropriate action. Any time the safety plan was required, the PI would also notify the dissertation committee chair. The PI would then follow procedures set by the USC IRB for reporting adverse events. Fortunately, no emergencies or personal crises occurred during the recruitment or data collection at the preschools. No mandatory disclosures occurred in the course of this study.

Procedure

The procedure section provides the specifics for this study. It describes how participants were recruited and education about the study (Figure 3.1). The process for informed consent, the plan for data collection, and the involvement of the local psychiatric community was provided along with other details of the study.

Recruitment

Participation by parents and pre-school teachers was necessary to answer the research questions for this study. The teachers invited to participate were those who taught the children between one and five years old in the three selected pre-schools. The parents who were invited to participate were the parents of children in this same age range within the selected preschools.

Recruitment of Teachers. Once IRB approval was obtained, teachers who worked with children age 1-5 were recruited from each of the facilities during the first month of study. An overview of the study was provided at a convenient time for the teachers as a large group, or in small groups, depending on their availability. This presentation included the purpose of study, review of the C-TRF instrument, procedure, referral process for children who screened positive, and study timeline. Teachers were provided an opportunity to ask questions of the PI and to discuss any concerns with the study. Teachers choosing to participate were invited to sign a consent form.

In the event a teacher chose not to participate in this study, the children in their classes, who had parental consent, would be assigned to another participating teacher to screen them with the CBCL C-TRF. It was understood that this would add to the burden of the participating teachers and teachers could refuse this additional task. If no other teachers were able to screen those children, then they would have been excluded from the study. Fortunately all the teachers consented to participate so this was not necessary.

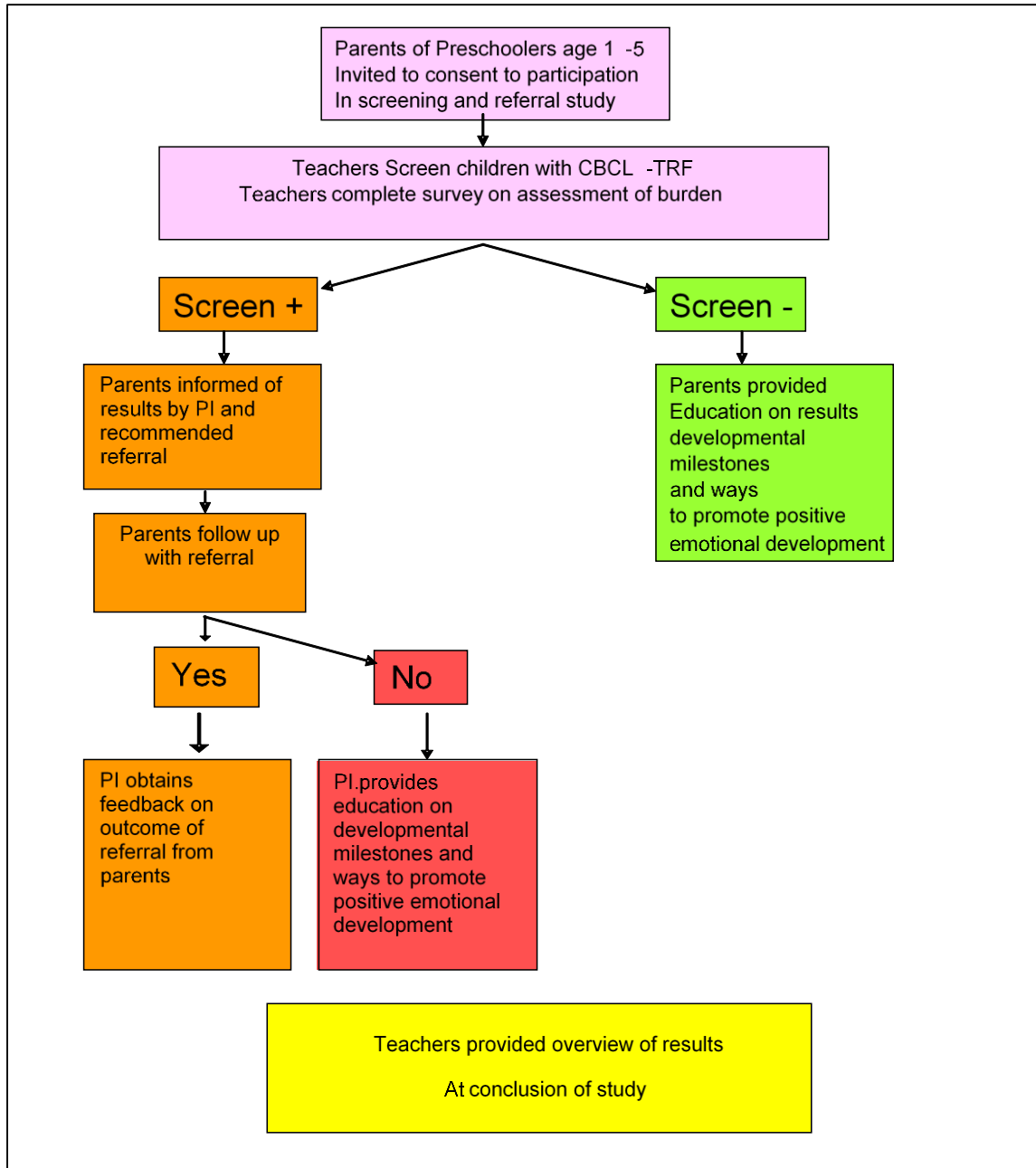


Figure 3.1 *Teacher Screening Procedures*

Recruitment of Parents/ Primary Caregivers. Parents of children ages 1-5 were informed of the study and invited to participate as soon as preschool teachers were trained. A brief written overview of the study in the form of an informational flyer (Appendix H) was provided to all parents during routine drop off and pick up hours to

encourage participation. The flyer announced the study and offered discussion meetings designed to provide an informal overview of the study and to answer questions the parents may have had. These meetings were to be scheduled at each facility based on timeframes recommended by the facility directors. It became obvious that parents were not responding to the flyers, so one-on-one discussions with parents were conducted.

The PI informed parents about the study, insured parents understood that participation was completely voluntary and in no way associated with their services at the preschool, and informed parents that they could withdraw from the study at any time. Consents were reviewed with each parent individually prior to their signature. Each parent was offered ample time for questions.

Recruitment of parents occurred from March through June, 2014, and any additional children above the sample goal of 100 were included. In the event the sample goal was not met, analysis of the rates of participation of the three programs would be done to evaluate potential opportunities to improve study recruitment. Enhanced efforts to recruit was accomplished by partnering with the teachers and program directors. If those efforts failed or the maximum number of children from each preschool had not been recruited, then the study would continue to recruit later into 2014 and the timeline for dissertation completion extended.

Informed consent. The consent form was reviewed with each parent and teacher by the PI. Parents and teachers were given time for questions about the study. The PI advised parents and teachers who agreed to participate that they had the right to change their mind and withdraw from the study at any time. The PI advised teachers that their participation or their choice not to participate in no way affected their job status. Parents

were informed that not participating in the study would not affect their child's status in the preschool program in any manner. A copy of the consent form was read to every teacher and to every parent. All participants in this study were given the PI's cell phone number for contact should questions or concerns occur.

Prior to consent, parents were informed of events that required mandatory reports to the Department of Social Services or other agencies including disclosures or observations of child neglect, abuse, or dangerous environments that posed a threat to the child, or elder abuse. Parents were informed of the day-care program policies for reporting such disclosures or observations.

At Children's Place the CBCL was utilized as part of the initial assessment process. Consents for testing children were part of the initial application process for the child's entry into preschool. Details of assessment tools were explained to parents by the case worker. During the study period, parents who consented to the study were informed of the CBCL use for study purpose versus the routine use of the CBCL results used to direct the treatment plan for the Children's Place treatment team.

Information for Participants

Both parents and teachers received information about the study. This included the purpose of the study and the role of the participants in the study.

Parent Information. Parents consenting to the study were informed about the CBCL. The instrument was shown to them and the PI reviewed it with them. They were educated about the importance of screening and early intervention for emotional and behavioral disorders. The referral process and list of community providers available in Aiken was explained. Parents were offered the choice to complete the CBCL.

Parents of children enrolled at Children's Place had already received an orientation to the therapy programs available at Children's Place from their case worker. The same process for parent training occurred at this site. Parents were instructed on the referral process and community providers. Additional services at Children's Place were utilized in conjunction with provider referrals for children who screened positive for disorders.

Teacher Training. A brief training program provided by the PI (Appendix C) was scheduled to orient the teachers to the C-TRF instrument. One-hour training sessions on-site at conveniently scheduled timeframes were provided for the teachers. Materials obtained from Achenbach System of Empirically Based Assessment (ASEBA) were utilized to develop a competency based education program. Teacher education was provided for Children's Place consistent with the other two sites to insure all teachers were provided the same training on the C-TRF instrument and study procedures.

Teachers were then evaluated for inter-rater reliability. Teachers from each facility were asked to complete the CBCL C-TRF for one child who was well known to all teachers that work with the same age group. This child was recommended by the Director of each facility. The teachers completed the screening instrument and submitted to the PI for scoring.

The computerized scoring method (ASEBA) was completed and inter-rater reliability calculated with SAS statistical software (SAS Institute). Any discrepancies with inter-rater reliability or variations with the teacher scoring would be discussed with teachers involved to better understand the reason for variation and educate as needed on

the instrument for best possible fidelity. A recheck of inter-rater reliability was completed following education of the teacher.

Screening Process

Upon completion of training and determination of inter-rater reliability, teachers were given a list of children in their classes whose parents consented to participate in the study. The teachers were supplied with C-TRF instruments for each child. The teachers answered the questions on the form and responded to the 99 behaviors listed based on their experience with each child. Teachers submitted completed CBCL C-TRF forms to the Director of each facility in a secure location determined locally as soon as completed but no later than the end of the school day. The number of screening forms completed by teachers was based on the assigned children. The PI retrieved completed screening forms several times each week and made teacher rounds to answer questions or provide follow up. All documents associated with this study were kept in a lock box at each location and during transit with the PI to prevent loss of confidential information.

Ongoing communication and education between the PI and the teachers was established to promote accurate data collection and to answer questions or concerns about the study. The PI encouraged dialogue and questions and maintained open links for communication and availability to the teachers to support them during the screening period.

Data from the paper instruments was entered into the ASEBA computer software by the PI. Summary profiles and the t scores generated from this software program were compared to a normative scale. As soon as results were available, parents were notified

in person at the preschool or by phone by the PI of the screen result. Parents were offered the opportunity to complete the CBCL but the majority declined.

Parents were given the choice of a morning or evening they would prefer to review results at the preschool. The profile was reviewed and terms/behaviors associated with the findings explained. If the results were negative, a summary of developmental stages (Appendix I) and ways to support their child's developmental needs was provided by the PI. If the results were positive for referral to a mental health provider, then the parents were offered a list of community providers for follow up along with education about the behaviors of concern (Appendix K).

Mental Health Provider Referral

The providers who were included on the referral list were known in the Aiken community to provide mental health services to children ages 1-5. Initial communication about this study was met with support. The referral process was initiated when a child scored a 65 or higher on the CBCL C-TRF. In the event there was a discrepancy about the teacher's score, the parent was offered an opportunity to score their child. Scores of 65-70 were considered borderline clinical pathology, and therefore 65 was the threshold for mental health referral.

The parents were notified of the child's score and encouraged to obtain further evaluation for their child. A list of providers (Appendix J) was reviewed with the parents and the parents could then select a provider. The PI maintained contact with the parents to insure that appointments were made and to receive feedback from the parents.

The financial responsibility for the referral visit would be the parent's. Prior to parent recruitment, provider's offices were notified about the start of the study by a brief

visit or phone call to review study details with the office managers or physicians. Aiken Barnwell Mental Health was not utilized as a provider agency because it does not provide interventions to preschool age children. It was a referral site for adults or older children identified in the course of this study while working with families of the study children.

Data Collection

Data collection occurred in different settings. The CBCL C-TRF and LDS can be completed as a paper tool or by computer entry. Based on feedback by directors of the preschools, both tools were provided as a paper tool for teachers to complete as they had time during the course of their day. Screen results were based on the teacher's observations of the child over the course of their experience, not a one-time observation. This was not an instrument completed with the child.

Parents were offered the CBCL 1.5-5 to complete, only two parents chose to complete the CBCL and took them home. The CBCL asked the parent to describe behaviors and did not require direct involvement of the child.

Treatment

Children who were referred to mental health professionals were provided with the standard of care established in this SC community. Any treatment for children with a positive screen would be determined by the provider in consultation with the parent. Teachers could have become aware of referrals and subsequent treatment as conversation occurred between them and the parents/children; this was unavoidable. Mental health providers could have contacted teachers for more information or to provide additional screening in response to therapy. This was outside the scope of this study and standard

procedures of each preschool as to how they collaborate with mental health agencies would be followed.

Analysis

Descriptive statistics were calculated including frequency distributions for categorical variables, means, and standard deviations for continuous variables. The total volume of children receiving services at each daycare setting (public knowledge) was reported compared to the total children participating in the study. Table 3.2 provides a summary of the inferential statistical analysis performed based on the research questions.

Table 3.2

Summary of Statistical Analysis by Question

Research Questions	Analysis
What is the feasibility of implementing a teacher screening process for preschool children as a method for early identification of SED?	Number of CBCL C-TRF completed Number of Participants of study Number of children enrolled at preschool Number of Teachers volunteer to participate Total number of teachers working at each facility
What is the perceived burden of screening children ages 1-5 with the C-TRF by preschool teachers?	Descriptive results of Teacher Questionnaire

Feasibility of teachers completing the CBCL C-TRF was described utilizing the proportion of parents allowing participation in the study and the number of CBCL C-TRFs completed throughout the course of the data collection period. The assessment of

teacher burden was summarized by descriptive statistics. Additionally the percentage of teachers electing to participate was reported.

Parents were informed of baseline screening scores as described in the procedure. Any noted variation in scoring was analyzed for instrument fidelity.

Dissemination of Results

Preschool agency directors will be provided with summary results of children (de-identified data) from their school. A convenient time will be arranged based on program preference to provide an overview of findings of the study to each collective teacher/preschool group. This dissertation research will be presented to the USC community and will be available for public review following University publication.

Summary

This community pilot study was intended to explore the feasibility of screening children ages 1-5 for serious emotional disorders in their preschool settings. Children who screened positive were referred to outpatient providers for individual evaluation and treatment. The instrument selected was highly reliable and specific for this age group of children. Risk factor correlates were based on multiple theories and supported by over two decades of research. The three different preschool settings added breadth, diversity, and generalizability to the findings as well as provided the study with ample sample size and power.

CHAPTER IV

Analysis

This pilot study evaluated the feasibility of a screening process for preschool children performed by teachers as a method for early identification of serious emotional disorders (SED). The results are discussed in this chapter. Findings reported here include descriptive information concerning the preschool children enrolled in the study, the teachers who participated in this study, and data addressing the research questions. This study used the Child Behavior Checklist Teacher Report Form (C-TRF) designed for children ages 18 months to 5 years. Verbal skills were screened using the Language Development Survey (LDS) for children 18 to 36-months of age.

Preschool teachers scored the children they supervised with the C-TRF and if the child was between 18 and 36 months, the last two elements of the LDS survey was also completed. Those two elements described the number of words the child used in spoken phrases, and the total words spontaneously spoken by the child. All the study forms were secured in a designated location at each preschool. The C-TRF results were entered by the primary investigator (PI) into the computer software purchased from ASEBA called Assessment Data Manager. The individual graphic display of results was included in the education packet provided to the parents of each child. The results were then de-identified and entered into the study database.

Parents were educated on the screening process, provided explanation of the syndrome scale results, and provided a booklet of educational material regarding positive

parenting and addressing emotional needs of preschoolers (Appendix I). When a child scored 65 or higher (T score) which was borderline or clinical range in the CBCL C-TRF, the parent education included recommendation for referral and information about the scale on which the child had obtained a high score (Appendix K).

The Language Development Survey (LDS) was hand scored by the PI utilizing the ASEBA LDS profile (Achenback & Rescorla, 2010, p.15). Children who scored at or below the 20th percentile on the LDS were referred to the preschool director for validation of speech delay and follow up with parents and speech therapy resources available to preschools.

Teachers completed an Assessment of Teacher Burden Survey which provided feedback from teachers regarding the time required to complete the CBCL forms and the value of screening from their perspective. This survey was completed by teachers after they had two months of experience completing the CBCL C-TRF.

Sample Characteristics

The sample consisted of 125 children and 23 teachers from three different preschool facilities in Aiken County South Carolina. All of the teachers approached consented to the study (100%) and 96% of the parents consented for their children to be included in the study (Table 4.1). One of the teachers from program B consented to the study, was trained, but did not participate in the scoring of the children.

The study participants were primarily African American for both teachers and children in this study. One facility (A) had a larger percentage of Caucasian teachers and children (Table 4.2). Children described as “mixed” by their teachers, had parents who

were African American and Caucasian. Only one Latino child was enrolled from preschool C.

Table 4.1

Consent Rates

Center	Total Number of Teachers	Teacher Consents	Parents (children eligible age)	Children (multiple children in families)	% Parent Consents
A	4	4	26/26	31	100%
B	4	4	35/36	37	97%
C	15	15	52/56	57	93%
Total	23	23/100%	113/118	125	96%

Interpretation: Successful recruitment of parent consents for this study. Higher rate of consents from the two community centers (98.4%) than from the specialty preschool (93%).

Children 18 months through 5 years of age were eligible for this study. The age groups were fairly well distributed with the largest group age 3 years (33.6%) and the smallest group, 18 months to 23 months (3.2%). See Figure 4.1. The mean age of the children in this study was 3.38 years ($SD=1.05$). There was no significant difference in age among the three preschools. There were slightly more girls overall in this sample (53%) which was similarly distributed with a majority of girls at each of the preschools A (52%) B (51%) C (53%), (Figure 4.1 Age of Children).

Teachers were all female and the mean years of experience was 13.63 ($SD=8.48$). Teachers from Centers A and C were more experienced (Table 4.3) and had higher levels of education than Center B (Table 4.4).

Table 4.2

Race of Participants

Center	Participant	African American	Caucasian	Mixed	Latino
A	Teachers	1	3	0	0
A	Children	8	22	1	0
B	Teachers	2	2	0	0
B	Children	19	16	2	0
C	Teachers	9	6	0	0
C	Children	37	15	4	1
Total	T/C	12/64	11/53	7	1
%	T/C	.52/.51	.48/.42	.06	.008

Interpretation: The sample of teachers had a slightly higher rate of African Americans. The sample of children also had a slightly higher rate of African Americans. The group identified as mixed was comprised of biracial Caucasian and African American. Only one Latino child was enrolled from Center C. Center A was different from the other centers in having a majority of Caucasian teachers and children.

CBCL C-TRF Results

All of the children who had parental consent were screened by their preschool teacher. Twenty-five percent of the combined sample (31/125) of children screened as borderline or clinically significant (Figure 4.2) and the majority of these children 24/31(77%) screened high in multiple syndrome areas. African American race was a factor with 64.5% (20/31) of the positive screens. Center C had a much higher incidence of positive screens 22/57(39%) which was expected, since this center is a specialty preschool for children with emotional disorders, history of trauma/neglect, or high risk family situations. In Center B, 13.5% of the children screened positive (5/37)

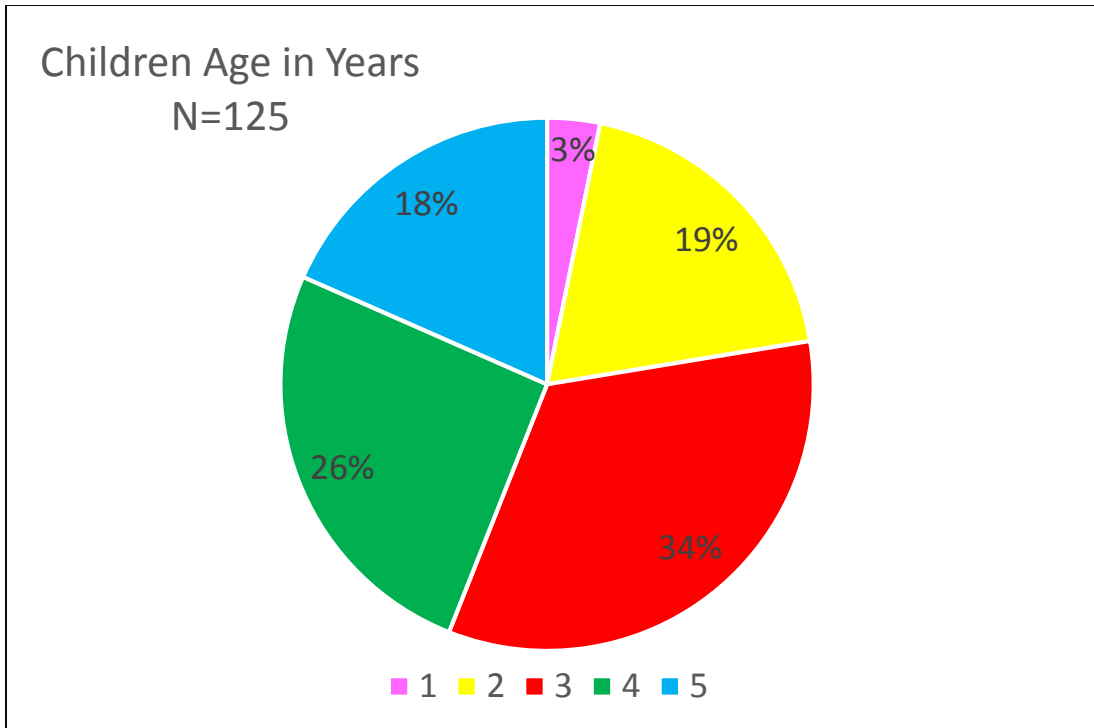


Figure 4.1 *Age of Children*

Table 4.3

Teacher Experience

Experience In Years	1 or less	2-4	5-9	10-14	15-19	20-24	25+
Center A	0	0	0	1	1	2	0
Center B	0	0	1	3	0	0	0
Center C	3	1	1	2	1	2	5
Total =23	3	1	2	6	2	4	5

Interpretation: The sample of teachers varied with range of experience from 6 months to over 30 years. Center C with a larger number of teachers had a much wider experience range and more longevity than the other centers.

Table 4.4

Teacher Education

Education Level	Certificate	Associate Degree	Bachelors Degree	Master's Degree	Total
Center A	0	3	1	0	4
Center B	3	1	0	0	4
Center C	5	5	3	2	15
Total	8	9	4	2	23

Interpretation: Center A, all teachers had minimum of an Associate degree academic programs. Center B had 75% of staff with certification and no degree and Center C had 33% of staff with certification but no degree. Center C had 26% of teachers with Bachelors or Masters Degrees.

and in Center A, 12.9% screened positive (4/31). One of the children screened at Center 'A' scored extremely high in multiple syndromes, but after moving to another class (rise in age group) the child was re-screened by a second teacher and found to be within the normal range. The parent also completed a CBCL and the results scored one point below borderline in only one syndrome area. The parent believed her assessment was a more realistic description of behavior than the original teacher screen. As a result this child was not included in the positive screen group. A summary of the CBCL C-TRF mean T scores are provided in Table 4.5. The syndrome with highest mean was aggressive problems (56.22 *SD*=8.63) and the DSM oriented scale with the highest mean was oppositional defiant problem (56.27 *SD*=7.92).

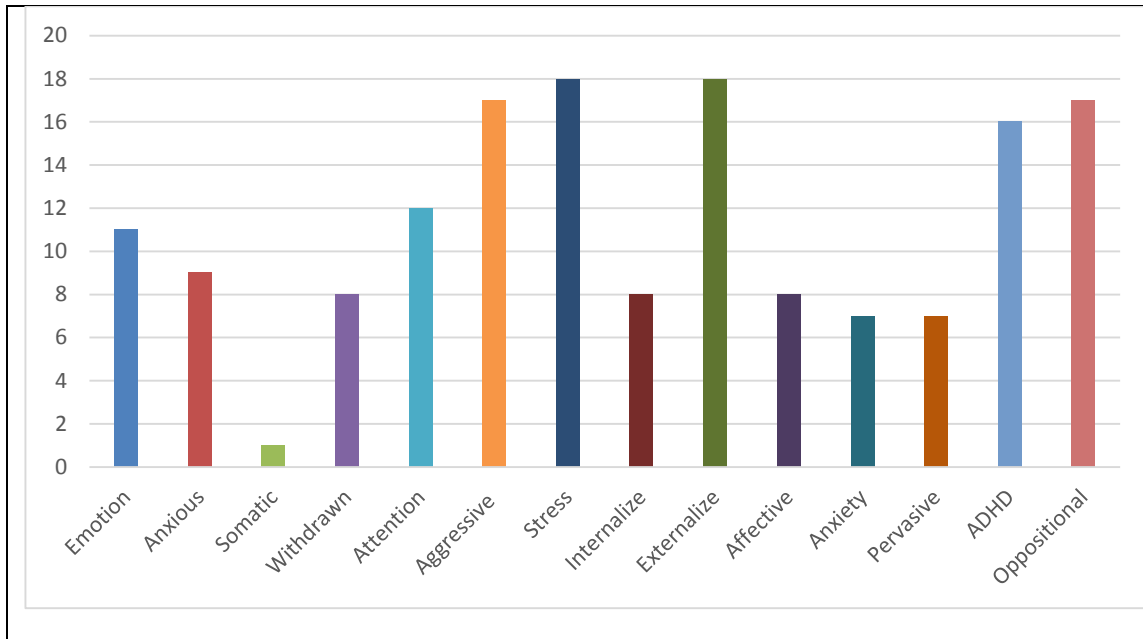


Figure 4.2 *CBCL Scale T Scores 65 or Over, Total 31 Children, Multiple Syndromes per child*

Language Development Survey Results

Teachers completed the last two sections of the LDS which asked, does the child combine two or more words into phrases? If yes please print five of the child's longest or best phrases or sentences. The second section was a list of 310 words that the teacher would circle if the child speaks the words spontaneously rather than imitates or only understands the meaning of the word. Additional words could be listed at the end to increase the score above 310.

Table 4.5

CBCL C-TRF Results

VARIABLE	MEAN	STD DEV	SUM	MINIMUM	MAXIMUM
TEACHER YEARS EXP	13.63	8.49	1704	0.50	34.00
CHILD AGE	3.38	1.05	423.50	1.50	5.00
EMOTIONALLY REACTIVE	54.45	7.09	6806	50.00	87.00
ANXIOUS DEPRESSED	53.58	5.89	6698	50.00	83.00
SOMATIC COMPLAINTS	51.02	3.08	6377	50.00	66.00
WITHDRAWN	53.31	5.30	6664	50.00	80.00
ATTENTION PROBLEMS	55.42	7.55	6927	50.00	88.00
AGGRESSIVE BEHAVIOR	56.22	8.63	7027	50.00	89.00
STRESS	55.06	7.75	6882	34.00	81.00
INTERNALIZING PROBLEMS	48.08	9.67	6010	34.00	75.00
EXTERNALIZING PROBLEMS	52.94	10.89	6618	36.00	86.00
AFFECTIVE PROBLEMS	54.24	5.37	6780	50.00	74.00
ANXIETY PROBLEMS	53.82	5.31	6727	50.00	74.00
PERVASIVE DEVELOPMENT PROBLEMS	53.76	6.07	6720	50.00	86.00
ADHD PROBLEMS	55.50	7.82	6937	50.00	85.00
OPPOSITIONAL DEFIANT PROBLEMS	56.27	7.92	7034	50.00	80.00

Interpretation: Children in this sample scored highest in the following scales: Emotionally Reactive, Attention Problems, Aggressive Behavior, Pervasive Development Problems, ADHD, and Oppositional Defiant Problems. Externalizing behaviors were more often observed by teachers.

The sample used for the LDS included 28 children who met the age requirement (Table 4.6). Girls comprised the majority of the sample (57%) and the primary race of the group was African American (67.9%). There were 11 of the 28 (39%) who had phrase usage or vocabulary at 20th percentile or below which indicates language delays. Children between 18 months and 23 months were not scored on the phrase usage (as directed by ASEBA) due to the variability of speaking phrases at this young age. This sample had 9 children within that age group (32%) and of that group 4 (44%) scored 20th percentile or below for vocabulary. In the remaining sample of children who had both components scored, 7/19 (37%) scored at the 20th percentile or less and 3/19 (16%) scored low in both phrase and vocabulary.

Table 4.6

LDS Results N=28

LDS Variable	Mean	Std Dev	Minimum	Maximum
Teacher Years of Experience	17.64	5.15	11	30
Child Age Months	25.86	5.44	17	35
Phrases Spoken	2.93	1.25	0	5
Number words Spoken	140.64	101.51	9	315

Interpretation: This sample of children ages 18-36 months demonstrated a wide range of verbal skills (SD 101.51).

Referrals to Parents and Follow-Up with Providers

In this sample 31 children were identified as needing psychological assessment and/or medical evaluation. One of the children at Center C was transferred to a Head

Start preschool program after enrollment in the study but before any follow up could occur. Only children at Center C, 21/22 (95%) received follow up 21/30 (70%). Center B participated with Aiken County First Steps and three of the children who scored in the clinical range were receiving these services. The preschool Director had notified First Steps for follow up due to teacher observations of behavior in these children; however, the summer months were a transition time and First Steps workers would not be available to evaluate these children until after the completion of this study. In follow up with parents of the other children who screened positive none had pursued professional mental health services.

Matching Diagnoses

For the children at Center C who had psychological assessment and/or began therapy as a result of the screening, the ICD 9 codes were compared to the DSM-Oriented Scale (last 5 elements noted on Table 4.5). Diagnoses were moderately consistent with 14/21 (67%) matching and statistically significant using McNemar's test $P > S = .0016$ (Table 4.7).

Assessment of Teacher Burden

The Assessment of Teacher Burden scale was completed by 22 of the 24 teachers who consented to participate. One of the teachers from Center C was out on medical leave and one of the teachers from Center B did not complete any C-TRF forms. Of the teachers able to complete the survey 22/22 (100%) completed it. The median category of time it took for teachers to complete the CBCL T-TRF and LDS was 31-45 minutes.

Teachers from Centers A and B responded more favorably to the survey. These teachers both reported shorter times to complete the survey (30 minutes or less) and had

greater value for the screening process (agree or strongly agree) that the time spent was worthwhile. The Teachers from these two centers also indicated that the time spent performing screens did not interfere with their teaching obligations. Overall teachers supported the need to screen preschoolers with 91% neutral or higher indicating the time was worthwhile, and 86% saying the process did not interfere (Table 4.8).

Table 4.7

Matching Diagnoses to CBCL DSM oriented scale

Matching Diagnoses	Frequency	%
Yes	14	67
No	7	32.5
NA	1	.5
Total	22	100

Interpretation: Frequency of matching diagnosis was significant ($P > S = .0016$).

Pearson Correlation of CBCL Syndromes and DSM Scales

The CBCL syndromes and DSM Oriented scales were correlated in all categories ($p < .01$) with the exception of somatic complaints which was not correlated with Aggression, Attention, Externalizing behavior, ADHD, or Oppositional Defiant problems (Table 4.9). Age of child and teacher experience levels were also not significantly correlated with CBCL scores with the exception of age of child was weakly correlated to withdrawn behavior ($*.08$), and teacher experience which had a weak correlation to child stress score ($*.07$).

Table 4.8

Assessment of Teacher Burden Summary

Variable	Frequency	%	Center A N/%	Center B N/%	Center C N/%
Teacher Race					
AA	11	50	1/.25	2/.50	9/.60
	11	50	3/.75	2/.50	6/.40
Caucasian					
Teacher Degree					
	7	33.33	0	3/.75	5/.31
Certificate	9	42.86	3/.75	1/.25	5/.31
AD	2	9.52	1/.25	0	3/.20
BS	2	9.52	0	0	2/.13
MS	1	4.76	0	0	1/.07
Student					
Time spent completing CBCL*			N=4	N=4	N=14
20 min or less	8	36.36	3/.75	3/.75	2/.14
21-30 minutes	9	40.91	1/.25	1/.25	7/.5
31-45 minutes	4	18.18			4/.29
➤ 45 min	1	4.55			1/.07
Time spent was worthwhile *					
Strongly Agree	4	18.18	2/.5	1/.25	1/.07
Agree	7	31.82	2/.5	3/.75	2/.14
Neutral	9	40.91			9/.64
Disagree	2	9.09			2/.14
Strongly Disagree	0	0			
Screening did not interfere with teaching obligation *					
Strongly Agree	4	18.18	2/.5	1/.25	1/.07
Agree	8	36.36	2/.5	3/.75	3/.21
Neutral	7	31.82			7/.5
Disagree	1	4.55			1/.07
Strongly Disagree	2	9.09			2/.14
Disagree					

Interpretation: The majority of teachers reported time spent completing C-TRF to take between 21 and 30 minutes. Half the teachers agreed or strongly agreed the time spent completing the screen was worthwhile, while 40%, all from Center C were neutral about the time value. Only 3 (14%) teachers indicated that screening interfered with their

*obligations and all were from Center C. *Teacher burden scores were significantly different based on education level and Center ($p < .05$).*

Inferential Statistics

Gender and CBCL scores were analyzed using Chi Square. Only one significant difference in CBCL scores was noted in children based on gender (Table 4.10). Girls were more likely than boys to score in the clinical range for withdrawn symptoms (X^2 4.13, $p = .0421$).

The General Linear Model Procedure identified several differences between CBCL scores and race. Significant differences in scores were found in Attention problems, Stress, Externalizing problems, and ADHD problems with more African American children scoring in the clinical range (Table 4.11). Children referred for T scores 65 or greater in any syndrome or DSM Oriented scales were analyzed with T Test comparing race and were found to be significant $Pr > F < .0001$ in all categories with the exception of somatic complaints (Table 4.11).

A significant difference in scores between the Centers was found in 12 of the 14 CBCL categories. Somatic complaints and Anxiety problems were not significantly different (Table 4.12). The differences varied between centers in the 12 categories (Table 4.13).

The complement of teachers at each center was quite different with both years of experience and educational preparation. This did have an effect on the CBCL scores. The individual teacher as well as the teacher's educational background both demonstrated significant variation (Table 4.14). The GLM procedure found significant differences in all the CBCL scores between teachers with certifications versus other degrees (BS and

MS) as well as the scores by teachers with Associate Degrees and other degrees (Table 4.14).

Teacher responses to the Assessment of Burden Scale were significantly different based on both level of education and center (Table 4.8). Teacher years of experience did not show any significant difference. The time required to complete the C-TRF was significantly different between teachers $F(2,2.73) = .018$. The time spent was reported to be 30 minutes or less for all teachers except 5 (18%). That subgroup of teachers were all from Center C, four were African American, two had AA degrees and three had certificates to teach. The Tukey- Kramer adjustment for multiple comparisons found Center C to be significantly different from Centers A ($p=.057$) and B ($p=.057$).

The question was the time spent worthwhile, was also significantly different between teachers $F(2,3.93) = .003$. The teachers from both community preschools agreed or strongly agreed the time was worthwhile. Center C had three teachers who agreed or strongly agreed (student, AD, BS) and one was African American while the other two were Caucasian. Center C had nine teachers (41%) neutral about the value of screening. There were two teachers who disagreed about the value being worthwhile, both were Caucasian, one was Master's prepared and one was certified. The Tukey-Kramer adjustment for multiple comparisons found significant differences between Center A and Center B ($p=.03$) and Center A and Center C ($p=.008$).

The final question asked teachers if the time spent completing the screening tools interfered with their teaching obligations. This was also significantly different $F(2, 4.88) = .016$. Similar to the first two questions, the teachers from the two community centers agreed or strongly agreed the time did not interfere. The Tukey-Kramer adjustment for

multiple comparisons found significant differences between Center A and Center B ($p=.083$) and Center A and Center C ($p=.034$).

Center C had four teachers who agreed the screening did not interfere, seven teachers (32%) who were neutral about the interference, one who disagreed (time did interfere with her work) and two who strongly disagreed. Of those who were neutral, two were African American and five Caucasian; education level of this group included: two certified, one AD, two BS, and two MS. Of those teachers who reported screening did interfere with their work obligations all three were African American, two were educated with AD and one was certified.

Research Questions

To synthesize these data it is important to review the original purpose of this study and evaluate the research questions. The first question, was “what is the feasibility of implementing a teacher screening process for preschool children as a method for early identification of SED”? The overwhelming support of parents and teachers in consenting and participating in this study supports the need and value for this intervention in the community. The correlation of findings suggests that the CBCL known to be a gold standard instrument was effective in screening children in this community. The significant number of children who screened positive for serious emotional disorders as well as speech delays demonstrates the importance of early identification of children who need referral for specialty providers. And despite the difficulty in accessing psychiatric providers for follow up care, for those children in the specialty preschool who received therapy on site, the diagnoses matched with a significant number of children. Therefore this method for screening preschool children was clearly feasible in a community setting.

Table 4.9

Pearson Correlation of CBCL Syndromes and DSM Oriented Scales

	Tyrs	Age	ER	AD	SC	W	ATT	AGG	Stress	INT	EXT	AFF	ANX	PDD	ADHD	ODD
Tyrs	1.00000	-0.17816 0.0468	-0.02960 0.7431	-0.11186 0.2142	-0.06958 0.4407	-0.02039 0.8214	-0.10050 0.2648	-0.04354 0.6297	0.15906 0.0764	-0.13317 0.1387	-0.09402 0.2970	-0.13070 0.1463	0.02121 0.8144	-0.02897 0.7485	-0.06953 0.4410	-0.07771 0.3890
Age	Age of Child	1.00000	0.04522 0.6165	-0.01770 0.8447	0.08166 0.3653	0.15708 0.0802	0.06719 0.4566	0.03270 0.7173	0.09469 0.2935	0.09522 0.2908	-0.04056 0.6534	0.12785 0.1553	-0.14682 0.1023	0.06499 0.4715	0.05320 0.5557	0.02064 0.8192
ER	Emotionally Reactive		1.00000	0.71140 0.0001	0.23434 0.0085	0.63107 0.0001	0.64638 0.0001	0.80405 0.0001	0.80295 0.0001	0.78210 0.0001	0.75034 0.0001	0.79199 0.0001	0.59518 0.0001	0.69269 0.0001	0.66242 0.0001	0.77570 0.0001
AD	Anxious Depressed			1.00000	0.26563 0.0028	0.47810 0.0001	0.37775 0.0001	0.58976 0.0001	0.64896 0.0001	0.76018 0.0001	0.53448 0.0001	0.75549 0.0001	0.87381 0.0001	0.57866 0.0001	0.39059 0.0001	0.59639 0.0001
SC	Somatic Complaints				1.00000	0.36240 0.0001	0.18995 0.0339	0.11583 0.1983	0.28012 0.0016	0.39235 0.0001	0.16125 0.0724	0.36901 0.0001	0.23554 0.0082	0.42197 0.0001	0.15650 0.0814	0.13013 0.1480
W	Withdrawn					1.00000	0.67391 0.0001	0.51910 0.0001	0.66647 0.0001	0.75346 0.0001	0.58420 0.0001	0.69049 0.0001	0.43946 0.0001	0.88207 0.0001	0.62054 0.0001	0.53037 0.0001
ATT	Attention Problems						1.00000	0.68747 0.0001	0.79164 0.0001	0.60020 0.0001	0.78757 0.0001	0.57953 0.0001	0.36247 0.0001	0.65103 0.0001	0.95056 0.0001	0.61517 0.0001
AGG	Aggressive Behavior							1.00000	0.77963 0.0001	0.68133 0.0001	0.90479 0.0001	0.65683 0.0001	0.51979 0.0001	0.60408 0.0001	0.79033 0.0001	0.96380 0.0001
Stress	Stress Problems								1.00000	0.73963 0.0001	0.78095 0.0001	0.77162 0.0001	0.50689 0.0001	0.70128 0.0001	0.79287 0.0001	0.76659 0.0001
INT	Internalizing Problems									1.00000	0.73678 0.0001	0.80631 0.0001	0.70795 0.0001	0.77078 0.0001	0.60330 0.0001	0.69771 0.0001
EXT	Externalize Problems										1.00000	0.63354 0.0001	0.50566 0.0001	0.62602 0.0001	0.83747 0.0001	0.88799 0.0001
AFF	Affective Problems											1.00000	0.58777 0.0001	0.69832 0.0001	0.56359 0.0001	0.64817 0.0001
ANX	Anxious Problems												1.00000	0.55451 0.0001	0.36909 0.0001	0.50718 0.0001
PDD	PDD													1.00000	0.65502 0.0001	0.60715 0.0001
ADHD	ADHD														1.00000	0.70877 0.0001
ODD	ODD															1.00000

YELLOW=P<.0001 BLUE=P<.05 GREEN=P<.10

Table 4.10

CBCL Syndrome and DSM Oriented Scale by Gender

Sex	N Obs	Variable	Mean	Std Dev	Minimum	Maximum
Male	59	Age	3.42	1.01	1.75	5.00
		ER	53.78	6.89	50.00	81.00
		AD	53.00	5.37	50.00	78.00
		SC	50.36	1.55	50.00	57.00
		W	52.69	3.81	50.00	*66.00
		ATT	55.03	7.54	50.00	88.00
		AGG	55.49	8.93	50.00	89.00
		Stress	54.12	7.49	34.00	80.00
		INT	47.03	8.90	34.00	75.00
		EXT	51.58	11.57	36.00	86.00
		AFF	54.07	5.05	50.00	70.00
		ANX	53.75	5.16	50.00	74.00
		PDD	52.66	4.80	50.00	72.00
		ADHD	54.98	7.91	50.00	83.00
		ODD	55.64	8.15	50.00	80.00
Female	66	Age	3.36	1.09	1.50	5.00
		ER	55.05	7.27	50.00	87.00
		AD	54.11	6.31	50.00	83.00
		SC	51.61	3.89	50.00	66.00
		W	53.86	6.32	50.00	*80.00
		ATT	55.76	7.60	50.00	85.00
		AGG	56.86	8.38	50.00	86.00
		Stress	55.89	7.93	50.00	81.00
		INT	49.02	10.28	34.00	74.00
		EXT	54.17	10.18	38.00	82.00
		AFF	54.39	5.67	50.00	74.00
		ANX	53.88	5.48	50.00	70.00
		PDD	54.74	6.91	50.00	86.00
		ADHD	55.95	7.78	50.00	85.00
		ODD	56.83	7.74	50.00	80.00

Interpretation: This sample had larger number of girls and only found a significant difference in CBCL scores in the withdrawn syndrome scale being more common in girls than boys ($p < .10$).

Table 4.11

Influence of Race on CBCL Scores Requiring Referral

Race						
	African American		Caucasian		Other	
Score Required Referral	≤64 No	≥65 Yes	≤64 No	≥65 Yes	≤64 No	≥65 Yes
CBCL Syndrome	Number of Children /% of Children					
Emotionally Reactive	55/44	9/7.2	51/40.8	2/1.6	8/6	0
Anxious/Depressed	57/45.6	7/5.6	51/40.8	2/1.6	8/6	0
Somatic	63/50.4	1/8	53/42.4	0	8/6	0
Withdrawn	59/47.2	5/4	50/40	3/2.4	8/6	0
Attention Problems ^a	53/42.4	11/8.8 .0044	53/42.4	0	7/5.6	1/8
Aggressive Behavior	54/43.2	10/8	47/37.6	6/4.8	7/5.6	1/8
Internalizing	58/46.4	6/4.8	51/40.8	2/1.6	8/6	0
Externalizing ^a	53/42.4	11/8.8 .0538	47/37.6	6/4.8	6/4.8	2/1.6
Stress ^a	51/40.8	13/10.4 .0538	49/39.2	4/3.2	6/4.8	2/1.6
Affective Problems	57/45.6	7/5.6	52/41.6	1/8	8/6	0
Anxiety Problems	59/47.2	5/4	51/40.8	2/1.6	8/6	0
Pervasive Developmental	58/46.4	6/4.8	52/41.6	1/8	8/6	0
ADHD ^a	51/40.8	13/10.4 .0103	51/40.8	2/1.6	7/5.6	1/8
Oppositional Defiant	54/43.2	10/8	47/37.6	6/4.8	7/5.6	1/8

Interpretation: All syndromes were significant ($p < .0001$) for race and referral except Somatic problems. Significant differences by race were found between African American and Caucasian children with 4 syndromes^a Tukey-Kramer noted for each.

Table 4.12

CBCL Syndrome and DSM Oriented Scale by Center

Center	N Obs	Variable	Mean	Std Dev	Minimum	Maximum
C	57	Tyrs	13.46	11.52	0.50	34.00
		Age	3.61	1.08	1.75	5.00
		ER*	56.16	8.84	50.00	87.00
		AD*	54.86	7.10	50.00	83.00
		SC	51.35	3.64	50.00	66.00
		W*	55.77	6.48	50.00	80.00
		ATT*	57.96	9.04	50.00	88.00
		AGG*	58.18	10.08	50.00	89.00
		Stress*	58.14	9.07	50.00	81.00
		INT*	51.49	10.59	34.00	75.00
		EXT*	55.72	12.02	36.00	86.00
		AFF*	55.70	6.50	50.00	74.00
		ANX	54.53	5.61	50.00	74.00
		PDD*	55.81	7.55	50.00	86.00
ADHD*	57.74	8.92	50.00	83.00		
ODD*	58.23	9.38	50.00	80.00		
B	37	Tyrs	10.62	3.90	2.00	14.00
		Age	3.22	1.00	2.00	5.00
		ER	53.43	5.58	50.00	74.00
		AD	51.97	4.51	50.00	68.00
		SC	50.70	2.49	50.00	62.00
		W	51.27	2.61	50.00	64.00
		ATT	55.03	6.18	50.00	75.00
		AGG	55.49	7.90	50.00	86.00
		Stress	53.08	6.67	34.00	72.00
		INT	45.14	7.69	34.00	66.00
		EXT	52.65	9.71	36.00	82.00
AFF	52.54	4.44	50.00	68.00		

		ANX	52.54	4.94	50.00	68.00
		PDD	52.03	4.10	50.00	70.00
		ADHD	55.27	7.58	50.00	85.00
		ODD	55.08	6.78	50.00	78.00
Center	N Obs	Variable	Mean	Std Dev	Minimum	Maximum
A	31	Tyrs	17.55	2.17	16.00	22.00
		Age	3.19	1.01	1.50	5.00
		ER	52.52	3.74	50.00	63.00
		AD	53.16	4.28	50.00	68.00
		SC	50.77	2.57	50.00	62.00
		W	51.23	2.86	50.00	65.00
		ATT	51.19	2.50	50.00	59.00
		AGG	53.48	5.28	50.00	70.00
		Stress	51.74	2.65	50.00	60.00
		INT	45.32	8.06	34.00	59.00
		EXT	48.19	8.32	36.00	66.00
		AFF	53.58	2.90	50.00	61.00
		ANX	54.03	5.06	50.00	70.00
		PDD	52.06	3.35	50.00	64.00
		ADHD	51.65	3.23	50.00	62.00
		ODD	54.10	5.13	50.00	67.00

Interpretation: Significant variance was noted in all syndrome categories with exception of somatic problems and anxiety problems between Center C and the other two centers. Table 4.13 provides level of significance.

Table 4.13

GLM Analysis of Variances in Syndrome and DSM Oriented Scale Scores by Center

CBCL Category	GLM	Tukey
Emotionally Reactive	F(3,3)=.04	Ctr A&C .0537 _a
Anxious/Depressed	F(2,89) =.0596	Ctr A&B .0520 _a
Somatic	NS	
Withdrawn	F(13,6) =<.0001	Ctr A&B <.0001 _c Ctr A&C .0001 _c
Attention Problems	F(9,23) =.0002	Ctr A&C .0001 _c Ctr B&C .0719 _a
Aggressive Behavior	F(3,27) =.0415	Ctr A&C .0384 _b
Internalizing	F(7,18) =.0011	Ctr A&B .0040 _b Ctr A&C .0091 _b
Externalizing	F(5,13) =.0072	Ctr A&C .0050 _b
Stress	F(9,77) =.0001	Ctr A&B .0035 _b Ctr A&C .0004 _c
Affective Problems	F(4,44) =.0072	Ctr A&B .0135 _b
Anxiety Problems	NS	
Pervasive Develop	F(6,48) =.0021	Ctr A&B .0072 _b Ctr A&C .0129 _b
ADHD	F(6,67) =.0018	Ctr A&C .0011 _b
Oppositional Defiant	F(3,45) =.0348	Ctr A&C .0489 _b

Level of Significance _a p<.10; _b p<.05; _cp<.001

Interpretation: 12 of the 14 syndromes were significantly different between centers. Center A was significantly different from Center C in 10 syndromes, Center B was significantly different from center C in 1 syndrome (attention). Center A was significantly different from Center B in 6 syndromes (Anxious, Withdrawn, Internalizing, Stress, Affective, and Pervasive Developmental problems).

Table 4.14

Teacher ID and Teacher Education and CBCL Scores

CBCL Category	Teacher ID	Teacher Degree	GLM Teacher Degree	Tukey
Emotionally Reactive	X^2 6.9921 p=.0303	X^2 14.4861, p=.0007	F(10,32)=<.0001	Cert vs Other<.0001 AD vs Other =.0002
Anxious/Depressed	NS	X^2 8.8404, p=.0120	F(11,10)=<.0001	Cert vs Other .0003 AD vs Other <.0001
Somatic	NS	X^2 5.6239, p=.0601	F(4,33)=.0152	Cert vs Other .0879 AD vs Other .0108
Withdrawn	NS	X^2 15.2686, p=.0005	F(11,31)= <.0001	Cert vs Other .0023 AD vs Other <.0001
Attention Problems	X^2 5.9031, p=.0523	X^2 7.2372, p=.0268	F(8,.65)=.0003	Cert vs Other .0112 AD vs Other .0002
Aggressive Behavior	X^2 4.9921, p=.0824	X^2 10.6619, p=.0048	F(6,67) =.0018	Cert vs Other .0052 AD vs Other .0016
Internalizing	X^2 6.2546, p=.0438	X^2 24.6724, p<.0001	F(13,34) <.0001	Cert vs Other <.0001 AD vs Other <.0001

CBCL Category	Teacher ID	Teacher Degree	GLM Teacher Degree	Tukey
Externalizing	X^2 4.9527, $p=.0841$	X^2 13.4076, $p=.0012$	$F(6,11)=.0030$	Cert vs Other .0237 AD vs Other .0019
Stress	X^2 1.5737, $p=.0031$	X^2 19.2582, $P<.0001$	$F(18,06) <.0001$	Cert vs Other $<.0001$ AD vs Other $<.0001$
Affective Problems	NS	X^2 15.2686, $p=.0005$	$F(13,95) <.0001$	Cert vs Other $<.0001$ AD vs Other $<.0001$
Anxiety Problems	NS	X^2 5.8943, $p=.0525$	$F(4,90) =.0090$	Cert vs Other .0363 AD vs Other .0065
Pervasive Develop	X^2 5.0432, $p=.0803$	X^2 19.2764, $p<.0001$	$F(9,30) =.0002$	Cert vs Other .0037 AD vs Other $<.0001$
ADHD	X^2 8.1597, $p=.0169$	NS	$F(6,45) =.0022$	Cert vs Other .0296 AD vs Other .0014
Oppositional Defiant	X^2 7.5747, $p=.0227$	X^2 16.1838, $p=.0003$	$F(7,17) =.0011$	Cert vs Other .0027 AD vs Other .0012

Interpretation: Individual teacher variation was noted in scoring of 9 of the 14 syndromes (Emotionally Reactive, Attention, Aggressive Behavior, Internalizing, Externalizing, Stress, Pervasive Developmental Problems, ADHD, and Oppositional). Teacher Degree type was significant variable in all categories ($p<.05$). Teachers with certifications were more often different from teachers with BS or MS degrees in all syndrome scores ($p<.10$). Teachers with AD degrees were different from teachers with BS or MS degrees in all syndromes ($p<.05$).

Table 4.15

Teacher Education and CBCL Scores

CBCL Category	Total Mean/ <i>SD</i>	Certificate	AD ^a	Other (BS & MS) ^b
Emotionally Reactive	54.45/ 7.09	52.83/ 4.64	53.64/ 6.03	60.74/ 10.96
Anxious/Depressed	53.58/ 5.89	52.88/ 5.06	52.44/ 3.70	59.00/ 9.79
Somatic	51.02/ 3.08	51.02/ 2.98	50.48/ 1.99	52.79/ 5.17
Withdrawn	53.31/ 5.30	53.33/ 5.78	51.91/ 3.27	58.00/ 7.03
Attention Problems	55.42/ 7.55	55.55/ 6.09	53.59/ 6.86	61.32/ 9.74
Aggressive Behavior	56.22/ 8.63	55.31/ 6.62	54.92/ 7.67	62.58/ 12.54
Internalizing	48.08/ 9.67	47.07/ 9.12	45.91/ 7.94	57.63/ 10.86
Externalizing	52.94/ 10.89	52.71/ 9.38	50.88/ 10.11	60.42/ 13.59
Stress	55.06/ 7.75	54.55/ 7.13	52.86/ 4.86	63.58/ 10.99
Affective Problems	54.24/ 5.37	53.36/ 4.94	53.20/ 3.63	59.68/ 7.73
Anxiety Problems	53.82/ 5.31	53.60/ 5.24	52.97/ 4.35	57.16/ 7.15
Pervasive Develop	53.76/ 6.07	53.60/ 6.67	52.38/ 3.36	58.79/ 8.91
ADHD	55.50/ 7.82	55.55/ 6.70	53.86/ 7.18	60.89/ 9.93
Oppositional Defiant	56.27/ 7.92	55.24/ 6.75	55.16/ 6.62	62.32/ 11.39

Interpretation: Teacher Degree type was significant variable in all categories ($p < .05$). Teachers with BS or MS degrees were significantly higher than teachers with AD degrees in all syndrome scores ^a ($p < .05$). Teachers with BS or MS degrees were significantly higher than teachers with certifications in all syndrome scores ^b ($p < .10$). Teachers with BS or MS degrees scored the CBCL with higher variation than teachers with Certificates or AD degrees. All teachers showed greater variation in scoring internalizing, externalizing, stress, Attention, ADHD, Aggressive, and Oppositional Defiant syndrome categories.

The second question, was “what is the perceived burden of screening children ages 1-5 with the CBCL-CTRF by preschool teachers”? Overall the burden was minimal for the community centers. The specialty Center C had some teachers with neutral or negative responses. More detail regarding impressions and understanding will be discussed in Chapter V. There were several recommendations by teachers which would make the process easier for them, and which could easily be incorporated into a formal grant or project in this community. Therefore, the answer is that the burden is minimal and community teachers support this work to identify children early to improve their academic outcomes and emotional health.

Summary

This chapter presented the results of this feasibility study, which included a sample of 125 children from three different preschools. The results indicate that a teacher led screening process is feasible for preschool children as a method for early identification of SED. The perceived burden of screening varied between the preschools, with the community programs valuing the screening data more than the specialty program that actively provides therapy to children on site. Overall, 87% of the teachers reported the screening to take 30 minutes or less per child. The majority of teachers 91% (20/22) were neutral or agreed that screening children was worth their time. Of the 22 teachers 19 (86%) reported the screening process did not interfere with their teaching responsibilities.

Inferential analysis identified several indirect factors that may have influenced findings of this study. Variation in scores associated with gender and race of children was identified. Teacher educational background and type of center that the teachers

worked also impacted results. Chapter V will provide in depth discussion, observations, and personal experience from each center that may help explain some of the variances noted in this analysis.

In addition to discussion of the findings of this study, the next chapter will provide conclusions from the experience and recommendations for future study and practice recommendations for this preschool population. Limitations of the study will be examined, as well as comparison to results of other similar studies.

CHAPTER V

Discussion

This chapter provides a summary of the results, discussion of the findings, and experience learned from this study. The chapter ends with a discussion of the strengths and limitations of the study, implications for practice, and recommendations for future research. The purpose of this study was to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of serious emotional disorders (SED). A second purpose was to evaluate the success of facilitating access of children with SED into the community mental health system to provide early intervention.

My motivation for this research was my awareness of the growing volume of parents seeking treatment in local emergency departments for their young children with out of control behaviors. South Carolina (SC) has a limited number of psychiatric inpatient beds and a shortage of child psychiatrists so children were often being held for days, even weeks, in emergency departments awaiting appropriate disposition. The ultimate goal of this feasibility study was to pilot a realistic screening process that could be incorporated into any community to identify high risk children and families and facilitate services so children could be treated early during the formative period of brain development.

Results

Three Aiken County preschools participated in this research study which resulted in a sample of 125 children and 23 teachers. Children 18 months through 5 years of age were eligible for the study. Behavior problems emerged at a very young age in the sample studied. Children as young as 18-24 months were known by their teachers as having emotional/behavior problems. The screen results confirmed the teachers' instincts. This finding was consistent with multiple studies detecting developmental delays and observed behavior disorders in children as young as infants (First Signs, 2014; Gardner & Shaw, 2008; Zero to Three, 2014).

Consent Rates

Participation from both teachers and parents was successful which resulted in remarkably high consent rates for this study. The teachers' consent rate was 100% and parents' consent rate was 96%. The teachers were very supportive of this research and became excited and animated when discussing their experience with children with behavior problems and possible emotional disorders. The teachers knew firsthand the difficulties parents experience navigating the mental health system and in obtaining psychiatric care for very young children in the community.

The decision to dedicate time to meet parents 'in person' proved to be very beneficial. Parents seemed to immediately trust the PI as they met to discuss the study and were extremely receptive to and understood the purpose of the study. It also seemed parents were sympathetic toward helping a nurse who was interested in young children's welfare. Several of the parents (speech therapist, licensed professional counselor, teacher, pharmaceutical factory worker, RN, MD) met with the PI during the recruitment

phase of the study and provided feedback on the study questions and later the parent education booklet developed. Parents were truly committed to partnering with the PI for this research.

Center A, which had the higher socioeconomic group of parents, had a 100% consent rate. Center B only had one parent decline consent for his two children. Center C had four parents decline consent. According to the clinical director from Center C, the parents who declined consent had many life stressors that may have contributed to their decision not to participate. Additionally at Center C, specialty care including therapy was already a part of the program, so from a parent's perspective, this study may not have had the same level of importance it did to parents at the community centers.

Sample Analysis

Center C represented the largest proportion of this sample of children 45.6% followed by Center B (29.6%) and Center A (24.8%). There were slightly more girls in this sample (53%) similarly distributed among the three preschools. All of the teachers in this study were female and this was consistent with preschool educators being a female dominated profession. In SC, 86% of preschool teachers are female (Preschool Teacher Salary.net, 2014) and nationally, 97% of preschool teachers are female (Child Care Aware of America, 2012).

Both the sample of children and teachers had a slightly higher rate of African Americans. The children were 51% African American, 42% Caucasian, and 6% mixed, and included only one Latino child. Teachers were 52% African American and 48% Caucasian. This was not representative of Aiken County or SC which both report a higher percentage of white residents 67.2% Aiken and 68.3% SC. Also Hispanic or

Latino residents are reported higher at 5.2% Aiken and 5.3% SC than in this study's findings (Quickfacts.census.gov, 2013). This sample represents the higher percentage of African American children in the Aiken city area and rural Aiken County. Additionally a higher percentage of young families with small children were African American in this county.

Teacher experience varied widely from a few student teachers and new teachers with less than one year experience up to teachers with over 30 years' experience. Center A was part of a larger University program and recruited preschool teachers with degrees from their academic programs. Center B was a privately owned program and had more certified staff with less experience. Center C was a specialty preschool which attracted teachers wishing to work with special needs children. Many of the teachers at Center C have worked their entire career at the same facility and have been supported to continue their education while teaching.

Education requirements vary by state and only 6% of the child care centers in SC are nationally accredited (Child Care Aware America, 2012). Generally in Head Start programs all teachers are required to have a minimum of an associate degree and starting in 2013 standards were increased to require 50% of the teachers to have bachelor's degrees. Public preschool programs require bachelor degrees and private preschools have no degree requirements. In SC the criteria for preschool certification is: age 18, ability to read and write, high school diploma or GED, 6 months experience as a caregiver in a licensed/approved facility and completed 6 hours of training in child growth and development/early childhood education within 6 months of hiring (SC State Department of Education, 2013).

Significant Findings

Results of the CBCL C-TRF identified 25% of the sample children with borderline or clinical findings in one or more of the 14 behavioral syndromes. Of the total positive results, 71% of the children were from Center C, 16% from Center B, and 13% from Center A. The results of the two community centers compares with findings from the CDC (2013) with a prevalence of SED found to be 13-20% or one in five children during the years 2005-2011.

The specialty preschool Center C had a much larger concentration of children with positive clinical results which was expected. A finding unrelated to this study but heartwarming nonetheless was significant improvement in treatment outcomes noted in the group of children who participated in this study from the time of admission to the time they were screened by teachers. On admission, all 57 children were clinically positive in one or more of the CBCL syndromes as reported by parent/guardian. At the time of this study, only 22 children screened clinically positive which was a 39% reduction in clinically positive scores for the children participating in this program (M. Ford, personal communication, October 24, 2014).

The Language Development Scale (LDS) identified 39% of the total sample having verbal delays. Of the total with language delays, 50% of the children were from Center C, 43% from Center A, and 27% from Center B. These results are much higher than the prevalence rates reported in the literature ranging from 2.3% to 19% (Burden, Stott, Forge & Goodyer, 1996; Nelson, Nygren, Walker, & Panoscha, 2006; Rescorla, Hadicke-Wiley & Escarce, 1993; Rice, et al., 2014; Tomblin, et al., 1997).

This finding suggests that earlier screening for language skills is warranted at the preschool age rather than waiting for advancement to kindergarten to formally assess children's language development. Teachers have already bought into the importance of language screening and would easily adopt language screening as they do other developmental testing. It also identified a need for parent education programs to equip them to screen their own young children, access resources, and develop their own teaching skills needed to work with their preschoolers to promote language development.

Teacher Screening

Utilizing preschool teachers to screen children was supported by the teachers and preschool directors. Overall 87% of the teachers reported the screening process to take 30 minutes or less per child. The majority of the teachers (91%) were neutral or agreed the screening process was worthwhile. The burden on teachers' time was minimal with 86% of the teachers reporting the screening process did not interfere with their teaching responsibilities.

The concept of screening young children is not new, child development centers have been screening children for developmental milestones and kindergarten readiness for years (Feeney-Kettler, Kratochwill, Kaiser, Hemmeter & Kettler, 2013; Lane, et al., 2014; Yates, et al., 2008). Early identification of mental health disorders has proven to be crucial for optimal development of infants and children (APA, 2014; CMS, 2013). Intervening early has been found to reduce disability, prevent complex disorders from forming within the young child's personality, and costs much less to manage (Children's Defense Fund, 2010). As a part of this early screening movement the American Academy of Pediatrics

recommends assessment of psychosocial, mental health, and substance use for parents and children during well child visits from newborn to age 21 (2014).

Inferential Findings CBCL C-TRF

Correlation between syndromes and DSM-IV scales. The CBCL C-TRF was designed to include DSM-IV scales constructed from the syndrome categories. The scales were developed and validated by experienced psychiatrists and psychologists (Achenbach & Rescorla, 2000). Although the syndromes are closely related to the DSM-IV scales they are not identical and children who score high in multiple syndromes/scales may have comorbidities that should be addressed in comprehensive interventions.

Pearson correlations of the CBCL syndromes and DSM scales were highly correlated in all categories with the exception of somatic complaints which did not correlate with five syndromes: aggression, attention, externalizing, ADHD, or oppositional defiant problems. Somatic complaints are not as common in the preschool age child versus older children, which was consistent with my sample. The overall strong internal consistency has been a strength of the CBCL (Ebesutani, et al., 2009; Giovingo, 2009; Griffith, Nelson, Epstein & Pederson, 2008; Nakamura, Ebesutani, Berstein & Chorpita, 2008). Age of child was weakly correlated to withdrawn behavior with younger children more withdrawn. Teacher experience was weakly correlated to child stress with less experienced teachers scoring higher stress scores.

Syndrome and DSM-IV Findings. The majority of the children (77%) who screened as borderline or clinically significant for emotional problems, screened high in multiple syndrome areas. The syndrome with the highest mean score in my sample was aggressive problems (56.2%) and the DSM oriented scale with the highest mean score

was oppositional defiant problem (56.3%). This sample was higher than other studies that found incidence of challenging behavior to be between 10 and 30% (Fox & Smith, 2007; Holtz, Fox & Meurer, 2013).

Aggression and ADHD often co-occur and symptoms often look the same in a toddler or preschooler: impulsivity, aggressive play, overly bold with strangers, fearless, unresponsive to direction which may lead to frequent/recurring injuries (Child Mind, 2014; Kennedy Krieger, 2012; Loy, Merry, Hetrick & Stasiak, 2012). In my sample, 76.5% of children scored high in both aggression and ADHD. Aggressive behavior was exhibited in a large number of children (54.8%). Teachers observing aggressive behavior may have been screening behaviors associated with ADHD as well.

Aggression and oppositional behavior in preschoolers also co-occur and can be differentiated from normal temper tantrums with the child's intent to hurt or frighten, i.e., snatching toys, pushing other children, biting or hitting, or poking a peer with a crayon. Defiant behavior can be exhibited by disrupting the classroom, running out of the building, intentionally breaking things, hitting or kicking teachers (Gilliam, 2008; Perry, Holland, Darling-Kuria, Nadiv, 2011; Perry & Dobson, 2013; Reebye, 2005). These symptoms have been closely associated with the preschooler's inability to self-regulate emotion, poor impulse control, disorganized attachment, violence in the home, as well as harsh, inconsistent or neglectful parenting (Child Mind, 2014; Perry, Holland, Darling-Kuria, Nadiv, 2011; Perry & Dobson, 2013). In my subsample of children scoring high in aggression, all but one scored high in both aggression and ODD. There were 75% of children scoring high in both attention problems and ADHD which is consistent with the instrument design.

Another subgroup emerged with 25.8% of the children scoring high in all four elements of Aggression/ODD and Attention/ADHD. The strong relationship between aggressive behavior and ADHD could be related to poor impulse control or reflects a more complex behavioral response associated with post-traumatic stress, exposure to violence or abuse, or chronic neglect home situations (Lillas, 2014).

Gender. Only one significant difference in CBCL scores was noted in children based on gender. Girls were more likely than boys to score in the clinical range for withdrawal syndrome. This was consistent with findings from a few studies of preschoolers (Rubin, Coplin, & Baker, 2009; Walker, 2005) but Luby and colleagues' (2003) research on depression in preschoolers has not found any significant difference in gender (Luby, Xuemei, Belden, Tandon & Spitznagel, 2009).

Another interesting difference with this sample was a finding of no significant difference in gender with ADHD. Biederman and colleagues also found no difference in gender in a study of siblings with ADHD and non-ADHD comparison subjects (2005). Other published studies reported ADHD as more prevalent in boys: boys' 2:1 girls (AHRQ, 2011), boys 12.5% vs 5.5% girls (CDC, 2011), boys 2.28:1 girls (Ramtekkar, Reiersen, Todorov & Todd, 2010). Hinshaw and Joubert (2014) reported that most of the major forms of psychopathology predominate in boys during the first decade of life with autism, aggressive conduct disorder, and ADHD occurring at male-to-female ratios that range from 3:1 to 5:1.

The APA (2014) and others report the incidence of ADHD is the same by gender, only the symptoms are different and therefore overlooked. Girls tend to present with the attention deficit part of the disorder and display the following behaviors: daydreaming,

easily distracted, difficulty focusing, disorganized, and forgetful (Crawford, 2003; Gurian, 2014; Rucklidge, 2008). The CBCL descriptors may be broad enough to capture both female and male type behaviors associated with attention and hyperactivity which explains the balanced results for gender. Descriptors for attention problems include: difficulty concentrating, cannot sit still, difficulty following directions, fails tasks, fidgets, clumsy, shifts quickly from one activity to another, inattentive, wanders. The CBCL descriptors for ADHD includes all listed with the exception of clumsy and wanders. In addition the following descriptors are included for ADHD: cannot wait, demanding, daydreams, disturbs others, overactive, and gets into things.

In this sample, half of the children who scored high in all four elements Aggression/ODD and Attention/ADHD were girls. Of those four, three were from Center C and one from Center B. The girls each scored high in multiple syndromes (7, 10, 11, and 13) which indicates these girls had significant emotional problems in many dimensions. In addition, there were two other girls who did not score positive for aggression or ODD. One only scored high in Attention/ADHD and the second from Center B scored high in six other syndromes in addition to Attention/ADHD. This suggests that in the majority of girls there may be multiple issues driving behavior which resembled typical ADHD behavior.

Race. Race was a prominent factor with 64.5% of the positive screens being African American (AA) children. Two of the children who scored positive were biracial. When the biracial children are combined into the AA group, Center C had 17/22 (77%) AA children score positive compared to 5/22 (23%) Caucasian children. At Center B four of the children were African American and one biracial 5/5 (100%) and Center A, all four

children who scored positive were Caucasian 4/4 (100%). Significant differences in scores by race were found in Attention problems, Stress, Externalizing problems, and ADHD problems with more African American children scoring in the clinical range. Race was a significant factor in all children with T scores 65 or greater in all categories except somatic complaints.

The incidence of ADHD in African American children in my study's sample differs from the national data from CDC which reported incidence of ADHD in non-Hispanic white children as 10.6% versus African American children at 9.5%. This finding may reflect the trend of escalating rates of ADHD in African American and Puerto Rican children in prevalence studies compared over the course of the last decade (CDC, 2011). Miller and associates (2009) researched race disparities in ADHD and found that African American youth presented with more ADHD symptoms but diagnosed with ADHD 30% less often than Caucasian children. In this sample ADHD behaviors were reported by teachers equally, regardless of race.

Child care center. A significant difference in children's scores between the three Centers was found in 12 of the 14 CBCL categories. This was anticipated due to the specialty preschool Center C treating children with behavioral disorders. Somatic complaints and anxiety problems were the two syndromes not significantly different. Somatic complaints were rare in this sample and not routinely seen in the preschool age group. Only one child (Center C) scored 66 in somatic complaints.

Anxiety in my sample may have been more difficult to differentiate and differences among the three centers were observed. Behaviors associated with anxiety in the CBCL were: clings, nervous, fears, upset by separation, worries. In the three

preschools only six children scored in the clinical range for anxiety problems: Center C (4) and Center B (2). Other studies have found that anxiety was displayed in younger children with externalizing symptoms similar to attention deficit, hyperactivity, oppositional behavior, and aggression (Child Mind, 2013; Kennedy Krieger, 2014). Children exposed to trauma or neglect display similar symptoms associated with post-traumatic stress including: inattention, inability to stand or sit still, impulsivity, fearless, aggressive play, and overly bold with strangers (National Child Traumatic Stress Network, 2014).

Center A, only had four children who scored positive on the CBCL C-TRF but 3/4 (75%) scored high in aggression and externalizing behavior. Only one scored high in anxious depressed behaviors. Mood disorders were found in a total of nine children with Center C (6) and Center B (3). Withdrawn behavior was most common with the children from Center C (7) Center B (1). Pervasive developmental problems were also most common in Center C (5) Center B (1).

Stress was a common finding in all the children 19/31 (61.3%) and the majority of children were from Center C (15) and Center B (4). Stress in preschoolers often mirrors the stress of their caregiver. Families disrupted by family violence, marital conflict, death of family member, illness or accident, even the stress of a new baby in the home can negatively impact a preschooler (Atzaba-Poria, Pike & Deater-Deckard, 2004; Graham-Bermann, et al., 2008; Karr-Morse & Wiley, 2013). Poverty also creates stress for preschoolers when they are exposed to worries about basic necessities like housing and food (Karr-Morse & Wiley, 2012; Karr-Morse & Wiley, 2013; Winer & Thompson, 2014).

Teacher education. A significant difference in CBCL C-TRF scores was found based on the teachers' level of education (Table 4. 14). The mean scores of CBCL C-TRF syndromes were higher (more severe behavior observed) when scored by teachers with bachelor and master's degrees versus teachers with associate degrees or certificates in nine of the fourteen syndromes (Table 4.15).

This finding was a direct result of the teachers with BS and MS degrees being exclusive to Center C, which also had the higher concentration of children with SED. There were six children screened by master's prepared teachers and eleven children screened with bachelor's prepared teachers. The other two centers only had AD and certified teachers who actually screened the children.

The master's prepared teachers had degrees in special education, and several of the bachelor's prepared teachers also had coursework in special education. The added core knowledge may have contributed to higher scoring of observed behavior. There was one study that found special education certification was a predictor variable for teacher ratings regarding expectations for learning, self-control, and teacher self-efficacy in working with school age children (Satterly Roig, 2011). An older study however, found that teachers' level of education was not a significant predictor of CBCL C-TRF scores in preschoolers in a Head Start program. Interestingly, their study found that teacher experience was a significant predictor for scores. Teachers with less than seven years of experience scored children significantly higher than teachers with more experience (Kaiser, Cai, Hancock & Foster, 2002).

Referrals and Lack of Follow up with Providers

Referrals for mental health follow-up were provided to all parents (100%) of the children who scored 65 or greater on any one of the CBCL syndromes. Of that group, only 70% actually received follow up during the course of this study. Children from Center C were the only children to complete mental health follow up and that was because the center provided play therapy services on site.

In reviewing the remaining 30% of children who did not receive any mental health follow up, one of the children from Center C transferred to another center before actual follow up could occur. Parents of children at the other two centers either chose not to pursue mental health follow up or were unable to access mental health appointments during the study period. At Center A, two parents consulted colleagues but decided not to pursue formal treatment. Three children at Center B were referred to First Steps for further assessment. One family was referred to their pediatrician who was starting a practice to manage ADHD but the family did not disclose the outcome. Three other families did not intend to pursue follow up because they felt confident that they could work with their child to meet his/her emotional needs.

During this study period I attempted to access services for families having difficulty finding a child psychiatrist. I discovered that the private child psychiatrist offices in this area did not accept Medicaid for payment. Multiple families at Center C were unable to follow up with a child psychiatrist due to their financial status and inability to pay out of pocket for psychiatric care. The academic medical center approximately ten miles away would accept Medicaid but had a waiting period of over six months for new patients. There were very few therapists in the community willing to

work with preschool age children, most did not accept Medicaid, and the cost of outpatient therapy was prohibitive for most parents. This was a very frustrating situation for parents who wanted to help their child. Teachers were empathetic toward the child and parents but felt helpless to address the issue with private physician offices and insurance providers. Children were left untreated during a vulnerable period for brain development.

Access to care for children with SED has been a challenge for decades. Child psychiatrists remain in short supply especially in rural and impoverished areas (Fox, et al., 2012; Murphey, Vaughn & Barry, 2013; Thomas & Holzer, 2006). The Kaiser Family Foundation (2014) reported that SC's psychiatrist work force was not meeting 55% of children's needs; this was based on a ratio of 1 psychiatrist per 30,000 population.

One alternative discussed with a parent at Center B was utilizing the child's pediatrician to evaluate a positive screen for hyperactivity behaviors. It was known that this pediatrician had an interest in ADHD and was planning to expand his practice to manage children with these disorders. The management of ADHD and other behavioral disorders has become a common practice for pediatricians and primary care physicians across the US (Kadzin, 2002; Leslie, Weckerly, Plemmons, Landsverk & Eastman, 2004; Murphey, Vaughn & Barry, 2013). The concerns about this model are that mental health disorders and SED in children are not successfully treated with medication alone. The best outcomes with children result from combined medication and intensive case management that includes therapy and interventions with the family and the child (APA, 2013).

As a side note, I discovered that all of the psychiatrists and most of the therapists in Aiken would not accept United Healthcare insurance. United Healthcare is the primary insurer for the Aiken Medical Center which was the number one employer in the community. The practice of not accepting Medicaid or certain private insurance has become a national trend with several specialties, psychiatry being the most common. Only 43% of psychiatrists in the southern states accept private insurance (Bishop, Press, Keyhani & Pincus, 2013) and over 56% of psychiatrists nationally refuse to see Medicaid patients (AACAP, 2013; Ubel, 2013).

Recognizing the need for psychiatric care for a significant number of children at Center C, the director attempted to contract with a community psychiatric nurse practitioner (NP) for a weekly clinic. The medical practice providing supervision would not pursue a contractual arrangement for supervision and would not allow the NP to provide services due to a no-compete contract. Ultimately, the Center C therapists worked the children into their therapy schedules and evaluated them by the completion of the study.

Center C has experienced difficulty accessing specialty care for their children including child psychiatrists, neurology, and developmental pediatrics. This region of the state has very limited specialties for children. Center C's therapy program consists of two Licensed Professional Counselors who provide play therapy. The demand exceeds their schedule constraints. Currently the donations and funding that supports Center C pays for this care. Medicaid billing for therapy is routinely denied, so much so, that the Center has a full time person just to manage the appeals for reimbursement for services.

The other two community centers have a more mixed socioeconomic group of families but the directors were concerned that parents would not be willing to wait six months for an appointment and were not likely to travel to Augusta for care. Preschool children referred to the community mental health center were routinely referred to Center C for care. For some of the families in Center B, the distance to Center C would be a hardship. The round trip takes approximately 30 minutes and for parents with several children who would have to be taken to multiple locations for child care this would be very difficult. This was one of the reasons the referral was made to First Steps. The second reason was that First Steps provides support services free to the families as part of the program.

Aiken County First Steps is a statewide education initiative established in 1999 to provide each county with comprehensive, results-oriented programs to help prepare children to reach first grade healthy and ready to succeed (Aiken First Steps, 2014). First Steps is actually comprised of five different programs: Nurse-Family Partnership, BabyNet, Parenting Education, Quality Child Care, and 4K or Head Start facilities. The children at Center B were already recipients of the childcare vouchers which pays for a portion or all of the child care costs (depending on the family's financial situation). BabyNet is an early intervention program that is partnered with SC Department of Disabilities and Special Needs. Preschool staff or any provider, nurse, therapist, social worker can refer a child to BabyNet when there is suspected developmental delay or a substantiated case of abuse or neglect (SC First Steps, 2014). In the case of the three children, the referrals were for language delay and behavioral problems.

Matching Diagnoses

CBCL syndromes and diagnoses matched the therapist's International Classification of Disease Codes 9th edition (ICD-9) codes for therapy diagnoses in 67% of the children who received follow up evaluation (all at Center C). This was statistically significant despite being a smaller subgroup of the total sample. There were seven children with ICD-9 diagnoses not matching the CBCL screen. Four children were diagnosed with anxiety disorder, two with pervasive developmental disorder (PDD) and one with 'other' emotional disorder. Of the four children with anxiety disorder, all scored high in attention problems and ADHD on the CBCL. Two children also scored high in aggression and oppositional defiant behaviors. One of the children in this same group also scored high in affective problems. The two children diagnosed with PDD both scored high in attention problems and ADHD as well as stress. One of the two children scoring high in PDD also scored high in emotionally reactive problems in addition to the attention and ADHD. The last child diagnosed as 'other emotional disorder' scored high in all the CBCL syndromes except somatic problems.

The therapists at Center C were much better informed about the children including direct observation of their behavior than a single screening measure like the CBCL C-TRF. A battery of psychological/developmental instruments was routinely administered to all children enrolled at Center C. In addition, the Social Work/Case Management staff interviewed the parents and observed the dynamics of the family during home visits. Communication among the team of providers was shared during weekly treatment team staffing meetings. This well rounded approach to each child's

assessment provided a much deeper understanding of the behavior and contributed to a comprehensive assessment prior to diagnosis.

A likely explanation to the children scoring high in multiple syndromes was their exposure to violence or maltreatment experience (Levendosky, Huth-Bocks, Semel & Shapiro, 2002; Perry, 2014). Depending on the child's innate response to trauma, responses may vary from obvious externalizing sympathetic aggression to internalizing withdrawal or dissociation. Post-traumatic stress disorder (PTSD) symptoms in toddlers and preschoolers are often confused with ADHD behavior. Children suffering from PTSD often have periods of hyperactivity, restlessness, reduced attention span, and problems concentrating. Young child PTSD can also mimic oppositional disorder type behavior with irritability, angry and aggressive behavior, hypervigilance, and exceptionally prolonged temper tantrums. PTSD in this age group can also present as withdrawn behavior including diminished interest in play, reduced expression of positive emotion, avoidance of certain places or people, strong startle reactions, separation fears, and difficulty sleeping (AHRQ, 2013; Anxiety and Depression Association of America, 2014; Blank, 2007; Gaensbauer, 2014).

Inferential Findings: Assessment of Teacher Burden

Time required to screen. Teachers from Centers A and B responded more favorably to the survey. These teachers both reported shorter times to complete the survey (30 minutes) and had greater value for the screening process (agree or strongly agree) supporting the time spent was worthwhile. The Teachers from these two centers also indicated the time spent performing screens did not interfere with their teaching obligations.

Teacher responses also varied by level of education and center which was described on Table 4.8. The significant variation occurred between teachers with certificates versus other degrees and between Center C versus the other two centers. The time required to complete the C-TRF was significantly different among teachers.

It was not clear why the screening took longer for some of the Center C teachers. The environment at Center C is one big open building versus separate classrooms in the other two centers. Noise, stimulation, and interruptions may have made it more difficult for the teachers to concentrate on the task. Also Center C had a higher concentration of children with SED which could have made it more difficult for the teachers to pull away for uninterrupted time to complete the screen.

Time spent worthwhile. The second question, “was the time spent worthwhile”, was also significantly different between teachers based on education level and center. Both community preschool teachers agreed or strongly agreed the time was worthwhile. Center C had nine teachers neutral about the value of screening and two teachers who disagreed about the time being worthwhile.

One possible explanation to the difference in value from Center C teachers was their center routinely used the CBCL completed by parents as part of the admission process. So these teachers were familiar with the CBCL, and may have felt their time completing the teacher version was duplicate effort. Additionally, Center C had therapists on staff so when a teacher requested them to evaluate a child it was done relatively easy and with minimal delay in time. Therefore, the need to formally screen children at their center was not necessary to access therapy resources.

Time spent interfered with workload. The final question asked teachers if the time spent completing the screening tools interfered with their teaching obligations. This result was also significantly different between Center C and the community centers. The two community centers agreed or strongly agreed time did not interfere with their obligations whereas, Center C had four teachers who agreed the screening did not interfere, seven teachers were neutral about the interference, one who disagreed (time did interfere with her work) and two who strongly disagreed.

The most likely explanation for this disparity was that Center C was experiencing a difficult period due to extraordinary growth in their programs, lack of space, and stress related to management of several children with difficult aggressive behaviors. Also if the screens were taking the teachers longer to do, one would expect the task to interfere with the teachers' routine tasks.

Teacher suggestions for improvement. The last question of the Assessment of Teacher Burden was open ended and asked for suggestions in the process of screening preschool children. Half of the teachers provided suggestions; eight from Center C, two from Center A, and one from Center B. Three suggestions were focused on process: a. Prior to giving the survey to the teacher complete the top section with demographic information about the child and parents ahead of time to save teacher time; b. Provide an additional screening tool appropriate for children age 6 months to 18 months; and c. Incorporate the parent CBCL as part of the study to have a broader view of the child in addition to the teacher's perspective. The other eight suggestions were related to the CBCL C-TRF instrument. These suggestions included: a. Difficulty understanding the questions on the CBCL; b. Several questions/behaviors were repeated; c. Maybe the questions could be

grouped by the children's age; d. Separate screenings for behavioral issues; e. Make some questions more specific; f. Some questions were hard to answer for some of the children; g. Some questions seem to have the same meaning; and h. Group items together, some questions required going back to discern differences in the description of the behavior.

The teacher's process suggestions could easily be incorporated into the next study or implementation into practice. The changes to the CBCL itself would not be possible but spending more time with the teachers to help them with difficult questions or describe certain behaviors could be easily incorporated into the study procedures. Follow up meetings will be occurring to disseminate the results of the study to the participating teachers at each center. I intend to ask them to expand on these ideas and incorporate them into future design.

Unexpected Findings

Roles in Community Setting

This study introduced the role of the psychiatric nurse to the various professionals working with preschool children in the community. It was heartwarming to hear the teachers and directors comment they learned a great deal from our collaboration. Conversely, as a nurse and naïve to SC child care facility standards, it was enlightening to experience the work life of preschool teachers, directors, and work closely with case managers from Center C.

Variation in Teacher Education

One of the unexpected findings was discovering the diversity in training and background of teachers from basic certificate with high school diploma all the way up to Masters Degrees in Education. All of the teachers participating in this study knew their

students and parents well. They were exceptionally caring and patient individuals and intuitively knew which children had emotional or behavioral problems.

Individual teacher variation in scoring was noted in nine of the 14 syndromes: emotionally reactive, attention problems, aggressive behavior, internalizing problems, externalizing problems, stress, pervasive developmental problems, attention deficit hyperactivity problems, and oppositional problems. Additional information regarding teacher experience with specific mental health disorders, educational background on normal childhood behavior, and internal biases regarding mental illness would be helpful to gain better understanding of the variation in future studies.

Teacher responses to the Assessment of Teacher Burden were also surprising in that Center C teachers were not as enthusiastic about screening children as the two community preschools. Understanding Center C had as its core mission to care for children with SED it was expected to see their scores be the highest. In retrospect, Center C had a system for screening in place as part of the admission process. The added value of one more standardized instrument may not have been as important as a new screen being introduced to the other two centers.

At Center C, the current screening system relied on the parent's completion of the CBCL. A comparison of the parent's results to the teacher's results would have been helpful but not possible due to the nature of this study. Further discussion with the teachers would help to better understand what support they need to build the CBCL C-TRF into routine practice. A future study comparing the results of teachers and parents along with educational levels and socioeconomic status would be helpful in better understanding the best approach to screening preschool children.

Additionally Center C had therapists on staff and children were regularly referred for speech therapy, physical therapy, occupational therapy, and play therapy based on the team's ongoing evaluation of the child. The comprehensive care provided to Center C children was not afforded to community preschools. Center C was also experiencing a rather turbulent time concurrent to this study. Teachers and staff were recovering from two significant events that negatively impacted several staff members. The added time commitment to this research may have coincided with a bad time, resulting in less enthusiasm than would have been expected in routine conditions.

Debate about treatment with stimulants

In discussions with the treatment team at Center C about the number of children with hyperactive behavior, and very few on medication, it was clear the therapists and teachers preferred children not be managed with medications. The therapists preferred to rule out other differential diagnoses before committing to ADHD. The therapists recalled a history of negative experience with psychiatrists "over-medicating" and making children too drowsy to function normally in the preschool setting. It was also reported that in the past medications had not been managed closely due to poor communication between physicians and the therapists. Current evidence has been controversial regarding the use of stimulants in young children.

Dr. Nancy Rappaport, a child psychiatrist from Harvard, concurred with the therapists' beliefs. She reported study results (Washington Post, 2014) where children between the age of 2 and 3 years were prescribed stimulants despite the fact that safety and effectiveness in that age group had not been studied thoroughly. The majority of those children were receiving Medicaid, which was a correlate to poverty. Behaviors of

toddlers and preschoolers from impoverished homes often mimic symptoms of ADHD and, therefore, treatment with stimulants may be the result of misdiagnosis (Engle & Black, 2008; Holtz, Fox, Meurer, 2013; Marston, 2013).

A study by Wigal and associates (2006) reported a high incidence of adverse drug events with preschool age children. This was a placebo-controlled double blind study treating preschoolers with stimulants and reported 30% of parents described moderate to severe adverse events associated with the medication. Twenty-one (11%) of the children were discontinued from the medication because of adverse drug events.

A systematic review completed by the Agency for Healthcare Research and Quality (2011) supported the use of stimulants in preschool children. Methylphenidate was found efficacious and safe for that age group. Parents and teachers reported ADHD symptoms improved, but parents noted increased mood problems after treatment with stimulants in this age group. Preschoolers also experienced more dose-related adverse events than older children and growth rates were negatively affected.

Stimulants have been found to pose significant risks to children, especially the very young preschool population. The APA guidelines recommends that behavioral therapy should be the first line of treatment before medication (2011). Center C therapists' treatment philosophy for ADHD has been to work with the parents and teachers to focus on behavioral interventions. Many of the children I observed made tremendous progress with consistent behavioral interventions. The licensed professional counselors (LPC) had experience with multiple children at this center who showed improvement in symptoms with parent/teacher partnerships. Parent coaching and teacher feedback addressed things like adequate sleep at home, consistent healthy meals,

parenting interventions regarding praise and eliminating harsh/corporal punishment, teacher nurturing activities, teacher bonding interventions, and specific behavioral responses unique for each child.

Theoretical Implications

Child's Ecology

The Human Ecology Theory established the importance of interconnected systems of family, extended family, neighborhood, and environmental factors that contribute to a child's cognitive and emotional development (Bronfenbrenner, 1979). Direct measures of family socio-economic status were not included in the demographics of this study, however, it was apparent that the greater number of children with behavioral disorders came from families at high risk due to poverty or child welfare issues.

Conversations with parents, observations of living conditions during parent visits with social workers, and dialogue with preschool staff suggested that many of the children lived in poverty, were exposed to violence in their home, and experienced harsh/inconsistent parenting associated with parental substance abuse and/or mental illness. This sample followed the pattern found in other studies of higher rates of mental illness in children associated with poverty (Evans & Kim, 2013; Holtz, Fox & Meurer, 2014; National Center for Children in Poverty, 2013; NIMH, 2014; Slopen, Fitzmaurice, Williams & Gilman, 2010).

Children in my study lived in diverse socioeconomic situations. Center B was located in a small rural town closely connected to a Department of Defense operation. The economy in this area has suffered over the last five years with budget cuts and job

losses. The parents from Center B were primarily working in manufacturing or healthcare jobs in the Aiken/Augusta region. Some of the children in Center B met the SC criteria for First Steps and received subsidized child care. Several families were identified as high risk by the teachers because of multiple children from the same family displaying behavioral issues.

Center C was located within an Aiken city neighborhood that has experienced economic decline. This specialty preschool was a not-for-profit program supported by community donations and the United Way. The program does receive revenue from preschool tuition, state subsidies for preschool costs, and Medicaid funding for clinical treatment. The majority of the children with behavioral issues lived with single parents, mothers, who were overwhelmed by their life situations, parenting responsibilities and unable to effectively manage their children's externalizing behavior at home. Many of the parents had mental health issues of their own and several were cognitively impaired.

Center A was a contrast to the other centers. The socioeconomic status of families was much higher, the majority of parents were employed in professional jobs, and both parents were very involved and engaged with center staff. Rather than the director seeking out parents to discuss child behavior issues, parents initiated dialogue with the director or teachers to inquire how their child was performing or "behaving" in class.

Socioeconomic status was influenced by many factors outside the direct sphere of a child's ecology. Poverty or lack of financial stability impedes the ability of parents/caregivers to provide the key ingredients needed for a healthy nurturing home. Stress, long work hours, and financial pressures erode opportunities for consistent relaxed

parent-child interaction necessary for optimal brain development (APA, 2014; Driscoll & Nagel, 2008; Jackson, Brooks-Gunn, Huang & Glassman, 2000; Mental Health America, 2014; Winer & Thompson, 2014).

Factors contributing to Neuronal Development

The Ecological Impact on Neuronal Development Theory posits that factors in a child's ecology contribute to the healthy development of cognition/intelligence, physical health, and personality. The priority factors include optimal fetal development, safe home and basic needs met, no exposure to violence, quality parent-child interaction, and age appropriate cognitive stimulation for learning. A child's behavior and ability to successfully interact with family and establish relationships with others is the outcome influenced by the above priority factors (Robey-Williams, 2011).

Optimal fetal development. Prenatal care, healthy pregnancy without fetal exposure to toxins, reduced maternal stress to reduce circulating cortisol are all factors that promote optimal fetal development. These elements were not addressed in this study.

Safe home and basic needs met. Provision of safe home, optimal nutrition, responsiveness to infant's cries, touch and comforting tactile soothing all foster a secure parent-child attachment. Family support, healthcare provider partnerships, and community resources support parents to maximize a child's development pre-birth to kindergarten (DeHann & Gunnar, 2009; Gilkerson & Gray, 2014; Hart, 2011).

It was apparent a number of children in this study sample had attachment difficulties which stemmed from infancy. This was observed at Center C where the Neurosequential Model of therapeutic interventions directed daily behavioral treatment provided by teachers and preschool staff (Gaskill & Perry, 2014). Although many of the

children at Center C had suffered some level of neglect or trauma, the program interventions focused on fundamental parenting strategies. Focused partnerships with the child's parent/caregiver were established to promote strong attachment, consistent nurturing, and a secure home for the child. Poverty, associated with economic disadvantages and family stress often contributes to family conflict, marital discord, family instability, and negative parenting styles; all of which contribute to problem behaviors in children (Qi & Kaiser, 2003).

There were several families of children from Center C who had known experience of hunger, neglect, and impoverished conditions such as no running water, electricity, and lack of heat or air conditioning. Weintraub and colleagues (2002) found moderate levels of hunger experienced by preschool children was a significant predictor of health conditions and severe hunger was associated with high levels of internalizing behavior. Hungry children were more likely to experience anxiety and depressive symptoms which could result in physiological or emotional changes that decrease the child's ability to cope with stress.

Food insecurity was defined as the limited or uncertain access to nutritionally adequate and safe food. This may or may not be directly related to poverty but for preschool children persistent food insecurity was associated with both internalizing and externalizing behaviors. The combination of poverty and food insecurity increased the prevalence of internalizing and externalizing problems (Slopen, Fitzmaurice, Williams & Gilman, 2010).

Exposure to violence. Over 30% of the children from Center C were known to have experienced violence in their home. One of the families with several children at Center B

was known to have witnessed domestic violence in the home associated with substance abuse. The high incidence of aggression behaviors and children scoring high in multiple CBCL syndromes may be related to the children's exposure to violence in their homes.

Exposure to family violence negatively affects young children in multiple areas including self-regulation, emotional, social, and cognitive function. Violence toward the child's primary caregiver has severe impact on attachment, triggers stress responses, and produces early mental health problems for the witnessing child. Family violence was often intergenerational, not usually limited to the primary caregiver, and complicated with child abuse (Lieberman, Van Horn & Ippen, 2005).

Preschoolers exposed to intimate partner violence tend to exhibit more aggression, internalizing and externalizing behavior problems, lower social function, adverse health outcomes, and lower intellectual function (Howell, Graham-Bermann, Czyz & Lilly, 2010; Levendosky, Huth-Bocks, Semel & Shapiro, 2002; Ziv, 2012). In a study of 16,595 children of parents with parental violence, the children were twice as likely to fail at least one developmental milestone in language, relational competency, gross motor skills and fine motor skills (Gilbert, Bauer, Carroll & Downs, 2013).

Quality Parent-Child Interaction. The majority of children from Center C lacked quality parent-child interaction. Primary caregivers were not emotionally available for their children due to their own mental health issues or personal crises. Staff were familiar with multiple family members who filled in or 'babysat' in the absence of the primary care giver. Multiple adults (family/significant others/friends) flowed in and out of these children's homes daily creating chaotic home schedules. Center C staff were familiar with the children shuffling off to multiple family members for care before and after

school because this program individually picked up children by bus at their homes and returned them at the end of the day. Home assessments by social workers identified key family leaders who provided consistent support to the child. As parent consultants these workers fostered those partnerships while providing parenting interventions to the primary parent caregivers. Parenting interventions provided by the social workers focused on interaction skills, role modeled appropriate play, and emphasized consistent non-physical (vs corporal) punishment for poor behavior.

Families are the primary socializing agents for their children and interactions teach them to regulate and socialize them into their family culture (Engle & Black, 2008; Tronick, 2014). Aggression in children is associated with parents who are emotionally unavailable to their child, unable to role model self-regulation, and who address negative behavior with harsh discipline (Reebye, 2005). Preschoolers from low-income backgrounds tend to have lower language abilities. This is thought to result from parents' language interaction being dominated by commands rather than explanation. Harsh parenting style, focused on control and discipline rather than reciprocal interactive conversation also inhibits emotional development (Qi & Kaiser, 2003).

Age Appropriate Cognitive Stimulation. Children's access to age appropriate toys, books, and activities to stimulate brain development was not a direct measure in this study. It was noted however, that books, toys, and activities initiated in the preschool setting were transferred home for those children in Center C. Books, toys, and gift rewards were utilized to encourage participation in parenting classes. Center B children seemed to devour books and loved to sit and be read to or read together with an adult. Center B children had access to many toys and activities while in school but they were

not taken home. Center A parents donated items to the preschool and volunteered for special activities with the children like planting seeds for a flower garden and bringing food and items for a slip and slide summer party.

High quality preschool experience can provide children with the cognitive stimulation associated with age appropriate play and language development. A continued emphasis on interactive speech and talking with toddlers and preschoolers along with reading to them continues to be a successful external intervention that supports brain development (Cates, et al., 2012). Parent involvement with their children and participation in parenting programs to model cognitive development activities have produced positive outcomes with preschool children (Chang, Park & Kim, 2009; Issacs, 2012; Votruba-Drazl, 2003).

Limitations of the Study

As a pilot study, this project had several limitations. The sample size of 125 children from three different centers exceeded the proposal goal but was still a small sample that limits statistical findings beyond descriptive analysis.

Completion time for this study limited the ability to follow children long term to evaluate if parents obtained mental health treatment for their children. Completing the screens mid-summer did not allow for referrals to occur that typically work on a school year cycle. Added time would have allowed direct observation of the First Steps referral process at Center B for both the behavioral concerns and the speech delays noted in some of the children. Increased time to expand the relationships established with teachers and parents would have provided additional insight into the children's progress as they matured.

Many parents needed assistance in navigating the mental health resources in the community. Mental health provider follow up was difficult to access for families with Medicaid insurance, and long waits (six months) for outpatient appointments was the norm. This was consistent with national reports suggesting that access to child psychiatrists remains a barrier for parents seeking treatment for their children (American Academy of Child and Adolescent Psychiatrists, 2011; NAMI, 2014).

Fortunately the case managers at Center C were partnered with their families and could provide substantial assistance. Similar to published studies utilizing intensive case management, Social Workers provided parents help with obtaining appointments, transportation, completion of office forms, and even communication/interpretation during visits with physicians when requested by the parent or guardian (Wotring & Stroul, 2011).

The CBCL C-TRF has proven reliability and validity in multiple studies (Achenbach & Rescorla, 2000; Achenbach & Rescorla, 2004; Dehon & Scheeringa, 2005; Kim, et al., 2012; Kirk & Hardy, 2012; Liu, Cheng, & Leung, 2011; Orten, 2012). In this study, however, initial teacher reliability analysis could not be performed following education on the use of the CBCL C-TRF. All of the teachers were required to score the same child from their center in order to validate scores and confirm their understanding on how to use the screening tool. The total numbers of teachers from each center (scoring same child) was too small for a Kappa with a 100- item questionnaire.

In retrospect it would have been helpful to know additional demographic information about the teachers and families of the children. Teachers' age and socioeconomic status may have provided more insight into the differences in their

screening scores rather than just their experience or educational background. Teachers in Centers B and C were not as familiar with the parents' occupations and socioeconomic status. This would have been helpful information to know and could have easily been obtained by following up with the parents during education meetings.

Working closely with teachers during the data collection afforded many opportunities for healthcare and psycho-educational teaching. Teachers were invested in their students and anxious to learn the results of the screens. Unfortunately teachers were not able to have access to the scored results. General information was provided regarding the center, but individual details for each child were reserved for the parents/guardians only. Having consent to share information with the teachers would have helped them understand the child more fully and helped teachers meet the child's unique educational needs.

Partnership with the preschool directors became a key factor in all aspects of the project's success. Limiting communication between parents/director/researcher for confidentiality proved difficult because the parents had such an open relationship with the program directors. Additionally the therapy staff at Center C did not have access to the screening results unless parents chose to share them. Conversely the details of the play therapy treatment and rationale was not shared with the PI for further analysis in this study when matching CBCL screen to their diagnoses.

Incorporating the CBCL screen to be completed by parents was intentionally left optional in this study in order to encourage parents' willingness to consent. Following this experience, many of the parents would have complied and actually enjoyed a higher level of participation with screening their own child. Previous studies have found

differences in the parent and teacher perspectives (Berg-Nelson, Solheim, Belsky & Wichstrom, 2011; Goodman & Scott, 1999; Kolko & Kazdin, 2006). However other studies have found significant cross informant agreement (Raff, Mire, Tagliarina, LeBlanc & Hyatt, 2014; Rescorla, et al., 2014; Rescorla, et al., 2012).

Strengths of the Study

This sample provided strength for the study in multiple ways. First the number of children recruited for the study exceeded proposal expectations. The overwhelming support of parents and teachers to participate in this research demonstrated the importance of this topic and the concern for children's emotional health. The number of children who screened positive for both emotional disorders as well as language delays was significant and indicated the need to expand this screening model into practice.

The diversity of the three preschools provided rich contrast into the various needs of children and families in this SC community. The diversity in teacher experience and education demonstrated that screening could be accomplished by any teacher who knows her students. The inclusion of a special needs preschool provided exposure to community mental health and child welfare services delivered in a comprehensive system of intensive case management unique to Center C.

Parent education was quite comprehensive despite it being delivered at the preschool at the parents' convenience. Being present at the preschool, and available to the parents', facilitated relationships and opportunities for nursing consultation. It was easy to see how nurses were trusted by parents and would be valued integral members of community intensive case management programs (Myers & Johnson, 2007; NAMI, 2005; Nixon, 2006; McGroder & Hyra, 2009; Stephens, Holder, & Hernandez, 2004).

Contribution to Body of Knowledge

This study has contributed an additional sample of children screened with the CBCL C-TRF which can be compared, contrasted, and combined in meta-analysis because the fidelity of the data collection process was maintained. The percentage of children who screened positive from the CBCL C-TRF was significant. The number of children with language delays was surprisingly high. The CBCL C-TRF screen was judged by preschool teachers to be an effective way to identify children in need of mental health services. A unique finding for this study was no significant difference between gender, race, and the ADHD scale in this sample of children.

This study also validated several findings from existing research. Lower socioeconomic status and African American race were correlated with higher T scores in all syndromes except somatic problems (Cai, Kaiser & Hancock, 2010; Qi & Kaiser, 2003). The influence of teacher education level and CBCL scores was also an important finding and similar to results found by Anthony's team of researchers who found significant effects of classroom teacher and classroom site on scores for children's social competence and problem behaviors (2005). Variation among teachers and CBCL scores was found to be influenced by conflict between the teacher and preschool child in a Norwegian study (Berg-Nielsen, Solheim, Belsky & Wichstrom, 2011).

Implications for Practice

In order to reach preschool children and positively impact their cognitive and emotional development nurses will need to practice outside the hospital in the community. The current healthcare and economic condition begs for nursing presence in the community to ensure families have access to the right kind of care. Infant and toddler

screening and early intervention through primary medical homes has driven increased demand for psychiatric advanced practice nurses in community programs to reach families unable to access conventional psychiatry practices.

The best outcomes for children start with prevention measures to optimize fetal and child development through safe, healthy, nurturing families. Reaching teens early before they conceive children and teaching them the key elements of child development should be a mandate for all youth. Partnerships between schools, child development centers, child healthcare agencies, and child welfare agencies are necessary to form the systems of care concept proven effective but still absent in many parts of the US (Wotring & Stroul, 2011; USDHHS, 2012).

Accurate diagnoses and effective management of SED in preschool children requires a team of providers including parents, caregivers, teachers, nurses, therapists, physical therapists, occupational therapists, speech therapists, social workers, and medical providers. Therapists should not be afraid children will become zombies from over-medication. Providers should listen to parents, partner with teachers and therapists and insist on objective outcome measures to direct treatment. The role of the psychiatric nurse practitioner should be promoted to reach children and families in the community so children in need can be treated early. Nurses and therapists work closely to manage the care of patients with psychiatric disorders in acute psychiatric hospitals. That same collaboration and support with therapeutic intervention, behavior plans and medication management could be established in the community setting.

Nurse practitioners could be positioned in preschool settings to provide consultation to families, teachers, and children regarding physical and emotional health.

During this experience the teachers and therapists found the contributions of nursing valuable to behavioral treatment plans. Intuitively nurses can identify a wide variety of health issues from direct observations or reports of children's behaviors. Actual experience at Center C during treatment team discussions demonstrated how nurses can identify multiple conditions or health issues including: urinary tract infections, hypoglycemia, ineffective attachment associated with infant prematurity, developmental delays requiring neurology referrals, chronic ear infections, food allergies, skin rashes, and behaviors and clinical signs of abuse.

Nurses contribute to parent support with creative strategies to manage behavior as well as educate parents on medication management and nutrition. Incorporating the nurse into the wrap around system of care for children and families is critical to long term success. The social work staff found including a nurse to provide parent teaching had greater impact and motivated parents to take action. Parents appreciated an understanding listener who knew the struggles they experienced with the mental health system and who could help them address issues with their pediatrician or specialty physicians. Social workers identified an advantage to having a nurse partner on home visits. Parents, and especially young mothers, enjoyed the opportunity to have a private audience with a nurse to ask questions they needed to know about their own healthcare as well as child care.

A huge opportunity was identified to pursue federal and state policies regarding payment systems for child mental health. The current dearth of providers is directly related to the poor reimbursement for services provided by both physicians and therapists. Child psychiatrists choose not to accept Medicaid because it pays such a poor

percentage of the outpatient charges. Despite parity laws, Medicaid and many private insurers deny claims for child therapy interventions. Emergency Department visits, inpatient admissions, and psychiatric medications are readily covered by Medicaid and insurance but the much needed therapy for child and parents is consistently denied (M. Ford, personal communication, October 10, 2014).

Resources need to be established in order to provide specialty physician referrals, i.e. pediatrician for medical homes, child psychiatrist, and psychiatric nurse practitioner to be available or linked to each site of the study so that parents have convenient access to follow-up. Pursue grant funding to support an interdisciplinary team to include speech therapy, occupational therapy, physical therapy, play therapy, and social work to be deployed as needed based on referral evaluations and recommendations. Include confidentiality agreements for parents to consent to shared information between the education team (teacher/director) and the screening/treatment team (provider/therapist/social worker).

Upon successful implementation with a select group of preschools expand the grant/program to multiple preschools in Aiken County and produce a demonstration study for the state of SC. Partner with the community mental health department and Aiken County school district to incorporate screening for 5 year olds in kindergarten. Collaborate with other system of care programs to avoid replication of services, but focus on bringing the services to the preschool/K-12 school setting.

Develop a SED prevention study through partnerships with community obstetricians and pediatricians. Establish a battery of screening instruments to identify high risk families prenatally and immediately after birth so that resources can be

deployed to the family to maximize quality parent infant interaction and attachment. Develop SED prevention education programs for children designed to model age appropriate fundamental parenting skills. Each stage of child development would build nurturing and parenting skills which would culminate with parenting competency for adolescents and young adults prior to childbearing.

Implications for Theory Building

The Ecological Impacts on Neuronal Development Theory provides a framework for understanding the relationships among multiple factors that contribute to children's cognitive, physical, and personality development. Theory testing studies could hypothesize relationships between prenatal and home ecology factors. Factor analysis methods could measure the child's level of exposure to each factor, and establish the strength and contribution of each factor toward healthy development or resultant pathology. Further theory development would target the most critical factors and amplify those contributing to positive outcomes as well as prioritize interventions that would ameliorate or buffer the negative effects on the child's development.

A longitudinal study of families to identify multigenerational values, culture, and parenting 'lifestyle' would provide insight into successful ways to break the cycle of abuse, trauma, substance abuse, and poverty that endangers the healthy development of children. This knowledge would target key interventions to influence change in behavior and value systems associated with the home ecology or 'lifestyle' which families create for their children.

A longitudinal study which analyzes the characteristics of resilience in children who successfully thrive and succeed in adulthood, despite poverty and exposure to

damaging factors in their ecology would provide great insight into interventions applicable when prevention measures fail. This study should recruit/include children with known toxic exposures in utero, infants with prematurity, children with cognitive impairments, and physical challenges. Analysis would tease out factors that are protective and/or promote positive personality development while observing the children develop into preschool age and older.

Recommendations for Future Research

Future studies should include comprehensive assessment of the parents and teachers including socioeconomic status. Based on this experience, establishing a relationship with the parents first while focused on the child should provide opportunity for trust and understanding to obtain more sensitive parent socioeconomic data later after a relationship was established. Including a prenatal, and post-partum history of the child's mother as well as the birth history of both child and mother would offer insight into relationships between fetal development, fetal exposure, or birth trauma and a child's long term cognitive and emotional development.

The demographic assessment of teachers should be expanded to include age, types of experience, and personal values associated with mental illness in children. This would allow for a more detailed analysis of teacher characteristics and influences on their screening scores. The data collection forms should be completed by the research team as suggested by the teachers to complete known background information on the child to save the teachers' time. Future studies should incorporate parents into the assessment process by asking them to complete the CBCL and LDS (as age appropriate).

Another important study is recommended for understanding the factors contributing to chronic stress and subsequent neurobehavioral development. Measure saliva cortisol levels of mother and life stress factors during pregnancy during key timed intervals during developmental periods of fetal development and monitor fetal development via routine exams. Assess the newborn during infancy and during timed intervals during childhood development to observe for incidence of behavioral disorders or SED in later years of childhood (longitudinal study). Concurrently measure the saliva cortisol levels of infants and children as they develop and determine what factors raise cortisol/stress levels in children and associated SED in later years of childhood (Luby, et al., 2003). This design could be incorporated into a Nurse Family Partnership intervention model (Olds, et al., 2004; Eckenrode, et al., 2010) but expanded to cross multiple socioeconomic groups to compare exposure to hunger, neglect, trauma, violence directly, violence to primary caregiver, violence to other family members, and casual observation via TV/videogames to identify primary stressors. Results of stressors based on objective cortisol levels could then be translated into parenting education designed to influence parenting style and skills and lend to lifestyle changes for raising children much like nutrition and exercise have been incorporated into parenting knowledge in the last decade.

This study was limited to one county in SC and additional studies with larger and more diverse samples across the US would provide a broader view of the needs for preschool children nationally. The two racial groups were limited to African American and Caucasian which does not reflect the diversity of American children. A study including repeat measures of CBCL scores and other key psychometric measures would

be very helpful in evaluating clinical outcomes of children being treated in various types of programs similar to Head Start or the specialty preschool like Center C. Actually recruiting Head Start programs across the country to screen all children would be a fabulous diverse population to study.

Additional studies are also needed to distinguish the relationship between ADHD behaviors and child neglect and maltreatment. Center C is well suited to follow children referred to them following neglect and abuse. Establishing baseline and periodic measures would provide data on long term outcomes and insight into whether the pathology can be reversed with early intervention at the preschool age. Similarly studies designed to distinguish the relationship between aggression and poverty as well as aggression and ineffective attachment could be designed with baseline screening data (aggression, attachment) and concurrent measures of socioeconomic status (poverty level).

A study investigating the true impact of the Affordability Act on access to mental health services for preschool and younger children is necessary but may be difficult to design. Partnering with mental health advocacy groups like National Association for Mental Illness (NAMI) and Mental Health Association of America might provide the needed support to identify gaps in care, barriers to services, state level issues, as well as successfully recruit parents willing to share sensitive mental health and financial information for research.

And finally, more randomized controlled studies are needed to evaluate the off label use of medications utilized to manage psychiatric disorders in preschoolers. Standardized measures are currently being used in most settings for ADHD. The barrier

of course is the cost of randomized controlled studies so a multicenter design randomizing the facilities might be more efficient.

Conclusion

The purpose of this study was to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of SED. The screening process in three Aiken County preschools was successful with both teacher and parent support. Results of the CBCL C-TRF identified 25% of the sample with borderline or clinical findings in one or more of the 14 behavioral syndromes. The LDS identified 39% of the sample having verbal delays.

Utilizing preschool teachers to screen children was supported by the teachers and preschool directors. Overall 87% of the teachers reported the screening process to take 30 minutes or less per child. The majority of the teachers (91%) were neutral or agreed the screening process was worthwhile. The burden on teachers' time was minimal with 86% of the teachers reporting the screening process did not interfere with their teaching responsibilities.

A second purpose of this feasibility study was to evaluate the success of facilitating access of children into the community mental health system to provide early intervention. Overall 70% of the children actually received follow up during the study period. Access to child psychiatrists was limited due to a shortage of child psychiatrists in this region. The community mental health center did not treat children less than five years of age. Additionally private child psychiatrists in Aiken did not accept Medicaid and some private insurance. Access to mental health therapists was also difficult due the

limited number of practices willing to treat preschool age children as well as accepting Medicaid.

The intensive case management model established at Center C was very effective in providing therapeutic services to preschoolers. The Center C treatment team appreciated and valued the participation of an advanced practice psychiatric nurse as a key contributor to the medical needs and holistic care of the children. Future plans are in motion to establish a position for a psychiatric nurse practitioner for this center. All three centers were hopeful this pilot study would evolve into a grant to continue the screening process and improve mental health services for the children in their county.

A grant has been accepted by the Health Resources and Services Administration to fund an advanced practice nurse to replicate this study in three SC counties. The grant expands the number of preschools to 10. Currently physicians are being recruited in each county to provide a physician partner for referral. The Case Management team already in place at Center C for Family Check-Up (University of Oregon, 2014) is proposed to provide the family support. As this study shows, a new model of mental health care delivery is necessary to reach preschool children in our community with serious emotional disorders.

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APPENDIX A: PARENT CONSENT

University of South Carolina College of Nursing
Parent Consent Form
Early Screening and Identification of Preschool Children Affected by Serious
Emotional Disorders

Introduction and Purpose

You are invited to participate in a research study conducted by Cathy Robey-Williams. I am a doctoral candidate in the College of Nursing at University of South Carolina. I am conducting a research study as part of the requirements for my PhD degree in Nursing, and I would like to invite you to participate. The purpose of this study is to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of serious emotional disorders. A second purpose is to evaluate the success of facilitating access to children into the community mental health system to provide early intervention. This form explains what you will be asked to do if you decide to participate in this study. Please read it carefully and feel free to ask any questions you like before you make a decision about participating.

Description and Study Purpose

Your consent to this study will allow your child's preschool teacher to complete a screening tool that describes your child's behaviors in preschool. You will also be offered to complete a parent version of this screening tool it takes approximately 20 minutes to complete. If your child is already being treated for an emotional disorder you will not be able to participate in this study. If your child screens within the normal range, I will review the scores with you and provide a parent educational program that describes normal childhood development, specifically healthy emotional development. If your child screens outside the normal range, I will meet with you and review the scores and their meaning and recommend professional referral. You will have the choice at that time if you want to pursue the referral and will have the choice of which provider you prefer. If a referral is needed and you have chosen a provider I will ask you to sign a confidentiality agreement that allows me to communicate to your provider to share the screening results and also receive his/her initial diagnosis of your child after evaluation. No information specific to your child will be shared with the school. The screening results will only be shared with you and the provider when needed. It will be necessary for you to take your child to the provider for evaluation and treatment.

Risks of Participation

There are no known risks associated with participating in this study except a breach of confidentiality. All screening forms will be maintained in a locked box during transport

to my home and will be returned to the parent as soon as the data is entered into the computer database. I will make every effort to protect the confidentiality of the screening information and have a protection system on my computer to prevent anyone from accessing it. Data will be de-identified for the study so that no child can be connected to the screening results.

If at any time your participation makes you uncomfortable I will stop the screening process and work with you to address your discomfort.

Benefits of Participation

Your child will benefit from this study by screening and early recognition of serious emotional disorders that could be treated early and improve their education, social, emotional experience that otherwise might be difficult. Participation will also benefit you and your child with additional professional education on early childhood and emotional development.

Costs

The only cost associated with this study would be the treatment of your child should they need follow up with a provider. Medical insurance and Medicaid usually cover the cost of these services. If you have questions about specific costs this can be discussed when and if a referral would be necessary.

Circumstances for Dismissal from Study

This study involves your child's preschool teacher completing a screening tool about your child. There are no obvious circumstances for dismissal from this study unless you elect to dismiss yourself (child) from the study.

Compensation for Injury

This study will not involve any opportunity for injury outside the normal daily operations of the preschool. The screening tools will be completed by teachers on site. Parents may complete the screening tool at the preschool or at home and return it to the preschool so that I may score it.

Confidentiality of Records

The only document with your name on it will be this consent form and it will be stored separately from your child's screening results. Your child will have an identification number that will be used to link his/her information to the provider referral (if one is necessary) until the provider results are obtained. After this occurs all links to the child will be destroyed and the database will only have de-identified information. Study information will be stored in a locked box and password protected computer file. De-identified information will be utilized for reporting the results of this study and for publication.

Contact Person

For more information concerning this research, or if you believe you have suffered a research related injury, you should contact Cathy Robey-Williams at (803)-295-3474 or

email at cathy.robey-williams@gmail.com. The faculty advisor on this research is Dr. Kathleen Scharer phone (803)-777-8466, email KMSCHARER@mailbox.sc.edu.

If you have any questions about your rights as a research subject, you may contact : Thomas Coggins, Director, Office of Research Compliance, University of South Carolina, Columbia, SC. 29208. Phone- (803)777-7095, FAX – (803) 576-5589, email – tcoggins@mailbox.sc.edu.

Voluntary Participation

Participation in this study is voluntary. You are free not to participate or to withdraw at any time, for whatever reason, without negative consequences. In the event that you do withdraw from this study, the information you have already provided will be kept in a confidential manner.

Signature/Date

I have read (or have had read to me) the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I give my consent to participate in this study although I have been told that I may withdraw at any time without negative consequences. I have received (or will receive) a copy of this form for my records and future reference.

Signature: _____ Date: _____

Witness/Date

As a witness, I attest that the consent form was read by (or to) the subject, the research purpose, procedures, risks, and benefits were explained to the subject, questions were solicited and if the subject had any questions, they were answered to the subject's satisfaction, In my judgment, the subject voluntarily agreed to participate in the study.

Signature: _____ Date: _____

APPENDIX B: TEACHER CONSENT

University of South Carolina College of Nursing
Teacher Consent Form
Early Screening and Identification of Preschool Children Affected by Serious
Emotional Disorders

Introduction and Purpose

You are invited to participate in a research study conducted by Cathy Robey-Williams. I am a doctoral candidate in the College of Nursing at University of South Carolina. I am conducting a research study as part of the requirements for my PhD degree in Nursing, and I would like to invite you to participate. The purpose of this study is to test the feasibility of a screening process for preschool children led by teachers as a method for early identification of serious emotional disorders. A second purpose is to evaluate the success of facilitating access to children into the community mental health system to provide early intervention. This form explains what you will be asked to do if you decide to participate in this study. Please read it carefully and feel free to ask any questions you like before you make a decision about participating.

Description and Study Purpose

Your consent to this study allows you to complete a screening tool that describes your student's behaviors in preschool. You will only be asked to complete this on children whose parents have consented to be included in this study. It takes approximately 20 minutes to complete. Children already being treated for an emotional disorder will not be able to participate in this study. If your student screens within the normal range, I will review the scores with their parent and provide a parent educational program that describes normal childhood development, specifically healthy emotional development. If your student screens outside the normal range, I will meet with his/her parents and review the scores and their meaning and recommend professional referral.

If a referral is needed I will ask the parents to choose a provider. No information specific to your student will be shared with the school. The screening results will only be shared with the parents and the provider when needed. An additional feedback survey will be provided to all teachers participating in the study about 1 month after the study has started. This survey should only take about 5 minutes to complete.

Risks of Participation

There are no known risks associated with participating in this study except a breach of confidentiality. All screening forms will be maintained in a locked box during transport to my home and will be returned to the parent as soon as the data is entered into the computer database. I will make every effort to protect the confidentiality of the screening information and have a protection system on my computer to prevent anyone from

accessing it. Data will be de-identified for the study so that no child can be connected to the screening results.

If at any time your participation makes you uncomfortable I will stop the screening process and work with you to address your discomfort.

Benefits of Participation

Your students will benefit from this study by screening and early recognition of serious emotional disorders that could be treated early and improve their education, social, emotional experience that otherwise might be difficult. Your participation will also benefit your students in getting the support they need and enhancing the classroom setting for learning.

Costs

The only cost associated with this study would be the treatment of children should they need follow up with a provider. Medical insurance and Medicaid usually cover the cost of these services

Circumstances for Dismissal from Study

This study involves your student's behavior and does not directly involve the children. There are no obvious circumstances for dismissal from this study unless you elect to dismiss yourself from the study.

Compensation for Injury

This study will not involve any opportunity for injury outside the normal daily operations of the preschool. The screening tools will be completed by teachers on site. Parents may complete the screening tool at the preschool or at home and return it to the preschool so that I may score it.

Confidentiality of Records

The only document with your name on it will be this consent form and it will be stored separately from the children's screening results. You will have an identification number that will be used to link your information to the child screened. Study information will be stored in a locked box and password protected computer file. De-identified information will be utilized for reporting the results of this study and for publication.

Contact Person

For more information concerning this research, or if you believe you have suffered a research related injury, you should contact Cathy Robey-Williams at (803)-295-3474 or email at cathy.robey-williams@gmail.com. The faculty advisor on this research is Dr. Kathleen Scharer phone (803)-777-8466, email KMSCHARER@mailbox.sc.edu. If you have any questions about your rights as a research subject, you may contact : Thomas Coggins, Director, Office of Research Compliance, University of South Carolina, Columbia, SC. 29208. Phone- (803)777-7095, FAX – (803) 576-5589, email – tcoggins@mailbox.sc.edu.

Voluntary Participation

Participation in this study is voluntary. You are free not to participate or to withdraw at any time, for whatever reason, without negative consequences. In the event that you do withdraw from this study, the information you have already provided will be kept in a confidential manner.

Signature/Date

I have read (or have had read to me) the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I give my consent to participate in this study although I have been told that I may withdraw at any time without negative consequences. I have received (or will receive) a copy of this form for my records and future reference.

Signature: _____ Date: _____

Witness/Date

As a witness, I attest that the consent form was read by (or to) the subject, the research purpose, procedures, risks, and benefits were explained to the subject, questions were solicited and if the subject had any questions, they were answered to the subject's satisfaction, In my judgment, the subject voluntarily agreed to participate in the study.

Signature: _____ Date: _____

APPENDIX C: PRESENTATION ON TEACHER EDUCATION

A slide with a black background and abstract, flowing, colorful shapes in shades of red, orange, yellow, and blue. The text is white and centered.

EARLY SCREENING AND IDENTIFICATION OF PRESCHOOL CHILDREN AFFECTED BY SERIOUS EMOTIONAL DISORDERS

Teacher Training
Child Behavior Checklist
Cathy Robey-Williams RN PhD(c)

A slide with a black background and abstract, flowing, colorful shapes in shades of red, orange, yellow, and blue. The text is white and centered.

PURPOSE OF STUDY

- **Determine the feasibility of teacher screening for preschool children as a method for early identification of SED.**
- **Determine level of agreement between the CBCL C-TRF syndrome scales and the DSM-IV diagnoses by mental health providers**
- **Evaluate perceived burden of screening by teachers during the course of their normal workload.**

INFORMED CONSENT

- Teachers will be asked to sign consent to participate in study
- Two tools will be completed by Teachers
 - CBCL C-TRF description of child's behavior
 - Assessment of Teacher Burden
 - Goal to understand if screening by teachers is feasible
 - Opportunity for teachers to share concerns with screening process of this study
- Parents will be asked to sign consent for their participation
 - Child is not directly involved in study
 - Parents will complete parent form if they choose
 - Parents will need to follow up with mental health providers should the child screen positive

CHILD BEHAVIOR CHECKLIST SCREENING TOOL

- History
 - Developed in 1977
 - Researched in 2000 with normative sample of 1192 children
 - Demographics described in detail in proposal
- Validity
 - Multiple studies found syndromes statistically significant
 - $P < .001$ internalizing behavior
 - $P < .05$ externalizing behavior
- Reliability
 - Total problems Pearson $r = .88$
- Parent vs Teacher perspective of child
 - Interparent agreement $r = .61$
 - Caregiver-Teacher agreement $r = .65$

CHILD BEHAVIOR CHECKLIST FOR AGES 1 1/2-5

PROBLEMS INDEX

SOCIAL STRENGTHS AND DIFFICULTIES

0 = Not True for your child 1 = Sometimes or Sometimes True 2 = Very True or Often True

CBCL SAMPLE

CBCL TEACHER REPORT FORM

- Demographic Data on child
- Description of Preschool
- Known information about parents
- 100 items scored from your experience with child
 - 0= not true
 - 1= Sometimes true
 - 2= Very true or often true
 - Explain items that are not clear.....i.e. no chance to observe
- Question 100 asks about any problems the child has that were not listed in the previous 99 questions then for the score
- Free text section for any disabilities or illness known to teacher
- Narrative to include insight into
 - Concerns about the child
 - Best things about the child

CAREGIVER-TEACHER REPORT FORM FOR AGES 1 1/2-5

CHILD'S INFORMATION: NAME: [Handwritten], SEX: [Handwritten], BIRTHDATE: [Handwritten], AGE: [Handwritten]

CAREGIVER INFORMATION: NAME: [Handwritten], ADDRESS: [Handwritten], PHONE: [Handwritten]

TEACHER INFORMATION: NAME: [Handwritten], ADDRESS: [Handwritten], PHONE: [Handwritten]

QUESTIONS:

1. What kind of a facility is it? (Please be specific, e.g., home day care, day care center, school, preschool, without medication)
2. What is the average number of children in the child's group or class?
3. How many hours per week does this child spend in this facility?
4. For how many months have you known this child?
5. How well do you think [Child's Name] is doing? (1 = Not well, 2 = Moderately well, 3 = Very well)
6. Has there been any medical or behavioral problems?

BEHAVIORAL ITEMS (1-100):

1. Address of parent without medical control site	21. Usually helpful, or responsive to others
2. Address of parent without medical control site	22. Doesn't answer when people talk to teacher
3. Address of parent without medical control site	23. Difficulty following directions
4. Address of parent without medical control site	24. Doesn't get along with other children
5. Address of parent without medical control site	25. Doesn't know how to have fun with like-age child
6. Address of parent without medical control site	26. Doesn't answer in hall publicly after misbehaving
7. Address of parent without medical control site	27. Cheats on things other children
8. Address of parent without medical control site	28. Easily frustrated
9. Address of parent without medical control site	29. Usually positive
10. Address of parent without medical control site	30. Talks or thinks things that are not true (do not include secrets)
11. Address of parent without medical control site	31. Talks or thinks things that are not true (do not include secrets)
12. Address of parent without medical control site	32. Talks or thinks things that are not true (do not include secrets)
13. Address of parent without medical control site	33. Talks or thinks things that are not true (do not include secrets)
14. Address of parent without medical control site	34. Talks or thinks things that are not true (do not include secrets)
15. Address of parent without medical control site	35. Talks or thinks things that are not true (do not include secrets)
16. Address of parent without medical control site	36. Talks or thinks things that are not true (do not include secrets)
17. Address of parent without medical control site	37. Talks or thinks things that are not true (do not include secrets)
18. Address of parent without medical control site	38. Talks or thinks things that are not true (do not include secrets)
19. Address of parent without medical control site	39. Talks or thinks things that are not true (do not include secrets)
20. Address of parent without medical control site	40. Talks or thinks things that are not true (do not include secrets)

TEACHER FORM SAMPLE

RESULTING PROFILE DATA

- Review Example "Kenny" from website

LANGUAGE DEVELOPMENT SURVEY

LDS provides two measures of language capability

1. Average length of multi-word phrases
2. Number of words spontaneously used by child

RESULTING PROFILE DATA

- Review Example "Kenny" from website

TEACHER BURDEN SURVEY

- Need REAL feedback on this screening process
 - Goal is to recommend this as standard of care for community
 - Important to have realistic expectations that it can be done by teachers while working
- It will be helpful to know the average time it takes teachers to complete
- This will not be given to teachers until about 1 month into study after they have experience with the screening instruments.



CHILD CARE CENTER SPECIFIC LOGISTICS

- Location of Forms
- Secure location for completed forms
- Questions are welcome at any time
- Contact Information
 - Cathy's email
 - cathy.robey-williams@uhsinc.com
 - Cathy's Cell
 - 803-295-3474

APPENDIX D: CBCL C-TRF

Please print CAREGIVER-TEACHER REPORT FORM FOR AGES 1½-5			For office use only ID # _____
CHILD'S FULL NAME First _____ Middle _____ Last _____			PARENTS' USUAL TYPE OF WORK, even if not working now. <i>Please be specific— for example, auto mechanic, high school teacher, homemaker, laborer, lift operator, shoe salesman, army sergeant.</i> FATHER'S TYPE OF WORK _____ MOTHER'S TYPE OF WORK _____
CHILD'S GENDER <input type="checkbox"/> Boy <input type="checkbox"/> Girl	CHILD'S AGE _____	CHILD'S ETHNIC GROUP OR RACE _____	
TODAY'S DATE Mo. ____ Day ____ Year ____		CHILD'S BIRTHDATE Mo. ____ Day ____ Year ____	THIS FORM FILLED OUT BY: (print your full name) _____ Your role at the school or care facility: <input type="checkbox"/> primarily educational (teacher) <input type="checkbox"/> primarily care (caregiver) Your training for this position: _____ Your experience in child care or early education: _____ years.
Please fill out this form to reflect <i>your</i> view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. Be sure to answer all items. Name & address of school or care facility: _____			
I. What kind of a facility is it? (Please be specific, e.g., home day care, day care center, nursery school, preschool, school readiness class, Early Childhood Special Education, Headstart, Kindergarten, etc.) _____			
II. What is the average number of children in the child's group or class? _____ children in the child's group or class.			
III. How many hours per week does this child spend at the facility? _____ hours per week.			
IV. For how many months have you known this child? _____ months.			
V. How well do you know him/her? 1. <input type="checkbox"/> Not well 2. <input type="checkbox"/> Moderately well 3. <input type="checkbox"/> Very well			
VI. Has he/she ever been referred for a special education program or special services? <input type="checkbox"/> Don't know 0. <input type="checkbox"/> No 1. <input type="checkbox"/> Yes - what kind and when? _____			
Below is a list of items that describe children. For each item that describes the child now or within the past 2 months , please circle the 2 if the item is very true or often true of the child. Circle the 1 if the item is somewhat or sometimes true of the child. If the item is not true of the child, circle the 0 . Please answer all items as well as you can, even if some do not seem to apply to the child.			
0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True			
0 1 2 1. Aches or pains (without medical cause; do not include stomach or headaches) 0 1 2 2. Acts too young for age 0 1 2 3. Afraid to try new things 0 1 2 4. Avoids looking others in the eye 0 1 2 5. Can't concentrate, can't pay attention for long 0 1 2 6. Can't sit still, restless, or hyperactive 0 1 2 7. Can't stand having things out of place 0 1 2 8. Can't stand waiting; wants everything now 0 1 2 9. Chews on things that aren't edible 0 1 2 10. Clings to adults or too dependent 0 1 2 11. Constantly seeks help 0 1 2 12. Apathetic or unmotivated 0 1 2 13. Cries a lot 0 1 2 14. Cruel to animals 0 1 2 15. Defiant 0 1 2 16. Demands must be met immediately 0 1 2 17. Destroys his/her own things 0 1 2 18. Destroys property belonging to others 0 1 2 19. Daydreams or gets lost in his/her thoughts 0 1 2 20. Disobedient 0 1 2 21. Disturbed by any change in routine	0 1 2 22. Cruelty, bullying, or meanness to others 0 1 2 23. Doesn't answer when people talk to him/her 0 1 2 24. Difficulty following directions 0 1 2 25. Doesn't get along with other children 0 1 2 26. Doesn't know how to have fun; acts like a little adult 0 1 2 27. Doesn't seem to feel guilty after misbehaving 0 1 2 28. Disturbs other children 0 1 2 29. Easily frustrated 0 1 2 30. Easily jealous 0 1 2 31. Eats or drinks things that are not food— do not include sweets (describe): _____ _____ 0 1 2 32. Fears certain animals, situations, or places other than daycare or school (describe): _____ _____ 0 1 2 33. Feelings are easily hurt 0 1 2 34. Gets hurt a lot, accident-prone 0 1 2 35. Gets in many fights 0 1 2 36. Gets into everything 0 1 2 37. Gets too upset when separated from parents		

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Be sure you answered all items. Then see other side.

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7-28-00 Edition-901

APPENDIX E: CBCL

Please print. Be sure to answer all items.			CHILD BEHAVIOR CHECKLIST FOR AGES 1½-5			For office use only ID# _____
CHILD'S FULL NAME First Middle Last			PARENTS' USUAL TYPE OF WORK, even if not working now. Please be specific— for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.			
CHILD'S GENDER <input type="checkbox"/> Boy <input type="checkbox"/> Girl		CHILD'S AGE	CHILD'S ETHNIC GROUP OR RACE		FATHER'S TYPE OF WORK _____	
TODAY'S DATE Mo. ____ Day ____ Year ____			CHILD'S BIRTHDATE Mo. ____ Day ____ Year ____		MOTHER'S TYPE OF WORK _____	
Please fill out this form to reflect <i>your</i> view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. Be sure to answer all items.			THIS FORM FILLED OUT BY: (print your full name) _____			
			Your relationship to child: <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Other (specify): _____			
Below is a list of items that describe children. For each item that describes the child <i>now or within the past 2 months</i> , please circle the 2 if the item is very true or often true of the child. Circle the 1 if the item is somewhat or sometimes true of the child. If the item is not true of the child, circle the 0 . Please answer all items as well as you can, even if some do not seem to apply to the child.						
0 = Not True (as far as you know)		1 = Somewhat or Sometimes True		2 = Very True or Often True		
0 1 2 1. Aches or pains (without medical cause; <i>do not</i> include stomach or headaches) 0 1 2 2. Acts too young for age 0 1 2 3. Afraid to try new things 0 1 2 4. Avoids looking others in the eye 0 1 2 5. Can't concentrate, can't pay attention for long 0 1 2 6. Can't sit still, restless, or hyperactive 0 1 2 7. Can't stand having things out of place 0 1 2 8. Can't stand waiting; wants everything now 0 1 2 9. Chews on things that aren't edible 0 1 2 10. Clings to adults or too dependent 0 1 2 11. Constantly seeks help 0 1 2 12. Constipated, doesn't move bowels (when not sick) 0 1 2 13. Cries a lot 0 1 2 14. Cruel to animals 0 1 2 15. Defiant 0 1 2 16. Demands must be met immediately 0 1 2 17. Destroys his/her own things 0 1 2 18. Destroys things belonging to his/her family or other children 0 1 2 19. Diarrhea or loose bowels (when not sick) 0 1 2 20. Disobedient 0 1 2 21. Disturbed by any change in routine 0 1 2 22. Doesn't want to sleep alone 0 1 2 23. Doesn't answer when people talk to him/her 0 1 2 24. Doesn't eat well (describe): _____ 0 1 2 25. Doesn't get along with other children 0 1 2 26. Doesn't know how to have fun; acts like a little adult 0 1 2 27. Doesn't seem to feel guilty after misbehaving 0 1 2 28. Doesn't want to go out of home 0 1 2 29. Easily frustrated	0 1 2 30. Easily jealous 0 1 2 31. Eats or drinks things that are not food— <i>don't</i> include sweets (describe): _____ 0 1 2 32. Fears certain animals, situations, or places (describe): _____ 0 1 2 33. Feelings are easily hurt 0 1 2 34. Gets hurt a lot, accident-prone 0 1 2 35. Gets in many fights 0 1 2 36. Gets into everything 0 1 2 37. Gets too upset when separated from parents 0 1 2 38. Has trouble getting to sleep 0 1 2 39. Headaches (without medical cause) 0 1 2 40. Hits others 0 1 2 41. Holds his/her breath 0 1 2 42. Hurts animals or people without meaning to 0 1 2 43. Looks unhappy without good reason 0 1 2 44. Angry moods 0 1 2 45. Nausea, feels sick (without medical cause) 0 1 2 46. Nervous movements or twitching (describe): _____ 0 1 2 47. Nervous, highstrung, or tense 0 1 2 48. Nightmares 0 1 2 49. Overeating 0 1 2 50. Overtired 0 1 2 51. Shows panic for no good reason 0 1 2 52. Painful bowel movements (without medical cause) 0 1 2 53. Physically attacks people 0 1 2 54. Picks nose, skin, or other parts of body (describe): _____					
Be sure you answered all items. Then see other side.						

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APPENDIX F: LDS

Scoring Form for Language Development Survey (LDS) for Ages 18-35 Months

For Children 24-33 Months: Calculate Average Length of Phrases

1. On LDS page 3, Item VIII, count the number of words in each phrase, as follows:
 - a) Compound words such as "byside," "rightside," "alldoze," "loosie," "oo-oo," and "looka-look" count as one word when computing words per phrase.
 - b) The rote phrases "thank you," "excuse me," and "sit up" count as one word in computing words per phrase.
 - c) Contractions such as "can't" and "I'll" also count as one word.
 - d) All compound words, rote phrases, and contractions plus used plus are excluded when computing the mean length of phrases, because they are not considered valid phrases.
 - e) If informant provides more than five valid phrases, use only the first five.
 - f) If informant provides fewer than five valid phrases, compute average length of phrases using those provided.
2. Including non-English phrases, count the number of words in each valid phrase, then enter each number in a box below and sum these numbers.

$\square + \square + \square + \square + \square = \square$
3. Divide this sum by the number of valid phrases to obtain the average length of phrases.
4. Identify the columns corresponding to child's age in the table below.
5. Circle the numbers corresponding to the child's average length of phrases.
6. The percentile for the U.S. national normative sample is shown to the left and right of the box.
7. Scores \leq 15th percentile suggest delayed phrase development.

For Children 18-23 months: Calculate Vocabulary Score

1. On LDS page 4, count the number of vocabulary words endorsed, including non-English words and words added by the respondent, up to a maximum of 315 words.
2. Enter vocabulary score here:
3. In the table below, locate the columns of scores for the child's age and gender.
4. Circle the numbers in the column corresponding to the child's vocabulary score.
5. The percentile for the U.S. national normative sample is shown to the left and right of the box.
6. Scores \leq 15th percentile suggest delayed vocabulary development.

Side	Boys & Girls	Boys & Girls	Side
> 85	> 5.0	> 5.0	> 85
80	4.25-5.0	4.99-5.4	80
75	3.51-4.34	4.11-4.96	75
70	2.77-4.6	3.37-4.6	70
65	2.03-3.78	2.63-4.0	65
60	1.29-3.28	1.81-3.6	60
55	0.55-2.72	1.07-3.28	55
50	0.00-2.28	0.52-2.84	50
45	0.00-1.84	0.00-2.40	45
40	0.00-1.40	0.00-1.96	40
35	0.00-1.00	0.00-1.56	35
30	0.00-0.60	0.00-1.16	30
25	0.00-0.20	0.00-0.76	25
20	0.00-0.00	0.00-0.36	20
< 15	0.00-0.00	0.00-0.00	< 15

Child's full name _____

Boy Girl DOB _____

DAW LDS Met cut Mo _____ Yr _____

DAW's birthday Mo _____ Yr _____

Child's age in months _____

LDS Met _____ Relationship _____

cut by: Name _____ ID child _____

Side	Boys	Girls	Boys	Girls	Boys	Girls	Side
> 85	145-155	137-145	164-173	157-165	182-193	174-183	> 85
85	135-144	126-134	154-163	147-155	172-183	164-173	85
80	125-134	116-124	144-153	137-145	162-173	154-163	80
75	115-124	106-114	134-143	127-135	152-163	144-153	75
70	105-114	96-104	124-133	117-125	142-153	134-143	70
65	95-104	86-94	114-123	107-115	132-143	124-133	65
60	85-94	76-84	104-113	97-105	122-133	114-123	60
55	75-84	66-74	94-103	87-95	112-123	104-113	55
50	65-74	56-64	84-93	77-85	102-113	94-103	50
45	55-64	46-54	74-83	67-75	92-103	84-93	45
40	45-54	36-44	64-73	57-65	82-93	74-83	40
35	35-44	26-34	54-63	47-55	72-83	64-73	35
30	25-34	16-24	44-53	37-45	62-73	54-63	30
25	15-24	6-14	34-43	27-35	52-63	44-53	25
20	5-14	0-8	24-33	17-25	42-53	34-43	20
< 15	0-4	0-4	14-23	7-15	32-43	24-33	< 15

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APPENDIX G: ASSESSMENT OF TEACHER BURDEN

Demographic information

Preschool where you are working: _____

Years' experience teaching preschool: _____

Study Items:

1. How much time was spent on completing the CBCL C-TRF for each child?
 - 20 minutes or less
 - 21-30 minutes
 - 31-45 minutes
 - Greater than 45 minutes

 - The time spent on the screening process was a worthwhile use of classroom time?
 - Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

2. The screening process did not significantly interfere with my teaching obligations.
 - Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree

3. Please note suggestions for improvements in the process to facilitate the screening of preschool children.

4. If you encountered difficulties screening please describe below.
Thank you for the time to complete this feedback.

APPENDIX H: PARENT INFORMATIONAL FLYER

April 28, 2014

To: Tiny Treasures Preschool Parents
From: Cathy Robey-Williams RN PhD (c)
Doctoral Student, College of Nursing
University of South Carolina
RE: Consent Form

Greetings Tiny Treasures parents. This letter is a request for you to sign the consent form (attached) to allow the teachers at Tiny Treasures to complete a screening questionnaire about your child. Since I cannot meet all of you in person let me tell you a little about myself. I have been a nurse for 34 years and currently work as Division Director of Nursing at Aiken Regional Medical Centers. I am also a doctoral student at the University of South Carolina in the College of Nursing.

Over the last 10 years I have been very concerned about the emotional health of our children. What we have learned over the last decade is that we can help prepare children for school success and long term emotional strength by helping them in their formative preschool years as they develop. This work I am doing with Tiny Treasures is the first step in identifying children and families that need additional support by partnering with preschool teachers who see the children every day.

I am working with Tiny Treasures and two other childcare facilities in Aiken County to screen for emotional health in preschoolers. If you provide your consent for this study by signing the attached consent form, the teachers will use the Child Behavior Checklist to answer questions about your child's behaviors observed in school. Your child will not be directly involved, only the teachers are completing the checklist based on their observations. I will contact you and explain the results and provide you with information on normal childhood emotional development and how you can address any difficult behaviors with your child. Only you and I will see the results of this screening. If the screening shows that your child may need more attention in some areas of emotional health, it will be up to you to decide if you want help with this. If you do, I will help you find the appropriate referral.

Your decision to participate in this study will help your child's emotional development. However if you choose not to participate, your decision will not affect your relationship with Tiny Treasures. If you have any questions or would like to discuss further please call my cell phone: 803-295-3474. **Thank You** in advance for helping young children in our community.

Cathy

APPENDIX I: PARENT BOOKLET

Childhood Emotional Development

- Your Child's CBCL score
- Developmental Milestones
- Temperament
- Self Regulation
- Stress
- Attachment
- Parenting Styles
- Emotion Coaching
- Praise
- Developing Self Esteem
- Discipline
- Temper Tantrums
- Imitation
- Exploration
- Play
- Verbal Development
- Emergent Literacy



References included in the Parent Resource Book:

Developmental Milestones: <http://www.parentingcounts.org/information/timeline>

Talaris Institute: Teaching Strategies for early childhood. Parent handouts
<http://www.parentingcounts.org/professionals/parenting-handouts/>

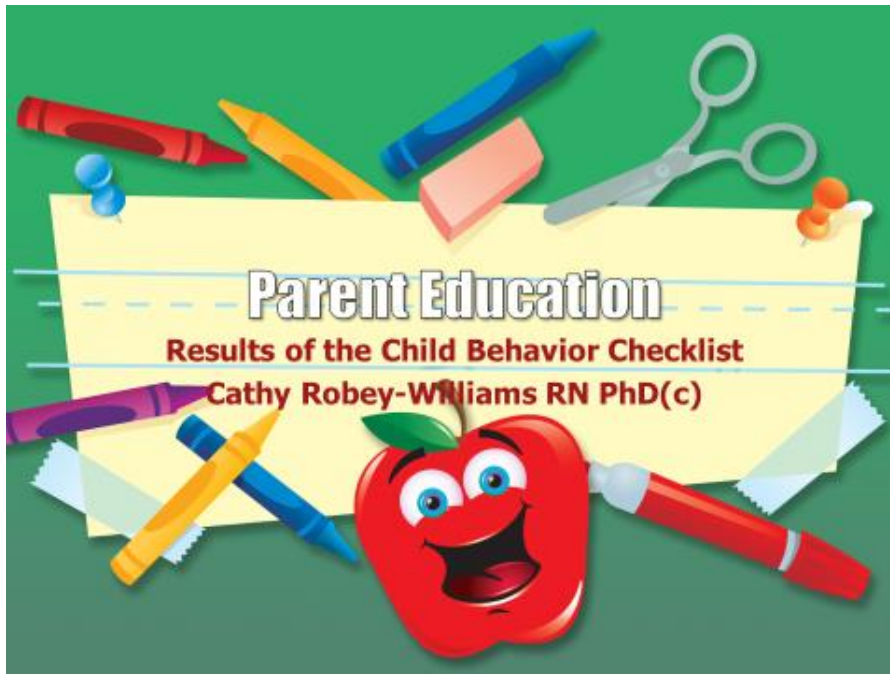
Kids Health: Developing Your Child's Self Esteem.
<http://kidshealth.org/PageManager.jsp?dn=KidsHealth&lic=1&ps=1>

CDC. Act Early. Your Child at 18 months, 2 years, 3 years, 4 years, 5 years
<http://www.cdc.gov/ncbddd/actearly/downloads.html>

APPENDIX J: REFERRAL LIST OF PROVIDERS

University of South Carolina –Aiken Psychology Clinic	641-3775
Psychologists	
Clinical Therapists	
Children’s Place	641-4144
Clinical Therapists	
Play Therapy	
Speech/OT/PT Therapy services	
Dr. John Allen MD Child Psychiatrist	642-3801
Office Practice	
Inpatient practice at Aurora Pavilion	
Dr. Robert Bradford PhD Clinical Social Work/Therapist	610-2973
Sees children 4 years and older	
Laura Donatelli MSW Clinical Social Work	610-2451
Specialty young children age 3 and older	
Play therapy	
Martha Ellerbe Portney LPC Counselor	381-9844
Play Therapist	
Child and Adolescents	
Specializes in PTSD treatment	

APPENDIX K: PRESENTATION OF PARENT EDUCATION ON
POSITIVE SCREENING SCALES



Clinical Range: ADHD

Behaviors Exhibited by preschoolers:
Unable to focus or keep attention
Fidgety or can't sit still
Losing things forgetful
Impulsiveunable to wait their turn,
grab toys from another, talks when not
supposed to

Causes: Unknown, Runs in families
Related to difficult labor or
problems during birth

**Attention Deficit
Hyperactivity Disorder**


Parent Interventions: Parent Behavior Training
Treatment: Medication is not first line of treatment

- ✓ Children this age respond well to reward systems
- ✓ Give Praise
- ✓ Give Clear Directions

Affective/Mood Disorders

Behaviors in Preschoolers

<p>Somber, looks ill Stomach aches, headaches, physical complaints with no medical explanation Lack of bounce and enthusiasm Tearfulness for no little or no identifiable reason. Frequent negative self-statements. Self-injurious or self-destructive behaviors at times. Irritability that is consistent not just response to limit setting</p>	<p>Sadness Significant change in appetite Change in sleeping patterns Loss of interest in activities used to enjoy Loss of energy, feeling tired, slowed down Feels guilty and blames self for things that are not the child's fault Unable to concentrate Trouble making decisions Feeling hopeless or helpless</p>
---	---




Affective/Mood Disorders

Physical Complaints: stomach ache, headaches
 Cause: Genetic-'Runs in the family'.
 Poor self-esteem is often associated with depression
 Excessive worry about parents or their living situation

Parent Interventions:

- ✓ Build positive self esteem with your child
- ✓ Eliminate or avoid stressful/violent relationships
- ✓ Do not involve child in your worry
- ✓ Age appropriate conversations about family illness household budget, etc

Treatment: Parent Child Interaction Therapy (PCIT)
 Family Therapy, Play Therapy
 Medications



Clinical Range: Anxiety Disorder

Behaviors Exhibited by preschoolers:

Clingy, impulsive, distracted, irritable,
nervous movements, twitching, problems
getting to sleep

sweaty hands, rapid breathing, rapid pulse,
nausea, stomachache, headache

Phobias: severe fear of specific things or
situations that are not dangerous

Causes: Naturally shy, inhibited temperament

Associate with previous bad experience

Genetic predisposition: neurotransmitter
Norepinephrine



Anxiety Disorder

Parent Interventions:

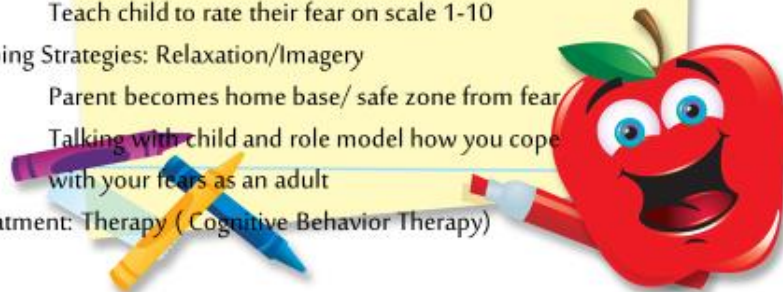
- ✓ Recognize fear is REAL
- ✓ Talk about what is causing the fear
- ✓ Never belittle or 'make fun' of the fear
- ✓ Don't cater to fears - provide support as you and your child face their fear
- ✓ Teach child to rate their fear on scale 1-10

Coping Strategies: Relaxation/Imagery

Parent becomes home base/ safe zone from fear

Talking with child and role model how you cope
with your fears as an adult

Treatment: Therapy (Cognitive Behavior Therapy)



Clinical Range:
Pervasive Developmental Disorder
 Behaviors Exhibited by preschoolers:
 Delays in development of basic skills
 ability to socialize
 ability to communicate
 ability to use imagination
 difficulty understanding world around them
 Behind in developmental tasks
 walking
 talking

Pervasive Developmental Disorder

Diagnoses: Autism Spectrum Disorders
 Childhood Disintegrative Disorder
 develops normally then starts to lose abilities
 Rett Syndrome genetic disorder (usually girls)
 difficulty with motor skills esp. hands & walking. Poor coordination.

Causes: Unknown genetic and metabolic disorders

Parent Interventions: Consistency and structure
 Behavior Modification

Treatment : Special Education to meet the child's unique needs. Medications can help with symptoms
 Therapy-speech, PT, OT, Developmental Pediatrics, Psychiatry

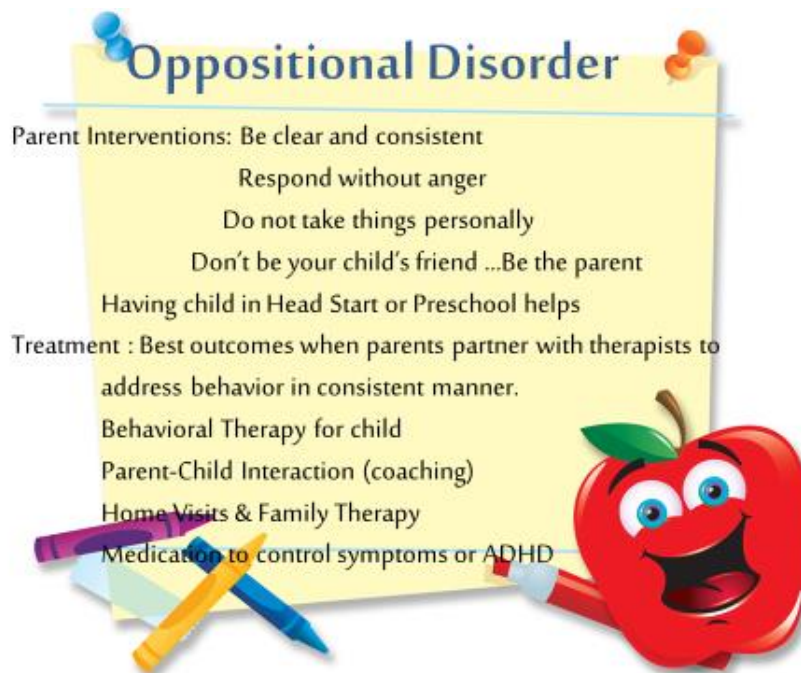


Clinical Range: Oppositional Disorder

Behaviors Exhibited by preschoolers:

- Angry or irritable mood
- Argues with authority
- Takes revenge, holds grudges, unforgiving
- Quick to loose temper
- Blames others (sees themselves as victims)

Causes: Inborn personality more vulnerable to inconsistent or neglectful parenting, harsh punishment



Oppositional Disorder

Parent Interventions: Be clear and consistent

- Respond without anger
- Do not take things personally
- Don't be your child's friend ...Be the parent
- Having child in Head Start or Preschool helps

Treatment : Best outcomes when parents partner with therapists to address behavior in consistent manner.

- Behavioral Therapy for child
- Parent-Child Interaction (coaching)
- Home Visits & Family Therapy
- Medication to control symptoms or ADHD

Clinical Range: Stress

Behaviors Exhibited by preschoolers:

- Mood swings/ withdrawn
- Acting out
- Changes in sleep
- Bed wetting
- Physical complaints-belly ache headache

Causes: Separation from parents/Frequent moves

- Family illness or death
- Violence in home/neighborhood
- Violent or scary TV shows
- Arguing at home/being bullied
- Parents worries about finance
- Parent divorce/separation



Stress

Parent Interventions:

- ✓ Proper rest and nutrition
- ✓ Make time every day to talk to your child
- ✓ Highlight the positive things that happen to child
- ✓ Spend time playing with your child each day
- ✓ Let them know it's ok to feel angry, scared, lonely, or worried
- ✓ Reassure them you are confident they will handle the situation
- ✓ Talk /Role model how you cope with stress

Treatment: If stress & worry persists talk with teacher
or obtain child therapy



