

THE IMPACT OF A TRAINING AND TECHNICAL ASSISTANCE INTERVENTION
AND PROGRAM QUALITY ON BEHAVIOR EXPULSIONS IN PRESCHOOL

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ABSTRACT

The primary goal of early education is to start children on an educational path towards success in elementary school and beyond (Gilliam, 2008). However, behavior problems may lead to children being expelled from early education programs during their preschool years (Gilliam, 2005; Hemmeter, Ostrosky, & Fox, 2006). Interventions designed to support teachers increase children's healthy social behaviors are methods often used to reduce challenging behavior and much emphasis has been placed on measuring and improving the quality of preschool programs. This study examined a state funded project designed to support teachers increase children's healthy social behaviors through the provision of training and technical assistance (TTA) services in licensed child care programs and analyzed the change in the number of behavior expulsions before and after the intervention, in addition explored the relationship of program quality and these expulsions. Findings show a decrease in the total number of children expelled from programs after receiving the intervention; however, the change was not statistically significant. The relationship between quality ratings and pre-intervention expulsions approaches significance, though post-intervention expulsions and program quality were not significantly significant. More rigorous studies of these types of interventions are necessary if we are to further understand the impact these TTA intervention projects have on children in preschool programs as they develop social skills and competencies.

Keywords: preschool expulsion, behavior intervention in preschool, training and technical assistance

Chapter 1

INTRODUCTION

The primary goal of early education is to start children on an educational path towards success in elementary school and beyond (Gilliam, 2008). However, behavior problems may lead to children being expelled from early education programs during their preschool years (Gilliam, 2005; Hemmeter, Ostrosky, & Fox, 2006). Expulsion is the complete and permanent removal of a child from an educational program. It differs from suspension, which offers the possibility to return, and from transferring, which is relocating a child to an alternate setting. Expelling a child from preschool for unwanted, unhealthy social behavior is the most severe disciplinary sanction that can be imposed (Gilliam, 2005). According to Gilliam (2008), “expelling the children most in need of classroom socializing opportunities runs counter to the mission of school readiness” (p. 7).

Research Questions

This study examines a North Carolina state funded project designed to support teachers increase children’s healthy social behaviors through the provision of training and technical assistance (TTA) services in licensed child care programs. It was anticipated

that building the capacity of teachers to increase children's healthy social behaviors might be associated with a decrease in expulsions. Three research questions guide this work:

1. Was the project implemented as intended through its original design?
2. Among the programs that had expulsions, was there a change in the number of expulsions in the programs receiving services?
3. Is there a relationship between the quality of the program and the number of expulsions?

Preschool Decision Making on Behavior Management and Expulsion

The regulatory body for child care programs in North Carolina, the Division of Child Development (DCD), licenses and monitors preschools. No formal state mandated policy regarding preschool expulsion is in place. Licensed preschool programs in the state of North Carolina are not required by the DCD to have behavior management or expulsion policies and therefore can make decisions to expel a child at their discretion. DCD, however, provides a sample policy available to all programs titled *Discipline and Behavior Management Policy* that outlines the rules that regulate a teacher's response to challenging behavior and the appropriate treatment of children in care (NC DCD, 2011). It does not mention progressive steps to reduce challenging behavior, provisions to make referrals for support services, or policies/procedures for suspension and/or expulsion.

According to Jacobson (2005), expulsions occur because of private programs' greater freedom to remove a child. Therefore, if a program is to develop a progressive discipline or expulsion policy, they are free to do so and implement and enforce the policy as they deem appropriate. Gilliam (2005) states that pre-K providers should ensure that children receive the same level of support and procedures with regard to expulsion and recommends that states write clear policies for how teachers and administrators can support young children and develop alternatives to expulsion. One could speculate that even without a written policy, the progression of steps to preschool expulsion would be similar to kindergarten through 12th grade public schools, which usually expel as a last step of a series of disciplinary actions (Gilliam, 2005). Without any formal expulsion policy in effect in North Carolina, the specific steps taken, causes for, and the frequency of expulsion are difficult to determine.

Pervasiveness of Expulsion

There is some research on expulsion for school-age children but it is especially limited for preschool children. As a result, it has been impossible to estimate the number of preschoolers expelled from school or to determine which preschoolers are most at risk for this disciplinary action (Gilliam, 2005). However, the research that was conducted shows high rates of expulsion in preschool children. In 1999, Grannan, Carlier, & Cole researched preschool age expulsions in Michigan in 127 Detroit area programs as part of a program that utilized mental health consultants to classrooms in which children were at

immediate risk of expulsion. A low response rate of only 28% showed a high rate of expulsion, 27.5 expulsions per every 1000 enrolled children. In a study of nearly 4,000 state-funded Pre-K classes randomly selected across the nation, 10.4 percent of Pre-K teachers reported at least one expulsion in their classes during the past 12 months (Gilliam, 2005). A rate of 6.7 expulsions per 1,000 preschoolers enrolled in state-funded programs nationally was reported. This study also determined that North Carolina had the fifth highest expulsion rates for pre-K children, with 28 expulsions out of 2,166 children. The causes of expulsion in this study were identified as behavior problems, but the specific behaviors of children were not reported.

Children's Behavior

Challenging Behavior

Challenging behavior has been defined by Center on the Social Emotional Foundations for Early Learning (CSEFEL) as any repeated pattern of behavior that interferes with learning or engagement in pro-social interactions with peers and adults and that are not responsive to the use of developmentally appropriate guidance procedures (Duran, et al., 2006).

Challenging behaviors may serve a purpose for a child and yet they present challenges for teachers (Yates, 2011). Children exhibiting challenging behaviors may be

persistently noncompliant, have difficulty regulating their emotions, less easily form relationships with adults and other children, have difficulty engaging in learning activities, and are perceived by teachers as being likely to develop increased levels of behavior problems (Fox & Lentini, 2006). We know that children enter the preschool classroom at different levels of development and experience, including social skill ability and proficiency. When children lag behind in their social and emotional skills, they have more difficulty conforming to universal classroom rules, such as working cooperatively with their peers, following rules, listening to their teachers, and working independently. Consequently, they are at greater risk for negative outcomes, including peer rejection and school failure (Bagdi & Vacca, 2005). The difference between a developmentally appropriate but negative behavior and a problem behavior is the frequency, duration, and intensity with which it occurs (Yates, 2011). This level of challenge is often specific to the caregiver's perception of the behavior (Yates, 2011), meaning the teacher's perception of the behavior determines the level of challenge and this may indicate the developmentally appropriate guidance procedures implemented.

Impact of challenging behavior. When children display challenging behavior, they are usually met with early and persistent rejection by their peers (Bagdi & Vacca, 2005; Coie & Dodge, 1998) and mostly punitive contacts with teachers (Strain, Lambert, Kerr, Stragg, & Lenker, 1983). Punitive reactions from teachers can range from yelling and making threats, using sarcasm and making disrespectful comments, withholding positive recognition, and humiliating children (Pianta, La Paro, & Hamre, 2008).

Decades of research have established the influence of these early educational experiences on a child's trajectory throughout school (Alexander & Entwisle, 1988; Entwisle, Alexander, Cadigan, & Pallas, 1986; Ladd & Price, 1987; Reynolds, 1991). The influencing factors found in this research are varied and often overlapping. Some influences are intrinsic motivation that is linked to achievement (Reynolds, 1991) and a child's own expectations for their performance (Alexander & Entwisle, 1988). Some external influences may be based on the reputation a child has with a teacher (Ladd & Price, 1987) and a teacher who considers a child's conduct to be positive may then be considered more favorably (Entwistle, et. al, 1986). In addition, of course, a child's social economic status and their parental influences also impact the educational trajectory (Reynolds, 1991).

Healthy Social Behavior

Healthy social behaviors in preschool children are essential to their future academic and life success (Denham, 2006; Raver & Knitzer, 2002). These desired behaviors begin with a child's capacity to develop self-confidence, positive relationships with peers and adults, concentration and persistence on challenging tasks, the ability to effectively communicate emotions and listen to instructions, be attentive, and to solve social problems (Bowman, Donovan, Burns et. al, 2000).

Support for children's healthy social behavior. It is imperative that challenging behavior be met with a supportive environment, conducive for enhancement in all domains of development from cognitive and literacy skills to healthy social and emotional development because of the many, varied influences. An environment that can afford children the chance to learn and experience strong social interactions will enhance their social emotional development (Lewis, Beckner, & Stormont, 2009). This makes the child care setting a prime environment for children to learn and practice the social skills necessary to maneuver through their daily classroom activities and interactions between both teachers and children and children and each other. A classroom filled with others provides a wealth of opportunity for trial and error as children gain social competencies. With this trial and error comes opportunity for learning and for teachers to provide guidance and nurturing to support social skill development in children's natural environment.

Educators need to begin to move away from punishing challenging behavior towards teaching children the key skills they need to understand their emotions and the emotions of others, handle conflicts, solve problems, and develop relationships with peers, problem behaviors will decrease as social skills increase (Joseph & Strain, 2003). Through supportive adult-child interactions, teachers create situations in which children can be taught, through demonstration, appropriate social responses to their feelings.

Program Quality

Quality early childhood experiences are the cornerstone for future learning and success for children (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002, Isakson, et al., 2011, and Peisner-Feinberg et al., 2001). Children with social or academic risk factors may be particularly influenced by the quality of child care (Peisner-Feinberg et al., 2001). Early childhood classrooms that are deemed of high quality provide a supportive environment conducive for enhancement in all domains of development from cognitive and literacy skills to social and emotional development. A recent study of the lasting effects of high quality child care through adolescence indicated higher quality care predicted higher cognitive–academic achievement at age 15 years, with escalating positive effects at higher levels of quality and high-quality early child care also predicted youth reports of less externalizing behavior (Vandell, et al., 2010) when that learning occurs via interactions and high-quality emotional and instructional interactions (Mashburn, et al., 2008; Vandell & Wolfe, 2000). With a number of studies linking low-quality early childhood settings to poor child outcomes related to social-emotional development (Helburn, et al., 1995; National Research Council, 2001) program quality may have an impact on the success of intervention services and reduction of preschool expulsion.

Summary

This study analyzes the data sets collected from the North Carolina state funded project, *Promoting Healthy Social Behaviors in Child Care Settings*, for three project years from the onset of the project in 2005 through 2008. This project was designed to support teachers increase children's healthy social behaviors through the provision of TTA services in licensed child care programs.

This study answers the following questions:

1. Was the project implemented as intended through its original design?
2. Among the programs that had expulsions, was there a change in the number of expulsions in the programs receiving services?
3. Is there a relationship between the quality of the program and the number of expulsions?

Chapter 2

LITERATURE REVIEW

The following is a review of literature on children's behavior, expulsion rates, strategies that promote healthy social behaviors and reduce challenging behaviors, and quality early learning environments. This review includes theoretical perspectives to explain behavior acquisition and change, research on expulsion rates in preschool programs and intervention strategies to reduce challenging behaviors, and the impact of high quality early learning environments on children's healthy social behaviors.

Theoretical Perspectives

In order to support children's development of healthy social behaviors, it is important to first understand how children learn behaviors. There are several theoretical perspectives that will serve as a basis for understanding how behavior is learned, children's ability and capacity to learn behavior, and how behavior changes or modifications can be supported.

Social Learning Theory

Social Learning Theory provides a framework for how children's behavior can be modified or changed as a result of experiences and interactions with factors external to the person when there is no visible reinforcement or reward. This theory is especially useful in explaining how children learn behaviors and how those behaviors and actions are shaped (Bandura, 1977). One of Bandura's (1977) concepts, reciprocal determinism, assumes that environment influences behavior and a person's behavior influences the environment. The process of learning does not differentiate between those behaviors considered appropriate and positive or inappropriate and negative. However, in reciprocal determinism, there is a definite impact of that behavior on others and the response of others to the displayed behavior.

Bandura (1977) outlined specific steps for the social learning of behaviors: attention, retention, reproduction, and motivation. Attention and retention refers to how much attention is paid to the observed behavior and the capacity to remember what was observed. Reproduction is the ability to reproduce the behavior and motivation is having real or perceived reasons to imitate the behavior (Bandura, 1977). In other words, behavior is learned by observing others, such as family members, community members, teachers, peers, etc., with the child then forming an idea of how this newly observed or acquired behavior is performed, and then draws on this acquisition for later actions (Bandura, 1977). When applying this theory to help understand the development of

positive and negative behaviors of children, as well as the replacement of negative behaviors with those more appropriate, it is important to consider each of these steps individually. When the steps are considered individually, it allows one to pinpoint which of the areas a child may be experiencing difficulty and where to focus more attention when supporting positive behavior acquisition (Joseph & Strain, 2003).

When we apply that belief to the social experiences available in early childhood classrooms, we see peer and teacher behavior influencing each other continuously. This environment would then allow a plethora of opportunities for teachers' intentional modeling for children's development of positive, socially competent behaviors and/or to replace unwanted, inappropriate behaviors of children.

The attention, retention or memory, and motivation components of this theory are complementary to cognitive and behaviorist theories which provide additional insight into the development of children's healthy social behaviors.

Cognitive Development Theory and Executive Function

Many of the cognitive skills that help children achieve academic success are the same as those that help them get along with their peers (Diamantopoulou, Rydell, Thorell, & Bohlin, 2007). The act of learning a behavior, be it positive or negative, can be considered what has been identified by Piaget (1967) as a scheme. The cognitive

development theory of Jean Piaget (1967) supports the notion that cognition is based on schemes, which are developed through a consistent and reliable pattern of interactions to help achieve an intended result from a particular behavior. Specific cognitive skills, referred to as executive function, serve to direct attention, keep rules in mind, control impulses, and enact plans such as task completion and problem solving, therefore necessary for healthy social behavior (Center on the Developing Child at Harvard University, 2011). These self-regulatory processes allow a child to choose the best strategy needed to accomplish a task, based upon all the knowledge and skills they've acquired, and to implement that strategy effectively (Mahone & Silverman 2008). A rapid increase in executive function occurs during the preschool and early school years and components are mastered at different ages (Best & Miller, 2010). Deficits in executive function have been connected to early conduct problems (Blair, 2002).

The support for preschool children developing these tasks is important for their social competence (Blair, 2002). Component skills of executive function do not come automatically to children. Children need to practice these skills through experiences, in which they are supported by others (Center on the Developing Child at Harvard University, 2011). Teachers of preschool age children play an important role in providing opportunities for schemes of behaviors to be developed in their daily interactions with children within classrooms. Providing the support that children need to build these skills at home, in child care and preschool programs, and in other settings

they experience is an important task and teachers may need support as well (Center on the Developing Child at Harvard University, 2011).

Behaviorist Model

The Behaviorist model lends a useful framework for describing the beliefs and values of some teachers' perception of how to guide challenging behaviors. This theoretical perspective offers concepts of reinforcement to describe and explain patterns of behavior (Skinner, 1969). It is assumed that people learn and repeat behavior that is rewarded, avoid behavior that is punished, and change their behavior in order to obtain rewards. In essence, behaviors of children can be modified by the responses of their teachers. Behaviorists believe that behavior can be modified through positive and/or negative reinforcement. When teachers believe that children's behaviors are shaped primarily through their responses to those behaviors, they are taking a behaviorist perspective.

The responses of teachers when guiding challenging behaviors can take many forms. Teacher responses that are immediate, consistent and predictable are assumed to account for shifts in the children's behavior patterns (Sabatelli & Shehan, 1993). Therefore, this approach requires teachers to act in the moment requiring teachers to develop a repertoire of possible responses to children's behaviors in order to provide immediate, appropriate responses to children.

These theoretical perspectives are found in much of the literature on expulsion. Together they call attention to the ways children learn behavior and the impact that teachers' behavior and responses have on children. The role of children's cognitive abilities and functioning, the role of responses to children's behaviors, and the role of modeling appropriate, healthy social behaviors, by both children and adults in the classroom work together to influence social competencies.

Theories of behavior acquisition are represented throughout the intervention research and provide a basis for the development and implementation of effective intervention strategies. Intervention strategies that can support preschool children's social competencies can work to reduce those challenging behaviors that lead to their expulsion from their child care programs. The quality of these child care programs impacts the early experiences of these preschool children. The impact of quality programming is grounded in developmental theory and has been proven through research-based, valid quality measurement instruments that lead to children's increased social development. Throughout the exploration of the research on expulsion, social competence development and the influence of program quality, is an underlying theoretical foundation that provides guidance for early childhood professionals. The theoretical perspectives that frame children's development provide important contributions to our understanding of how some children's behaviors result in expulsion from preschool and the need to support the acquisition of healthy social behaviors.

Expulsion

While research exists on expulsion for Kindergarten through 12th grade, there is little on expulsion in preschool. The prevalence of preschool expulsion can be gleaned from reports and research from specific intervention initiatives which focus on predictors, impact of challenging behaviors, and intervention strategy evaluations. This existing research provides data on a county or statewide level, with just one at the nationwide level.

While the county- and state-specific studies provide a look at expulsion rates in conjunction with intervention strategies, the one nationwide study by Walter Gilliam in 2005 provides insight into the frequency of expulsion across the nation and makes recommendations for policy based on these findings. With a large sample size of over 4800 classrooms across the nation, this study had a high response rate of 81%, thus providing information from 3,898 respondents (Gilliam, 2005). Through this, Gilliam analyzed variations across states and settings, and in supports to teachers and in child demographics. State specific program quality requirements and standards, for example teacher education and teacher-child ratios, varied in state-funded pre-k programs, and there were also variations in setting, such as federally funded Head Start programs, for profit and non-profit programs, and Religious affiliated programs. Within these settings, there were differences in the type of supports provided; training, consultation, mental health access and with child demographics; race, social-economic status, age, and gender.

All 50 states were included in Gilliam's research, which provided opportunity to identify variations across states as they are impacted by the unique differences in how state pre-kindergarten systems are structured, such as licensing differences, quality requirements, teacher educational requirements, teacher-child ratios, and curriculum. The disparity in expulsion rate by states ranged from a high of 21.1 per 1,000 preschoolers, per year, in New Mexico to a low of 0 in Kentucky and the average number of expulsions of the 10 highest expelling states was about five times greater than the average expulsion rate of the 10 states with the lowest expulsion rates (Gilliam, 2005). This leaves an important area to discover what may contribute to this large discrepancy among pre-kindergarten programs across states.

There was also variation in settings, as well as across states, though all of the classrooms were pre-kindergarten. Some were set in public schools, Head Start programs, faith-affiliated centers, and for-profit child care centers and their expulsion rates varied. The highest expulsion rates were in the faith-affiliated and for profit centers and the lowest in public schools and Head Start programs (Gilliam, 2005). This could be due to a number of factors, such as policies and levels of quality teaching practices. For example, many state-funded prekindergarten systems, which operate classrooms within private child care settings, require their providers to meet state prekindergarten guidelines regarding class size, teacher-child ratios, and teacher credentials in order to receive state pre-kindergarten subsidies, thus increasing the quality (Gilliam & Ripple, 2004).

Differences in the rates of expulsion based on gender, age and race/ethnicity were evident as well. In classrooms in this study, children ranged from approximately 3 – 4 years old with an occasional child enrolled just prior to age 3 years or remaining enrolled into age 5 and even 6. The expulsion rate was 50% greater for the oldest children (Gilliam, 2005). Specifically, there were more 4 year olds expelled than 3 year olds and the highest rate of expulsion was found for children who had turned 5 and 6 years old. When gender and race were taken into account, boys were over 4 times more likely to be expelled than girls and African-American children were twice as likely as those of European descent (Gilliam, 2005).

A statewide study of expulsion in child care and early education sites was conducted in Massachusetts examining expulsion and suspension predictors and rates (Gilliam & Shahar, 2006). Findings included a 39% expulsion rate and a 15% suspension rate by teachers over a 12 month period, making the rate more than 34 times the Massachusetts K-12 rate and more than 13 times the national K-12 rate. The variables associated with the likelihood of expulsion were larger classes, higher proportion of 3-year-olds in the class, and elevated teacher job stress. Location in a school or Head Start and teachers' positive feelings of job satisfaction predicted decreased likelihood of expulsion (Gilliam & Shahar, 2006). This may be due to the historic mission of public schools and Head Start to provide educational services to all eligible children; this mission may not be shared by all child care programs. Child care programs may see their services as providing safe care, rather than education, with

parents as the primary consumers, rather than children (Gilliam & Shahar, 2006). This indicates that individual teacher's philosophies and program philosophy may influence decisions made to expel or suspend children for behavior.

With both national and state-level perspectives, Gilliam's 2005 and 2006 work allowed the opportunity to explore variations across states, settings, supports to teachers and child demographics. Regardless of the variation, the study suggests the need for some type of response, such as intervention through consultation, for children and teachers at the classroom level to enhance social skills and reduce expulsion because these behaviors can be learned, and teachers play an important, supportive role in this learning. This research, though limited, is consistent with what we know of the importance of early experiences and the negative effect challenging behavior can have on the academic and social futures of children. With challenging behavior leading to the removal of children from their early care and education programs, preschool classrooms provide an opportunity for teachers to support children's development of social competencies.

Children's Social Competence

Social competence has been defined as the ability of each child to effectively deal with his or her environment and to demonstrate responsible behavior in school (Head Start Act, 2007). Social competence, or healthy social behaviors, viewed from an early

childhood perspective, includes a broader set of goals than is typically addressed in preschool classrooms and has been described as friendship skills, emotional regulation and empathy, such as recognizing, responding to, and expressing emotions, self-regulation, and problem solving (Corso, 2007). Healthy social behaviors of children in a preschool classroom are observed as organizing play, sharing, turn-taking, being helpful, giving complements and apologies, using feeling words, controlling anger and impulsivity, and problem solving.

(<http://csefel.vanderbilt.edu/modules/module2/handout7.pdf>)

Children who lag behind in social and emotional skills have more difficulty conforming to universal classroom rules, such as working cooperatively with their peers, following rules, listening to their teachers, and working independently (Bagdi & Vacca, 2005). Reactions to feelings of frustration, anger, disappointment and even excitement can be deemed inappropriate when children strike out against others and display aggressiveness, destructiveness, tantrums, attention seeking behaviors such as hitting and biting and are characterized as externalized behaviors because they are annoying or disrupting others (Deiner, 2005). Other inappropriate behaviors are internalized and present as withdrawal, anxiety, crying, unresponsiveness, shyness, timidity, and isolation (Deiner, 2005). Both internalized and externalized inappropriate behaviors warrant support in a preschool classroom.

Early identification of and interventions for preschool children who are at increased risk for the development of behavior problems are critical (Qi & Kaiser, 2003). While it is important to identify challenging behaviors of preschoolers, it is also important to determine which intervention strategies are effective to prevent their expulsion for such behavior. Challenging behaviors present themselves in different ways and determining intervention, as well as prevention, strategies may be individualized for specific children and their particular challenging behaviors. Relationships are the basis of effective early childhood intervention services and healthy social behavior skills are supported by teachers within these relationships (Alkon, Ramler, & MacLennan, 2003). It is through these relationships that teachers are able to better interpret a child's challenging behaviors as they move towards prevention and intervention strategies.

Behavior usually serves one of two purposes, to gain something or to avoid something, and children's negative behavior is no exception (Corso, 2007). Understanding the purpose or function of the child's behavior is a critical first step to developing strategies for addressing it (Neilsen, Olive, Donovan & McEvoy, 1999). Therefore, when working to support healthy social behaviors, a teacher's ability to support social and emotional functioning in the classroom is then central to the conceptualization of effective classroom practice (Hamre & Pianta, 2007). Training on effective classroom management strategies, along with technical assistance or consultation, that focuses on classroom wide and individual children while their social-emotional skills are developing, can provide opportunities for pro-social behavior, social

problem-solving skill development, the ability to understand and express emotions constructively, and organize themselves to accomplish goals (Bierman et al., 2008; Raver et al., 2009). Based on this need of both children and teachers, it is important to develop and implement interventions to guide and support children's social competencies to increase healthy social behaviors and reduce challenging behaviors. There are a variety of intervention strategies provided to teachers to increase social skills and reduce challenging behaviors and several have been the subject of research to measure their impact.

Interventions

With a national average of 30% of children in group care demonstrating behavior needs that are likely to require intentional teaching strategies and/or individualized interventions to develop the social and emotional competencies to be successful in a group setting. Approximately 10-15% of children display mild to chronic levels of behavior problems, therefore, it is necessary to provide teachers with the skills necessary to support these children (Fox & Lentini, 2006).

For those working from a social learning theory perspective, it is assumed that children do not learn in isolation, but rather in collaboration with their teachers and fellow students. Teachers in childcare centers provide many services for children during their preschool experiences and they have indicated their most challenging work is with

children who exhibit behavioral problems (Mark-Wilson, Hopewell, & Gallagher, 2002, Raver & Knitzer, 2002). Many early childhood teachers feel unequipped to meet the needs of children who are emotionally delayed or who exhibit social emotional problems and they report that there seems to be an increasing number of children who have these problems (Kaufmann & Wischmann, 1999). Further, they do not feel effective with these children, which negatively affects their job satisfaction and leads to stress and burnout (Hemmeter, Corso, & Cheatham, 2006). Teachers report that challenging behavior is one of their highest priority training needs (Hemmeter, Fox, Jack, & Broyles, 2007).

Training and Technical Assistance

Training and Technical Assistance (TTA) is a well-established method of professional development for teachers in early care and education and refers to the on-going, individualized professional development and problem solving services to individuals, programs, and agencies for improvement in countless areas (Danaher, Goode, & Lazara, 2007). In 2011, separate definitions for the term *training* and the term *technical assistance* were provided in the *Early Childhood Education Professional Development: Training and Technical Assistance Glossary* by the National Association for the Education of Young Children (NAEYC) and the National Association for Child Care Resource and Referral Agencies (NACCRRA). Training is a part of professional development that builds or enhances the knowledge and competencies of early childhood education professionals and is characterized as a learning experience, or series of

experiences, specific to an area of inquiry and related set of skills or dispositions, delivered by a professional(s) with subject matter and adult learning knowledge and skills (NAEYC & NACCRRA, 2011). NAEYC and NACCRRA (2011) define technical assistance as the provision of targeted and customized supports by a professional(s) with subject matter and adult learning knowledge and skills to develop or strengthen processes, knowledge application, or implementation of services by recipients. Based on these definitions, TTA services support the reflective processes that professionals need to translate the theories and information learned through education and/or training into best practices (NAEYC & NACCRRA, 2011). NICHD Early Child Care Research Network, (1999, 2002) has reported that children attending programs in which caregivers had more TTA, and in which child-staff ratios were smaller, performed better across a range of cognitive and social measures.

Consultation

Consultation is another form of service provided to early childhood educators in the field. NAEYC and NACCRRA define consultation as a collaborative, problem-solving process between an external consultant with specific expertise and adult learning knowledge and skills and an individual or group from one program or organization (2011). Consultation facilitates the assessment and resolution of an issue-specific concern, a program/organizational, staff, child, and/or family-related issue, or addresses a specific topic (NAEYC & NACCRRA, 2011).

TTA services in the area of childhood mental health consultation can be categorized in two types, child and family centered and programmatic consultation (Cohen & Kaufmann, 2000). Child-centered consultation is a more traditional consultation model which focuses attention on the needs of an individual child with challenging behaviors by working with the adults to help support the child more effectively. The second type, programmatic, is more systemic with services that focus on the overall program issues that affect all children, staff, and possibly families (Cohen & Kaufmann, 2000). This approach is more indirect because it works to promote healthy social behaviors and prevent challenging behavior by building the capacity within the program. When these two types of consultation are used concurrently, there would be both intervention and prevention strategies in place in a classroom.

TTA and other consultative services are integral in the support of teachers and their abilities to infuse opportunities for enhancement of children's healthy social behaviors in the classroom, thus preventing and reducing challenging behavior. It is suggested in a case study by Carter and Van Norman (2010) that when teachers receive individualized feedback focused on implementing positive behavior support strategies via a consultation model, including data on student outcomes and support for teachers' data-driven decision-making, it allows them to connect their practices directly with desired outcomes.

Consultative TTA services in child care facilities may enable the child care staff to incorporate a mental health perspective, including developmental, familial, and cultural needs, to assess children at risk, provide appropriate interventions, and prevent behavior and emotional problems in the future (Raver & Knitzer, 2002). It is thought that part of what makes consultation effective is the belief of the teaching staff that the services were helping children. That is, part of the effectiveness of consultation may in fact be due to the psychological influences of staff feelings of well-being, (Green, et. al., 2006).

Consultation and Training and Technical Assistance Research

In several studies, mental health consultation was used to increase the ability of staff, families, programs, and systems to prevent, identify, treat, and reduce the impact of mental health problems among young children in child care settings (Alkon, Ramler, & MacLennan, 2003). The data from studies also indicates that this consultative or TTA support teaching staff in developing their skills and confidence levels may be more effective, rather than focusing solely on treating the needs of a particular child. The TTA service delivery where consultants are providing training, coaching, and mentoring of teachers and who spend time in classrooms would be more likely to build successful collaborative relationships that are important to achieving desired outcomes for teaching staff and children (Green, et al., 2006).

In 2009, The Study of Effective Early Childhood Mental Health Consultation Programs, by Georgetown University's Center for Child and Human Development outlined a statewide Child Care Expulsion Prevention (CEEP) Program in Michigan. The CEEP directly provided services to 572 children/families enrolled in a variety of child care settings with complete follow-up information available for 133 children at the end of the program year. Of those 133 children, 85 percent were reported to have positive outcomes with 3 percent of the remaining 15 percent expelled from care for behavioral concerns (Duran et al., 2009).

In a 4-year, county-wide project in Maryland, designed to reduce the number of children expelled from child care for behavior problems, behavioral consultation was provided to child care providers who identified almost 200 children as at risk for behavioral expulsion (Perry, Dunne, McFadden, & Campbell, 2008). Through this project, a baseline of the children's social skills and problem behaviors at the time of referral were compared to those at the conclusion of services. Results show statistically significant increases in social skills and reductions in problem behaviors in children who received individualized consultation (Perry et al., 2008). Specifically, more than three-quarters of the children who were at risk for expulsion remained in their child care setting and of those who left their setting, only half were due to expulsion.

Williford and Shelton (2008) studied a North Carolina model that included one group training session for teachers on a modified version of the Incredible Years,

followed by individual consultation sessions with teachers to guide their learning and use of its relevant concepts and techniques. Webster-Stratton's original approach, Incredible Years, included a child treatment program, parent training program, teacher training series, and a classroom curriculum. Through this approach, there was an increase in problem solving and conflict management skills by teachers, with a decrease in problem behaviors of children. The modified, North Carolina version offered a shortened (10-week) parent training based on the Incredible Years, and both of these studies found promising results which included a better emotional climate, as indicated by higher teacher responsiveness and less harshness in the classrooms receiving consultative services (Raver et al., 2009) and a more positive impact on child behavior, based on teacher report, in the intervention group than in the comparison group (Williford & Shelton, 2008). This is similar to Alkon's review of mental health consultation services to child care centers, which also found an improvement in teachers' level of competencies in dealing with difficult behavior of children (2003).

Gilliam's nationwide study found that when teachers reported having access to a behavioral consultant who was able to provide classroom-based strategies for dealing with challenging student behaviors, the likelihood of expulsion was nearly cut in half (2005). The lowest rates of expulsion were reported by teachers who had an ongoing, regular relationship with a behavioral consultant. In classrooms where the teacher had no access to behavioral consultation, students were expelled about twice as frequently (Gilliam, 2005). These findings provide additional support for mental health consultation

as a promising strategy to reduce the risk for expulsion for young children with problem behaviors. While consultation is shown to be beneficial, it is important not to overlook the fact these services are implemented within the context of the child care environment, which can also have an influence on children's early childhood experiences, as the quality of these child care programs varies.

High Quality Early Childhood Learning Environments

Opportunities for high quality child care emerged as a protective factor for at-risk children, as determined by familial circumstances, to support academic achievement in school (Burchinal, Vandergrift & Pianta, 2009). In *From Neurons to Neighborhoods: The Science of Early Childhood Development* (2000), Shonkoff and Phillips write, "What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or fragile stage for what follows" (p.5). There has been a substantial increase in maternal employment and thereby changes in the lives of young children with more than two-thirds of 4-year-olds and more than 40 percent of 3-year-olds enrolled in a preschool education programs in 2005 (Barnett & Yarosz, 2007). Early childhood preschool programs can provide high quality early learning childhood environments and experiences to support children's development. With a rising number of children spending an increased amount of time in non-familial care, the setting of the "sturdy or

fragile stage” is occurring in child care programs and is influenced by the quality of those early childhood classroom experiences.

Program Quality and Children’s Positive Behaviors

A caring, socially rich, cooperative, and responsive social environment of the preschool classroom can provide the context for children to develop the social skills and emotional foundations that they will need to be successful in school and life (Corso, 2007). Intentionally employing a comprehensive approach to intervention that includes the creation of a social context, teaching and modeling a social skill will facilitate children’s social emotional development, but does not happen without direction or planning. Teachers can create a social context through the development and implementation of activities that require social interaction between children, such as cooperation games. Through these types of interactive activities, teachers can demonstrate social skills necessary for the activity and then shadow the children and provide guidance as they practice these skills during the engagement in the activity. It is this type of planning and execution of activities that are measured by classroom quality assessment instruments.

Quality Measurement Tools

Observational and measurement tools such as the research-based classroom assessment instruments *The Early Childhood Environment Rating Scale – Revised* (ECERS-R) (Cryer, Harms, & Riley, 2003) and *The Classroom Assessment Scoring System* (CLASS) (Pianta, La Paro, & Hamre, 2008), outline characteristics of a quality classroom.

The ECERS–R observation tool considers seven general categories: space and furnishings, routines, language reasoning, activities, interactions, program structure, and parents and staff (Cryer, Harms, & Riley, 2003), with no one component more or less important than the others, nor can one substitute for another. Each of the three basic components of quality care manifests itself in tangible forms in the program's environment, curriculum, schedule, supervision and interaction, and can be observed (<http://ers.fpg.unc.edu/about-environment-rating-scales>). Both the ECERS and ECERS–R have been extensively used in research that has examined associations between preschool quality and children's development, and research has found an association between higher scores on ECERS observations and children's developmental outcomes (Peisner-Feinberg et al., 2001).

The CLASS identifies indicators of quality focused on emotional and instructional supports available for children in their interactions with teachers. Through research using

this tool, it was found that higher quality instructional interactions were positively associated with academic skills, while higher quality emotional interactions were associated with higher social skills and less behavior problems (Hamre & Pianta, 2007). This supports the argument that the quality of classroom settings is attributable to qualities of teacher–child interactions in preschool (Hamre & Pianta, 2007).

Intervention Framework and Quality

The classroom characteristics and teaching practices outlined in these two quality measurement tools can also be linked to positive child outcomes in behavior and social skills described in the Universal Support Level of the Pyramid Model of the Center on the Social Emotional Foundations for Early Learning (CSEFEL). The Pyramid Model for Supporting Social Emotional Competence in Infants and Young Children provides a tiered intervention framework of evidence-based interventions for promoting the social, emotional, and behavioral development of young children (Hemmeter, Ostrosky, & Fox, 2006). The pyramid model outlines four levels of support that begin with a foundation of Universal Support, which includes these first two levels: *Nurturing and Responsive Caregiving Relationships* and *High Quality Supportive Environments*.

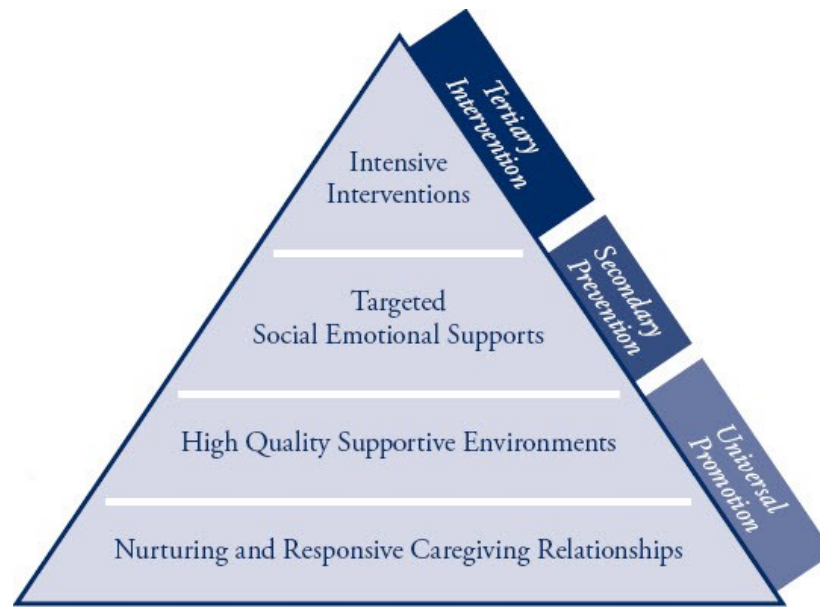


Figure 1. The Pyramid Model. A tiered intervention framework of evidence-based interventions for promoting the social, emotional, and behavioral development of young children (Hemmeter, Ostrosky, & Fox, 2006)

The first level of the CSEFEL pyramid model, *Nurturing and Responsive Caregiving*, is characterized by teachers' active support of children's play, their response to children's conversations, promotion of communication with children, specific praise to encourage appropriate behavior, the development of positive relationships with children and families, and collaboration with colleagues and other professionals (Hemmeter, Ostrosky, & Fox, 2006). These components relate to the indicators found in the CLASS domains of Emotional Support, which includes teachers' demonstration of physical proximity to children and shared activities between children and teachers and Teacher Sensitivity that includes positive expectations, and also in Quality of Feedback, as

feedback loops and prompting thought processes, relates to the conversation, communications, and praise. This first level of the CSEFEL pyramid also relates to the ECERS-R quality indicators under its Interactions section, which focuses attention of supervision of children and interactions with children, as well as between children.

The second level of CSEFEL pyramid, *High Quality Supportive Environments*, promotes the social competence of all children through the provision of supportive environments and teaching interactions that support children's appropriate engagement in classroom activities and routines (Peisner-Feinberg et al., 2001). It includes the following practices: providing adequate materials; defining play centers; offering a developmentally appropriate and balanced schedule of activities; structuring transitions; providing individualized instructions for children who need support; teaching and promoting a small number of rules; providing clear directions; and providing engaging activities. These are all practices recognized by early educators as fundamental to a high quality learning environment that fosters children's skill development and learning (Hemmeter, et al., 2006) and, as with the first level of the pyramid model, can be connected to the quality measures of the CLASS and the ECERS-R.

The CLASS domain Classroom Organization's productivity dimension connects to the pyramid's second level by characteristics of brief transitions with explicit follow-through that include a learning opportunity, provision of activities, effective facilitation and variety of modalities and materials (Pianta, et al., 2008). Additional indicators from

this second pyramid level: providing individualized instructions for children who need support, teaching and promoting a small number of rules, providing clear directions, also blend characteristics with the Behavior Management Dimension of CLASS, represented as clear expectations and clarity of rules (Pianta, et al., 2008).

The ECERS-R connects to this second level of the CSEFEL pyramid model through its subscales of Routines, Language Reasoning, and Activities with items that cover activity centers and room arrangement for play, as well as accessible materials available for a substantial portion of the day (Cryer, et al., 2003). With this, it is evident that many portions of both the CLASS and the ECERS-R that overlap the pyramid model's foundational levels of support, as well as each other's quality measures.

These two foundational levels of the pyramid model's teaching practices are linked to positive child outcomes in behavior and social skills (Bowman, Donovan, Burns, 2000 & National Research Council, 2001). Because of this connection to the quality measurement indicators of both the ECERS-R and the CLASS instruments, it can be concluded that the high quality classrooms, as determined by these instruments, support the healthy social behaviors of children as outlined in the pyramid model.

Program Quality and Early Childhood Development

Preschool classroom practices can predict the quality of children's peer relationships and behavior problems several years later, as found in the December 2007 NIEER Preschool Policy Brief titled Challenging Behaviors and the Role of Preschool Education, which highlights longitudinal research that indicated high quality preschool experience, as measured by the ECERS-R, can serve as an ameliorating factor for children at risk of developing challenging behaviors (Nores, 2005; Reynolds, 2001). In another longitudinal study, Peisner-Feinberg et al., 2001 found that the quality of child care classroom practices predicted language and math skills through second grade. In this study of "classroom practices" were included assessments of whether procedures were developmentally appropriate for young children, the use of a child-centered teaching method, and the teacher's sensitivity and responsiveness to the children (Peisner-Feinberg, et al., 2001).

Early care and education programs that provide quality learning opportunities require adequate knowledge and attendance to the realities of children's experiences (Hamre & Pianta, 2007) therefore; the quality of the individualized behavior supports is grounded in the quality of the teacher and her ability to provide quality experiences for children. Based on the CSEFEL pyramid model, teachers' intentional intervention strategies for challenging behavior should follow a progression by first focusing on program-wide quality and supports and then move towards more individualized behavior

support plans as warranted, thus providing both the quality experiences for all children, as well as the individualized support necessary for specific children.

Teacher Education and Quality

Another consideration in determining the quality of a preschool classroom is the educational level and experience of the teaching staff. Teacher education can be considered a contributing factor as these credentials have been found to be an important correlate of classroom quality (Burchinal, Cryer, Clifford, & Howes, 2002). Caregivers tend to be more stimulating, warm, and supportive, organize materials better, and provide more age-appropriate experiences when they have more formal education and more child-related training (Burchinal, et al., 2002).

Tout, Zaslow and Berry (2005) completed a review of research examining links between early childhood teachers' education and classroom quality and concluded that higher levels of teacher education, especially education that focuses on early childhood development, are generally linked to higher quality, but that there is insufficient research addressing "thresholds". The levels of education obtained by teachers varies and a minimal level necessary to affect classroom quality has not been determined through research, therefore, it is uncertain how much education is enough. It is expected that in preschool settings with caregivers who are better educated and trained, young children become more intellectually and socially competent (Lamb, 1998) and that more highly

educated teachers are more likely to fulfill the measures of quality outlined in the ECERS-R (Hamre & Bridges, 2004). Preschool children's early education experiences are influenced by the quality of the classroom environment and the teacher-child interactions and it is important to consider these factors as behavior intervention strategies are evaluated.

Summary

Behavior problems may lead to children being expelled from early education programs during their preschool years, as shown through research which indicated high rates of expulsion. Teachers in childcare centers feel there are an increasing number of children with challenging behavior and have indicated this as their most challenging work. Research has shown that when intervention strategies of teachers are increased, they are more effective in supporting healthy social behaviors and reducing challenging behaviors in the classroom. It is important these intervention strategies be grounded in knowledge of how behavior is acquired and children's capacity to learn behaviors, as supported by theory.

Another consideration is the quality of the preschool experience and how that may influence the success of teacher support strategies and children's healthy social behavior skill development. This study aims to determine the fidelity of an intervention employed through a healthy social behavior support initiative, determine if there is a decrease in

expulsions after the intervention, and determine relationship between program the number of expulsions.

Chapter 3

METHODS

This study will examine a North Carolina state-funded project designed to support teachers in increasing children's healthy social behaviors through the provision of training and technical assistance (TTA) intervention services in licensed child care programs. This chapter includes a description of the intervention services and approach, program quality rating measurements, study population, data collection methods, and statistical measures used for analysis of the research questions.

Healthy Social Behavior Intervention

The Division of Child Development (DCD) in North Carolina funds the special initiative *Promoting Healthy Social Behaviors in Child Care Settings* that provides support services to licensed programs serving children ages three to five years, regardless of their program quality rating. Beginning in the 2005-06 fiscal year, the Healthy Social Behavior (HSB) initiative's original purpose was to provide support to teachers to increase children's healthy social behaviors, with the intent of reducing the number of preschool expulsions for challenging behavior. Over the years, it has evolved more towards the implementation of preventative measures for all children, while also

addressing the challenging behavior of individual children enrolled in licensed child care centers through systematically and intentionally promoting the social emotional health of all young children in care.

During the years 2007 through 2010, and prior to this data analysis, I directed one of the Lead Agencies with whom the DCD's Child Care Resource and Referral Council contracted to implement HSB. The contract funded a TTA intervention specialist to serve on this project as a Healthy Social Behavior (HSB) Specialist, who served five North Carolina counties and reported directly to me. Therefore, I bring a working knowledge of this initiative's implementation, data collection, strategy development, and project outputs and outcomes to this study.

Intervention Goals and Activities

The state-funded intervention project identified goals and activities to be performed by a cohort of HSB Specialists. The goals and activities listed below are directly from the grant contract.

HSB Goals

- To modify adult behavior and early childhood environments to ensure promotion of social-emotional competencies and prevention of challenging behavior.
- To partner with child care staff to determine and implement intervention strategies to address challenging behaviors
- To assist staff and parents in finding appropriate referrals for children who require additional intervention and/or the adults (family members or teachers) who care for those children.
- To increase access of other early childhood professionals to the Pyramid Model and CSEFEL-based information/resources (North Carolina Division of Health and Human Services, Division of Child Development, Contract Proposal, Promoting Healthy Social Behaviors in Child Care Centers, FY 2005 – 2011).

HSB Specialists' Professional Development

The HSB Specialists received a variety of on-going, progressive training to inform their approach and to support the fidelity of the intervention. Their training included, but was not limited, to the following: The Pyramid Model for Promoting the Social and Emotional Development of Young Children; Center on the Social Emotional

Foundation for Early Learning (CSEFEL) Preschool Modules; CSEFEL Coaching Model that included demonstrations sites; Early Brain Development and Implications for Caregiving; Social Neuroscience; and Risk and Resiliency.

The varied strategies presented by the HSB Specialists were research-based and strategically infused into the daily classroom practices of teachers, in an effort to prevent and reduce challenging behavior identified by the classroom teachers. HSB Specialists acted as consultants who educated and coached caregivers in developing skills and confidence to effectively address children's social and emotional skill development level for one child or a classroom of children. In instances where services focused on individual children, such activities were still designed to enhance caregiver competence with all children. Overall, the HSB Specialists provided both a problem-solving and capacity-building intervention.

Intervention Activities

The grant proposal outlines the following intervention activities to be performed by the HSB Specialists to achieve the project goals:

- Provide CSEFEL-based (evidence-based, research-based and relationship-based) technical assistance and training designed to increase teachers' knowledge and

skills about the importance of and strategies to ensure the social-emotional health of young children in their care.

- Update existing regional resource guides of mental health practitioners and other social-emotional supports/resources as referral options for children who require further intervention assistance and/or the adults who care for them.
- Create CSEFEL-based articles on social-emotional development and classroom strategies to prevent challenging behaviors for distribution to client child care programs, licensing consultants and CCR&Rs.
- Develop new products determined by needs expressed by HBS Specialists and through feedback from early care and education providers, DCD licensing consultants and the NC/CSEFEL Partnership.
- Participate in the implementation, sustainability and scale-up of the NC/CSEFEL Pyramid Model Partnership activities.

To support the goals of the project, a cadre of 25 educated and experienced HSB Specialists were employed by and housed in all of North Carolina's 18 regional lead child care resource and referral agencies. The HSB Specialists were experienced early childhood professionals who received targeted, intensive, evidence-based training to insure their competence in providing programmatic mental health consultation to provide onsite TTA to programs who requested services within the state's 100 counties. These comprehensive services were individually implemented based on individual program needs and were provided at no charge to the programs.

Approach to Intervention

The approach of the HSB TTA intervention was a combination of the programmatic and child-centered consultation models, with an emphasis on more systematic services that focused on the overall program issues that affect all children, staff, and possibly families as described by Cohen and Kaufmann (2000). When a specific child was identified as having challenging behavior the more traditional, child-centered approach was included. These two approaches represent Bandura's Social Learning Theory, as well as the Behaviorist Model, by focusing attention on the teacher's response to challenging behaviors. Teacher strategies are determined based on the individual child and the behavior they are seeking to modify through the ways children acquire skills and learn behavior, as identified in cognitive development and executive functioning. This combination approach was beneficial in the HSB Specialists' individualizing their methods to suit the needs of the teachers, children, and families, while building the capacity of the programs as well as forming strategies based in child development theory. With these two types of consultation used concurrently, there was both intervention and prevention of challenging behavior.

The HSB Specialist's TTA methods were designed to increase teachers' knowledge and skills about the importance of and approaches to ensuring the social-emotional health of young children in their care. This was achieved by utilizing the evidence-based, research-based, relationship-based information available through the

Center on the Social Emotional Foundations for Early Learning (CSEFEL) Pyramid Model. The HSB Specialists remained progressive in their service delivery by developing new products based on the needs, new research, and feedback from early care and education providers, NC DCD licensing consultants and the NC CSEFEL Partnership. This created the opportunity to tailor services to individual classroom needs, within the context of healthy social behaviors.

Since July 2005, the HSB Specialists have provided TTA services to child care centers across North Carolina. This TTA was designed to promote the social-emotional competencies of children through work with their teachers and focuses on increasing teachers' knowledge of social-emotional development and enhancing teachers' skills by introducing new strategies and techniques designed to reduce the occurrence of challenging behaviors in their classrooms. The expectation of this initiative was that an increase in social-emotional competencies and reduction of challenging behaviors would result in a decrease of the number of children who are expelled from HSB client centers due to their behavior. Output data was tracked by the HSB Specialists and included data about the centers receiving services and the children they expelled due to behavior.

The HSB initiative spelled out specific outputs in the grant for the purpose of supporting social emotional behaviors in preschool-age children. Through the initiative, each HSB Specialist served a case-load of 10 – 12 programs or classrooms, in a geographic area of 5 – 9 counties, dependent upon population, provided a minimum of 15

on-site technical assistance visits per month with visits typically lasting for several hours. They presented a minimum of 12 trainings per year, per regional service area, with at least 5 being the core trainings developed by the HSB team, and developed a local list of resources and referral sources which were updated annually and provided to programs and families. Services were provided to programs on an on-going basis and continued until it was determined that the needs were fulfilled, typically lasting several months. Not all programs seeking services were served and waiting lists were created.

Study Population

During three fiscal years, 2005-06, 2006-07, and 2006-07, 908 unduplicated, licensed child care centers who served preschool age children in North Carolina received the HSB intervention. This research will include the unduplicated programs that received services, with specific analyses on those programs who reported expelling one or more children for behavioral concerns either within the 12 months prior to the start of the intervention or within 12 months after the onset of the intervention and whose quality ratings are known.

Data Sources

Data have been provided by the North Carolina Division of Child Development and the Child Care Resource and Referral Council of North Carolina for the sole purpose

of this analysis. Receipt of the TTA intervention services was strictly voluntary and confidential. To ensure program anonymity, all identifying information has been redacted from the data.

The aggregated data was provided, as outlined in the agreement between myself and the Child Care Resources Incorporated, by the State-wide project manager, with only the identifying information redacted. This raw data was received in the form of Excel files and included child care center information from all centers served during the time period and each center has a center number that was assigned by the HSB Specialists using a varied format. There were three separate files, one for each of the fiscal years, and they included child care center information and survey responses.

Data was collected at two points in time for each of the following three fiscal years, 2005-06, 2006-07 and 2007-08. During the first year, pre-intervention and post-intervention data was collected for all centers served during FY 2005-06. Because this was the initial year of intervention, the post-intervention data was collected during FY 2006-07. In the subsequent two fiscal years, 2006-07 and 2007-08, both pre-intervention and post-intervention data was collected for any new centers served during 2006-07 and the post-intervention data collected during the 2007-08 fiscal year. Similarly, new centers served during 2007-08 had data collected during 2007-08 and post-intervention data collected during 2008-09. There were 908 unduplicated preschool programs served during these three years and 879 provided expulsion data during this three year period.

Fidelity Data

The three components often used to guide the fidelity measures of mental health projects are to determine the expert level and explanation of the intervention model, outline the collection methods for necessary data, and to determine the reliable and valid indicators for measurement (Mowbray, Holter, Teague, & Bybee, 2003). For this research, a similar three component structure was used to determine if the project was implemented as intended.

The first component examined the level of expertise through review of the support model used in the HSB Specialists' intervention, identified as the CSEFEL Pyramid model, described in Intervention Activities. This model is research-based and valid, derived from the CSEFEL materials, and this model is described through the literature review in the section titled: Program Quality and Children's Positive Behaviors. While CSEFEL is the stated in the grant as the model used in this intervention, there was no data provided to support its use during TTA visits.

The second fidelity component was the data measured for fidelity. This data includes the number TTA visits made by each HSB Specialist and were reported in the data provided by this project as the total number of programs, classrooms, and teachers served during the three fiscal years of this study. The intervention delivery data was reported by HSB specialists and sent to the Project Manager on a monthly basis and

aggregated data was then provided for this study through the grant proposal for FY 2010-11.

The third component was the examination of indicators and their measurement to determine their reliability and validity. This was evaluated through the procedures used to collect the data by the HSB Specialists and for this study included the number of expulsions pre- and post-intervention and program quality data. Other data used in this study were obtained from the grant proposals for the project. To the extent possible, the fidelity of this intervention was determined using the data provided on the model and data collection through reliable and valid indicators of measurement.

Expulsion Data

Expulsion data was collected from unduplicated centers receiving services, at two points of time, through pre-intervention and post-intervention surveys. Pre-intervention data was collected using a baseline survey completed by child care centers for the number of children expelled during the 12 months prior to the onset of the intervention. The post-intervention data was collected using a similar survey completed by child care programs and represents information from the 12 months following the date of the first TTA visit. In addition to the survey questions listed above from the pre-intervention survey, additional follow-up questions were included for centers that reported expulsions. These questions included demographic data, enrollment by gender, age, and race during

the survey period; however they are not included in this study. There was a 96% survey return rate, with 879 of the 908 centers served during all three fiscal years responding. Survey results were collected by each behavior specialist and forwarded to the State-wide project manager of the HSB Initiative for aggregation.

Program Quality Data

Quality rating levels were collected and reported, though not assigned, by the HSB Specialists. This information was taken from the first survey of pre-intervention data that also provided the number of expulsions in the 12 months prior to the onset of services. Program quality rating levels were not collected on the post-intervention survey. Ratings ranged from a minimum of one through a maximum of five, based upon Environment Rating Scale scores and education levels of teaching staff. Programs without numeric ratings, such as religious affiliated, temporary and provisional licensed programs were omitted from this study. The specific measures used to determine program quality ratings include several indicators of quality, as outlined below.

Quality Rating

The North Carolina Division of Child Development (NC DCD) identifies program quality through their licensing methods using a one through five star rating system. There are two components, program standards which measures quality of environment

and staff education level, which measures quality of teaching, which are considered collectively, when determining the number of quality points earned by a child care center. These points are weighted and tallied to correlate with the number of stars a program is assigned (see Table 1). The NC DCD determines quality upon initial licensure and repeats every three years (North Carolina Division of Child Development, 2011).

Table 1

Number of Points Needed for Quality Star Rating Levels

Number of Points	Quality Star Rating Level
1 – 3 Points	One Star
4 – 6 Points	Two Stars
7 – 9 Points	Three Stars
10 – 12 Points	Four Stars
13 – 15 Points	Five Stars

Quality of environment. Program standards are based on the score attained through an observation of the classroom environment, including the physical environment and interactions between teachers and students. The tool selected by the NC

DCD to measure the quality of the preschool classrooms' environment was the Early Childhood Environment Rating Scale-Revised (ECERS-R) (Harms et al., 1998). The ECERS-R is a commonly used comprehensive observational measure of quality of preschool classroom environments and has been considered a standard measure in the field of early education for more than 25 years.

Quality of teaching. The education level of child care staff is the second of two quality measures used to determine the assignment of star rating. The education points are earned for college level coursework above the basic state license required level. Quality of teaching is based on the education level all of the program's child care staff. Points in this category can be earned based on the percentage of staff that have completed or are enrolled in coursework or who have earned a degree in the field of Early Childhood Development. In the State of North Carolina, all staff working in child care are required to participate in training and workshops that are approved by the NC DCD for training credit hours. Experience in the field is also considered towards the number of points earned towards a program's education rating; however, in-service training, workshops, and technical assistance are not a part of the quality rating determination (*ncchildcare.dhhs.state.nc.us, 2010*).

Analytic Procedures

Raw data from the 879 surveys was received for this research in the form of Excel files and included child care center information from all unduplicated centers served during the time period and each center has a center number that was assigned by the HSB Specialists using a varied format.

To prepare the raw data for analysis, I collapsed all three fiscal years into one Excel spreadsheet and removed data not necessary for the purposes of this research. Primarily, this research utilized the reported number of expulsions participating child care programs reported on both the pre-intervention surveys and the post-intervention surveys and the programs' quality star rating assigned by the NC DCD. There were 89 remaining programs that indicated at least one behavioral expulsion either pre- or post-intervention and included a one through five quality rating. Two subsets were formed from that data set to include the 23 that reported no expulsions prior to the intervention, but did expel at least one child after the onset of the intervention and 66 programs that reported expelling at least one child prior to the intervention. These data were transferred into the Statistical Package for the Social Sciences (SPSS) in preparation for analysis.

Research Question One: *Was the project implemented as intended through its original design?*

The descriptive analysis of the fidelity of the intervention included the exploration of three components of the project through the explanation of the intervention model and level of expertise, the collection of the necessary data, and the reliable and valid indicators for measurement. Information for the intervention model and the level of expertise was obtained from the goals and activities outlined in the grant proposal and additional data necessary to determine the fidelity of the intervention were derived from the outputs report for the intervention activity deliverables, as reported by state-wide project manager's grant proposal for 2008-09.

Another measure of fidelity was to determine if the intended population was served and the participating programs met the criteria for the intervention as stated in the grant. Participating programs were to be licensed and located in the 100 counties of the state and this information was collected by the HSB Specialists and reported to the Project Manager though specific location and program name was redacted.

Component three of the fidelity measures, reliability and validity of the data, explored the data collected through self-report, using a standard survey template and completed by the participating program staff. A consistent monthly reporting system completed by the HSB Specialist, tracked by the project manager, collected the number

of programs, classrooms, and teachers receiving services. The reliability and validity of the method was determined through analysis of the data collection procedures.

Research Question Two: *Among the programs that had expulsions, was there a change in the number of expulsions in the programs receiving services?*

For the purposes of this research question, analyses were performed using the 89 programs which reported expelling at least one child either pre- or post-intervention and had a program quality rating, subset A which included 23 programs who reported no pre-intervention expulsions, and subset B which included 66 programs who reported pre-intervention expulsions. Data was analyzed using Statistical Package for the Social Sciences Statistics (SPSS). The frequency count of expulsions self-reported by the childcare and education programs served compared the total number of children each program expelled for behavior within the 12 month period prior to the start of the intervention with the total number of children they expelled during the 12 months after the onset of TTA services using the total 89 programs and repeated for each subset. In addition, the means and standard deviation was determined and a paired sample t-test was performed between the program's pre-intervention expulsions and of the post-intervention expulsions for each subset.

Research Question Three: *Is there a relationship between the quality of the program and the number of expulsions?*

To determine the relationship between the quality of the centers and expulsions, cross-tabulation and correlation analyses were performed between the quality ratings and expulsion numbers in each of the two subsets A and B, the 23 programs which reported expelling no children prior to the intervention and at least one child post-intervention and the 66 programs who expelled pre-intervention, respectively.

Chapter 4

FINDINGS

The findings for this study address the fidelity of the intervention, the changes in the number of expulsions after the intervention, and the relationship between program quality and the number of expulsions reported both pre- and post-intervention. Fidelity measurements included explanation of the intervention model and expertise level of those providing the intervention, as well as a thorough description of reliable and valid indicators of measurement. Additional measures also included a report of the quantitative data collected to determine if services were provided to the intended participants.

The expulsion data analyses addressed both the overall reduction in the frequency of expulsion between pre- and post-intervention for the 89 programs that reported expulsions for behavior within the 12 month period prior to the start of the intervention with the total number of children they expelled during the 12 months after the onset of TTA services and had a program quality rating. Additional analyses were performed on the subset of 23 programs that reported no pre-intervention expulsions but at least one post-intervention expulsion, and the subset of 66 programs that reported pre-intervention expulsions. Finally, the relationship between number of expulsions and program quality

was examined for both pre- and post-intervention expulsions separately in each of the two subsets. Together, these data are used to answer the three research questions of this study. In the sections that follow, results specific to each of these three research questions are presented.

Project Fidelity and Implementation

Research Question One: *Was the project implemented as intended through its original design?*

Intervention Model and Level of Expertise

The support model used in the HSB Specialists' intervention was identified as the CSEFEL Pyramid model, which was described in Intervention Activities, taken from the grant proposal. This support model is research-based and valid, derived from the CSEFEL materials, and more fully described in the previous section titled Program Quality and Children's Positive Behaviors. While CSEFEL is the stated model used in this intervention, there was no data provided to support its use during TTA visits.

The expertise level of the HSB Specialists providing the intervention was outlined in the contractual requirements of the HSB grant the grant, however, the exact qualifications of each HSB Specialist is unknown. These employment positions were contracted with 18

different agencies that had their own Human Resource employment requirements, therefore creating variation in education and experience of these staff. Therefore, these variations are not considered in the fidelity analyses in this study.

Collection of Fidelity Data

The information collected during the three project years in this study was not gathered for the purpose of measuring the fidelity and was therefore of limited use for this purpose. Data used to determine fidelity of implementation was derived from the summary of outputs that address, in part, the deliverables outlined in the grant.

Validity of fidelity data. The validity of the data was first examined to determine if the information collected measured what was outlined in the project design. The data collected by the HSB Specialists included location and number of programs, classrooms, and teachers served, as well as impact data on teacher reported improvement in teaching practices and numbers of expulsions pre- and post-intervention with child demographics. This was the information collected by the HSB Specialists, as requested by the project manager; however, this data did not correspond with the specified items outlined in the grant regarding project design. Therefore, little information was available to measure fidelity.

The information gathered during these three years of the project, indicated that the HSB Specialists provided technical assistance in 1,524 classrooms and partnered with 3,733 teachers to enhance their ability to promote children's social-emotional health. This quantified number of classrooms and teachers was compared to minimum number of TTA visits outlined in the grant contract which required the 25 HSB Specialists to complete a minimum of 15 on-site TTA visits per month during each of the three fiscal years in this study and to have carried a caseload of at least 10 – 12 programs. While a specified number of programs, classrooms and teachers was not prescribed in the grant project design, these quantifications do suggest the required minimum number of 15 on-site TTA visits, per HSB Specialist, were provided.

During the onsite TTA visits, the HSB Specialists were to guide teachers as they embedded proactive social-emotional teaching strategies into their daily classroom practices and curriculum to prevent the occurrence and escalation of behavior problems and provided training sessions for those and additional teachers in the state, according the grant proposal. Data was not collected on this measurement to support the use of this method; therefore its validity is unable to be determined.

The project specified an intended population receive the services; programs had to be within the 100 counties in the state of North Carolina, operate legally through Child Care Licensing, and serve 3, 4, and 5 year old children. The program data, collected and reported by HSB Specialists, included the county and regional location of the program

(although specific location was redacted from the study data), the type of program, and the ages of the children in care. Through examination of this information, it appears that all programs receiving services met the criteria outlined in the grant.

The validity of the data collected does not provide the information to fully determine if the project was implemented as intended. With the limited data available to speak to the grant expectations, it is concluded that sufficient numbers of TTA visits were conducted and that the intended population received the intervention.

Reliability of fidelity data. Reliability measures were determined through evaluation of the consistency in the data collection methods, which were self-reported by the programs served, self-reported by the HSB Specialists, and collected and monitored by the project manager. Program data was collected through program self-report using a standard survey template completed by the participating child care and education staff at two time periods, pre- and post-intervention. This data was then transferred onto an Excel template by the HSB Specialists for each geographic region they served. The HSB Specialists also used the Excel sheet templates as the consistent, monthly reporting system through which they reported the number of programs, classrooms, and teachers receiving their services. These Excel data sheets were then forwarded to the project manager for tracking and aggregating the data on a monthly and fiscal year basis.

The program's self-reported data and the HSB Specialists' self-reported output data were subject to a social desirability bias, which, in some cases, may cause the respondents to distort answers to conform to social norms or expectations (Neuman, 2003). However, without other data sources, the self-reported information collected was used in this research study and because the information was provided on a standard reporting template and reviewed by the project manager, the chances of reliability were increased.

Fidelity criteria often also include measures including the specific the length of service and intensity of the services; consistency in the content, procedures, and activities over the length of the service (Mowbray, et. al, 2003). In this study, the length of the HSB services was not, by design, limited to a specific duration or intensity, as a means to individualize for program needs and availability. The content used was framed with a research based and valid model, CSEFEL, but again specific TTA was individualized stemming from this model as a foundation. It is recognized that variation in the delivery, intensity, and duration may have reduced the impact of the intervention; however, this individualized program approach was the intent of the project.

Based on the all of the data that were provided for this study, it can be confidently determined that specific programs receiving services met the criteria of the intended population, North Carolina, licensed programs serving preschool age children, based on the consistent method of data collected. The collective number of programs, classrooms,

and teachers that received services is sufficient to conclude that the minimum required number of HSB visits were provided. It was then assumed that the 89 programs analyzed for expulsion numbers and relation to quality ratings met this level of fidelity.

Number of Expulsions

Research Question Two: *Among the programs that had expulsions, was there a change in the number of expulsions in the programs receiving services?*

There were 89 unduplicated programs that reported expelling at least one child either pre- or post-intervention and that had a quality program rating included in these analyses. Through a frequency count of pre-intervention expulsions in all 89 programs, 106 children were expelled within the 12 months prior to the onset of the intervention, and 32 were expelled in the 12 months after the onset of intervention services. The total number of expulsions decreased by 74 children, as measured by subtracting the total post-intervention from the pre-intervention expulsions.

Of these 89 programs reporting expulsions, 23 reported expulsions only after the intervention. The remaining 66 reported between 1 and 8 pre-intervention expulsions. A chart representing the percentage of both the pre- and post- intervention expulsions is displayed in Table 2.

Table 2

Percent of Programs by Number of Pre- and Post-Intervention Expulsions

Number of expulsions	Pre-intervention %	Post-intervention %
0	25.85	69.7
1	51.7	24.7
2	12.4	5.6
3	5.6	0
4	2.2	0
5	0	0
6	0	0
7	1.1	0
8	1.1	0

These 89 programs were divided into 2 subsets for further analysis; Subset A included 23 programs with 0 pre-intervention expulsions and Subset B included 66 programs with at least one pre-intervention expulsion.

In subset A, 82% of the programs reported one post-intervention expulsion and 17% reported two post-intervention expulsions. As previously identified, none of these programs reported pre-intervention expulsions. The change in expulsions in subset A increased from total of 0 pre-intervention expulsions to a total of 27 post-intervention expulsions.

In subset B, pre-intervention expulsions ranged from 1 to 8 expulsions per program, with 86% of programs expelling one or two children and 14% of programs expelling 3 or more children. In 94% of programs that previously expelled children there were no expulsions after the intervention, in 4% of programs the number of overall expulsions was reduced but 1 – 2 annual expulsions still occurred, and in 1% of programs the number of expulsions increased after the intervention.

To determine if the change in expulsion numbers was correlated with the intervention, a paired sample t-test between the programs' pre- and post-intervention data was performed on subset B to determine statistical significance at the 0.05 level. A t-test paired sample analysis was not performed on subset A because there were no pre-intervention expulsions. The paired sample t-test showed a mean of 1.530 and a t-value of 9.133. This result is not statistically significant.

Relationship between Program Quality and Number of Pre- and Post- Intervention Expulsions

Research Question Three: *Is there a relationship between the quality of the program and the number of expulsions?*

Program quality was ranked on a one through five numeric range, with one being the lowest and five the highest level. Programs in each subset had an assigned quality rating. A frequency distribution analysis was performed on both subset A and B to identify the number of programs in each quality rating that expelled children and to determine if this distribution is representative to the state-wide distribution of quality ratings. The cross-tabulation in both subsets included the number expulsions per programs in each quality rating category to show which of the quality rating levels had the highest and lowest number of expulsions, both pre-and post-intervention in subsets A and B. To determine the correlation between the quality level and the number of expulsions after the intervention, a bivariate correlation analysis was performed on subset B.

The frequency distribution of both subset A and B shows that programs with 3, 4 and 5 star ratings made up 94% of programs included in this study. This was representative of the state-wide distribution of quality ratings, with 90% of programs

falling into the 3, 4, and 5 star rating range (North Carolina Division of Child Development, 2011).

In subset A, the frequency distribution analysis found quality ratings of 3, 4, and 5 represented 95% of the programs expelling 0 children pre-intervention and one or two children post-intervention. A cross-tabulation between quality rating and post-intervention expulsions showed programs with a quality level of 4 had the most expulsions (see Table 3).

Table 3

Cross-tabulation between Quality Rating and Programs with Post- intervention Expulsions for Subset A

Quality Rating of Programs	Number of Programs with One Expulsion	Number of Programs with Two Expulsions	Total Number of Programs
1	1	0	1
2	0	0	0
3	6	2	8
4	7	2	9
5	5	0	5
Total	19	4	23

A bivariate correlation analysis of the quality rating and post-intervention expulsions in subset A showed a correlation of -0.116 with significance of 0.597, which was not a statistically significant result.

In subset B, frequency distribution and cross-tabulation found 94% of programs had quality ratings of 3, 4, and 5 stars. The programs in subset B reported between 1 and 8 pre-intervention expulsions and between 0 and 2 post-intervention expulsions. Cross-tabulations between pre-intervention expulsions and program quality and between post-intervention expulsions and program quality are represented in Tables 4 and 5, respectively.

Table 4

*Cross-tabulation between Quality Rating and Programs with Pre-intervention**Expulsions for Subset B*

Quality Rating	Expulsions						Total Programs
	1	2	3	4	7	8	
1	1	0	1	1	0	0	3
2	0	1	0	0	0	0	1
3	21	8	2	0	1	1	33
4	17	1	2	0	0	0	20
5	7	1	0	1	0	0	9
Total	46	11	5	2	1	1	66

Table 5

Cross-tabulation between Quality Rating and Programs with Post-intervention Expulsions for Subset B

Quality Rating	Expulsions			Total Programs
	0	1	2	
1	3	0	0	3
2	1	0	0	1
3	31	2	0	33
4	18	1	1	20
5	9	0	0	9
Total	62	3	1	66

In subset B, separate bivariate correlation analyses between program quality rating and pre-intervention expulsions and between quality ratings and post-intervention expulsions were performed. A bivariate analysis of program quality and pre-intervention expulsions shows a correlation of - 0.217 with 0.080 significance; this result approaches statistical significance. As program quality increased, the number of expulsions decreased, prior to the intervention services. The correlation between program quality and post-intervention was 0.034, with significance at 0.784; therefore, this result is not statistically significant.

Chapter 5

CONCLUSION

Although measures of fidelity were few, it was confidently determined the specific programs that received services met the criteria required through the project's design. Therefore, it was assumed, the 89 programs analyzed for expulsion numbers and relation to quality ratings met this level of fidelity. Of those 89 programs, there was an overall decrease in the number of expulsions by 70% between the total number of pre- and post-intervention expulsions, however the decrease was not statistical significant. The 89 programs were divided into two subsets for further analyses; subset A included the 23 programs that did not have pre-intervention expulsions and subset B that included the 66 programs with pre-intervention expulsions. Subset A shows an increase from a total of 0 to a total of 27 expulsions and subset B shows a decrease from 106 to 5 expulsions, though does not show statistical significance. The relationship between quality ratings of the programs and expulsions in the subsets approaches statistical significance, which demonstrates that these relationships are in the right direction, of higher quality and lower expulsions, considering the relatively small sample size.

The use of an intervention model and reduction in the number of expulsions in this study supports findings from Gilliam in which the lowest rates of expulsion were

reported by teachers who had an ongoing, regular relationship with a behavioral consultant (2005). Similar to this study, Gilliam analyzed self-reported information collected via questionnaires and surveys, but differs, as Gilliam's research shows expulsion rates in state-funded preschools, without mental health consultation provided to all programs and this study looked at the change in pre- and post-intervention expulsions in the same project.

Gilliam's work did not identify quality levels of programs in that study. However, this study analyzed the quality rating of programs expelling children and participating in the intervention, and while the relationship between quality rating of programs and post-intervention expulsions was not statistically significant in this study, the relationship did approach statistical significance. This demonstrated a relationship in which higher quality was linked to lower expulsions, with the potential to have been significant if there was a larger sample. It is expected that in preschool settings with caregivers who are better educated and trained, young children become more intellectually and socially competent (Lamb, 1998), as research indicates that higher levels of teachers' education are linked to higher overall quality in early education environments (Burchinal et al., 2002). However, the specific level or threshold of teacher education to support quality has not been determined (Tout et al., 2005). Increased knowledge and skills of the highly educated teachers are more likely to fulfill the measures of quality outlined in the ECERS-R (Hamre & Bridges, 2004) therefore leading to higher quality classrooms as measured by the ECERS-R. Having data on the

education levels of the specific teachers in this study would have been useful in determining influence on the success of the intervention. Teacher education levels were unknown for participating teachers; therefore the program quality rating was used as a proxy measure. The quality rating was determined by the licensing agency in the state through both the education and experience of the teaching staff collectively, as well as the classroom environment, which was determined using the scores of the ECERS-R.

These findings represent what is known and what has been quantified based on the data available for analysis, however, it is important to explore other variables that influence the effectiveness of the intervention. The lack of statistical significance between the quality ratings and pre- and post-intervention expulsions does not discount the importance of the child care education program, but rather highlights the possible influence of other factors not explored in this study. Previous research studies have indicated that high quality preschool experience, as measured by the ECERS-R, can serve as an ameliorating factor for children at risk of developing challenging behaviors (Nores, 2005; Reynolds, 2001). The fact that children were expelled after the intervention in programs in which no children were expelled pre-intervention, suggests that it is important to explore for possible causes.

For example, it may be important to consider the specific risk factors of the individual children, the influence of familial and community experiences and special needs diagnoses. In the field of early childhood, it is known that children with risk

factors, such as low socio-economic status, disabilities, familial dysfunction, are at increased risk of challenging behaviors, (Reynolds, 1991; Bagdi & Vacca, 2005). Age, race, and gender have also been identified as predictors of challenging behaviors (Gilliam, 2005).

In addition to consideration of child characteristics, variables such as teachers' receptivity to the technical assistance and its intervention strategies, the amount of support from the administrative staff to implement strategies in the classroom, the technical assistance providers' skill level with providing consultative services, and the turnover in both HSB Specialists and teaching staff may play a part.

Resistance to technical assistance is a common challenge in the field of early education and may stem from concerns about being judged or reservations about whether the consultant can really help (Duran et al., (2009). Support for technical assistance and the strategies developed can be influenced by the program administrators through setting a positive tone about the benefits, not only for the children and families, but for the teachings staff and the program. Administrators can also help teaching staff and the consultant by making accommodations in program operations that provide staff with the time necessary to collaborate and implement the strategies (Duran et al., 2009).

Data on the skills, competencies, and credentials of the HSB Specialists in this intervention were not collected for this study; however, it was known they were not

consistent HSB Specialists delivering this intervention were employed by many different agencies in the state, each having different qualifications for employment. A set of core competencies, knowledge, skills and attributes of consultants are necessary for effective support and change (Duran et al., 2009). In addition to the inconsistency among their credentials, turnover of both HSB Specialists and program teaching staff was unavoidable, due to resignation, temporary leave of absence, or a reassignment due to other needs, and did occur, though specific data was not collected. Coupled with that, teacher turnover in early childhood education is common. Turnover in one or both positions, teachers and consultants, creates additional challenges during consultative services, causing a need for transferring the relationship to another consultant or beginning the process again with new teaching staff. A combination of some or all of these influences could impact service outcomes.

This wide range of variables was not measured in this study, though they are important for program designers and policy makers to consider. One of the more important variables in any study of TTA services and consultation is the willingness of the teachers to make change in their practices and the influence of their philosophies around behavior and social emotional development. That, together with the quality of the relationship between the TTA provider and the teachers, opportunities and support, can serve to increase the benefits of the intervention services.

Limitations

These findings are limited by a number of weaknesses in the design and implementation of the evaluative data collection. To begin, the data was not collected for the purposes of this research and analysis. For example, collection of data on the frequency and duration of the services, the number of training hours presented to program staff, education and experience levels of the teaching staff, and qualifications of the HSB specialists would have allowed for a more thorough evaluation of the intervention. The data that was collected was often not complete for all programs, which then narrowed the study size to only those with complete data.

Due to the voluntary nature of participation, program quality may be higher at the onset of the intervention, therefore leaving less room to improve in comparison to other programs in the study. These limitations resulted in few programs in each quality rating level, with only 89 programs with expulsions and 66 that expelled prior to the intervention.

Other limitations include not having the total number of enrolled children in each program at pre- and post-intervention; therefore, it was not possible to determine the percentage of children in a program being expelled. To provide estimates of the effectiveness of the intervention, this study would have needed a comparison group that included either programs that received alternate interventions or no intervention at all. In

addition, a measurement to determine an increase in healthy social behaviors of children was not in place and outcome measures were limited to the number of expulsions rather than changes in children's behavior and growth in social competencies, as expulsion numbers varied greatly across programs. The ability to measure the growth of children's social competencies in all programs receiving the intervention would have served as a valuable measure of the intervention. Future studies on interventions that support children's social competencies and reduction of preschool expulsions should include these variables in study the design.

Summary

Overall, the findings from this study of the Healthy Social Behaviors intervention project in NC is consistent with prior research in the field of child development and quality programming for children, while also presenting additional avenues for further exploration. The intervention studied, training and technical assistance (TTA), was a blending of both individual child and universal programmatic support in early childhood education programs, and grounded in a research-based intervention approach. The number of both pre- and post-intervention expulsions reported by programs receiving services was analyzed and found no statistically significant changes in the number of pre- and post- intervention expulsions.

However, 66 programs expelling at least one child pre-intervention had a 95.3% decrease in the total number of post-intervention expulsions and 23 programs that reported an increase from 0 to 1 or 2 expulsions post-intervention. The changes in the total number of expulsions in both subsets raises interesting questions about the impact of program quality and other variables on the frequency of expulsions for challenging behavior.

In the field of early childhood development, it is known that program quality varies and can be measured using research-based tools in the field. The program quality ratings of the programs in this study were identified by the state's child care licensing agency using a combination of teacher education and scores from an environment rating scale. The relationship between the number of pre-intervention expulsions and the programs identified quality rating approached significance, though was not the case with the number of post-intervention expulsion. Again, a limitation to this study is the small sample size and the relationship between quality and pre-intervention expulsions may have been stronger in a larger sample.

This study contributes to the importance demonstrated in previous research of the need for, and methods of, support and guidance for both children with challenging behavior and for their educators, in the early years of development. More rigorous studies of these types of interventions are necessary if we are to understand the impact of these TTA intervention projects have on a children in preschool programs as they

develop social skills and competencies. Given the number of expulsions and the timeliness of early childhood skill acquisition and development and the influence early educators have, continued attention on efforts to increase children's healthy social behaviors and social competencies in the preschool classroom is warranted.

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OCT 07 2010

CCRI

Appendix

Appendix A



Memorandum of Understanding

between

Child Care Resources Inc.

and

Christine Wilson

This **MEMORANDUM of UNDERSTANDING** is made on the 5th day of 2010 between:

- **Child Care Resources Inc. (CCRI)** of 4601 Park Road, Suite 500, Charlotte, NC 28209 and
- **Christine Wilson (Recipient)** of 1136 Fourth Creek Landing Drive, Statesville, NC 28625

herein known as the "parties."

Whereas the Agency, on behalf of the North Carolina Child Care Resource and Referral Council, is owner of data and/or materials (Records) regarding participating programs in the statewide "Promoting Healthy Social Behaviors for Children in Child Care Centers (HSB)" initiative and the Recipient is an individual who is a graduate student and has requested access to said Records for use with her graduate thesis.

The Agency hereby agrees to consider requests from the Recipient for mutually agreed upon HSB data Records and grant Recipient access to and use of said Records under the following conditions:

- Recipient declares that she is a non-public entity, and that her request is not on behalf of a third party,
- Recipient acknowledges that Records belong to, and shall remain the exclusive property of Agency,
- Recipient acknowledges that Records contain confidential information. Therefore Recipient:
 - will not disclose, share, nor make available Records to another party;
 - will take all necessary measures to safeguard the security of the Records;
 - will ensure the confidentiality of project participant data;
 - will provide the North Carolina Child Care Resource and Referral Council the right to review end products for accuracy (not related to research questions and conclusions but related to accuracy of descriptions of the HSB project, etc.);
 - will not assign the rights granted nor obligations declared herein to any third party; and
 - understands that this agreement will immediately terminate should she be found to have improperly disclosed, share or otherwise make available any portion of the Records.

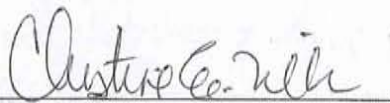


The parties agree that:

- the initial term of this agreement will be from the day of execution through May 2011;
- Margaret Mobley, CCRI's statewide project manager for the HSB initiative will be CCRI's primary contact for the Recipient with respect to needed records and review of recipient's proposed end product;
- the Recipient can submit a written request to the Agency for an extension in needed; and that
- the Records will be returned to the Agency, or destroyed by the Recipient at the Agency's request.

This agreement can be altered only upon written approval by each party.

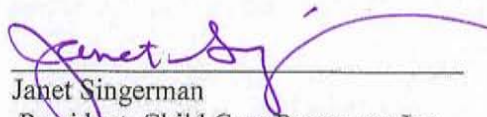
By signing here, each party agrees to the above stated terms and conditions.



Christine Wilson
Recipient

10/5/10

Date



Janet Singerman
President, Child Care Resources Inc.

10/7/10

Date