

Examining the Link between Receptive and Expressive Language Delay and its Effects on
Externalized Behaviors in Young Children, Highlighting Strategies Teachers and Schools Can
Implement to Promote Social Emotional Competence through Self-Regulation

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Abstract

Teachers report challenging and disruptive student behavior as the cause of increased stress. Challenging student behaviors are predictive of future problems such as dropping out of school or expulsion. Language ability is important for regulating attention and behavior and establishing positive relationships with adults and peers. Many children who exhibit challenging behaviors have existing language delays and must be taught functional skills to communicate. Twenty-four studies published within the last four years that examined strategies that teachers can use in early childhood classrooms to curb challenging student behaviors were reviewed. Research demonstrated that prosocial skills should be taught and modeled to children who may not have these skills within their repertoires. Teachers should offer many opportunities for children to practice these skills while providing specific feedback and praise. Pre-service teachers should be informed about classroom management strategies and they should be thoughtfully employed within their classrooms to eliminate opportunities for disruptive behaviors. Evidence-based instructional practices should also be used within the classroom to promote the prevention of challenging student behavior. A school-wide model of behavior supports, including functional behavioral analysis, is an evidence-based method of individualizing interventions for all children.

Keywords: challenging behavior, language delay, skills, behavior support, evidence-based

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Introduction

Challenging student behavior that interferes with classroom routines and activities is a significant problem. Children who exhibit challenging behaviors (often referred to as “problem behaviors” in the literature) interfere with teachers’ abilities to focus on teaching (Raver, et al., 2008). Many kindergarten and first grade teachers feel ill-equipped to handle children who exhibit challenging behavior (Bulotsky-Shearer & Fantuzzo, 2011). These teachers feel increased stress because they are required to meet accountability standards and stay “on task” with teaching the curriculum instead of focusing on the child’s behavior (Bulotsky-Shearer & Fantuzzo, 2011). Research has shown that new education graduates do not have adequate information to design and implement individualized interventions for children exhibiting challenging behaviors (Hemmeter, Santos, & Ostrowsky, 2008). Disruptive behavior is the single most common reason that young children are referred to developmental clinics, and externalizing behaviors, such as aggression, are most predictive of future behavior problems (Long, Gurka, & Blackman, 2008).

The purpose of this thesis is to explore the relationship between language ability and self-regulation in young children and provide research-based strategies to assist teachers in helping children who are experiencing externalizing behavior challenges to develop the skills needed for success.

Research Questions

1. What is the relationship between language development and externalizing behaviors?
2. How can teachers minimize these students' externalizing behaviors?

What is Language Delay?

The Individuals with Disabilities Education Act (IDEA; 2004) defines children with a disability of language delay under the category of ‘developmental delay’ in Part B (IDEA, 2004, §602) under the area of ‘communication development.’ They are those who are experiencing developmental delays as defined by the State and as measured by appropriate diagnostic instruments of communication and they are therefore identified as needing special education and related services (IDEA, 2004).

Under Part C of IDEA (2004), states must provide services to any child under 3 years of age who needs early intervention services for developmental delay as measured by appropriate diagnostic instruments and procedures (§300.313). Under Part C, a state also may provide services, at its discretion, to at-risk infants and toddlers, who are defined as being at risk of experiencing a substantial developmental delay if early intervention services were not provided (IDEA, 2004). Informed clinical opinion must be included for eligibility determination of these services (IDEA, 2004). Informed clinical opinion relies on qualitative and quantitative information to determine the need for early intervention services, which is typically derived from the consensus of a multidisciplinary team that includes parents and information from multiple sources that would be relevant, such as a speech language pathologist (Shackelford, 2006). IDEA also requires states to provide services to children who have conditions of established risk, defined as a diagnosed physical or mental condition which has a high probability of resulting in developmental delay (IDEA 2004). These conditions include, but are not limited to: chromosomal abnormalities; genetic or congenital disorders; severe sensory impairments, including hearing and vision; inborn errors of metabolism; disorders reflecting disturbance of the development of the nervous system; congenital infections; disorders secondary to exposure to

toxic substances, including fetal alcohol syndrome; and severe attachment disorders (IDEA, 2004). Even if these children do not yet demonstrate developmental delay, they are eligible for services, because they are at risk (IDEA, 2004).

What are Externalizing Behaviors?

Externalizing behaviors constitute an acting out style that could be described as aggressive, impulsive, coercive, hyperactive or noncompliant (Smith & Tyler, 2010). Three common problems associated with externalizing behavior are hyperactivity, aggression, and delinquency. Aggression can present in different ways: aggression towards objects, toward self, or toward others. (Smith & Tyler, 2010) A list of externalizing behaviors could include: the violation of basic rights of others, violations of societal norms or rules, tantrums, causing property loss or damage, hostility, argumentative behavior, defiant behavior, physical aggression, ignoring teachers' reprimands, stealing, damaging others' property, demonstration of obsessive/compulsive behaviors, causing or threatening physical harm to people or animals, using lewd or obscene gestures, and hyperactivity, among others (Smith & Tyler, 2010). Diagnoses that commonly include externalizing behaviors are located in the DSM-V categories of Disruptive, Impulse-Control, and Conduct Disorders, such as conduct disorder and oppositional defiant disorder, and Neurodevelopmental Disorders, such as attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (American Psychiatric Association, 2013).

What is Self-Regulation?

Self-regulation is defined by Blair and Diamond (2008) as the volitional behavioral and cognitive processes through which people maintain levels of motivational, cognitive, and emotional arousal that facilitate positive adaptation and adjustment, as reflected in high levels of

productivity and achievement, as well as the development of positive relationships and a positive sense of self. These skills are essential to a child's success in the classroom because children can persist through a task using self-regulating skills (Vallotton & Ayoub, 2011). Self-regulation involves the skills within executive functioning of inhibitory control and the ability to gauge and adjust emotional and cognitive responses to one's environment (Blair & Diamond, 2008).

Children can also face challenges and have the ability to overcome them with these skills, as well as form valuable positive relationships with their peers and adults (Vallotton & Ayoub, 2011).

As was demonstrated above, children often require the vocabulary in order to mentally represent and solve a problem (Kuhn, 2012; Zelazo et al., 2003). It is not helpful for teachers to constantly tell children to "use your words" without directly modeling specific examples of appropriate behaviors, especially if the children have language delays and cannot express themselves (Vallotton & Ayoub, 2011). Teachers must offer opportunities for children to practice the appropriate skills in different situations (Vallotton & Ayoub, 2011).

Language Ability Linked to Developing Relationships

Numerous studies have suggested that language ability is important for regulating attention and behavior and establishing positive relationships with adults and peers (Bulotsky-Shearer & Fantuzzo, 2011; Campbell, Shaw, & Gilliom, 2000; Kaiser, Cai, Hancock, 2002; Long, Gurka, & Blackman, 2008; Mendez & Fogle, 2002; Petersen, et al., 2013; Qi, Kaiser, & Milan, 2006; Ross & Weinberg, 2006; Vallotton & Ayoub, 2011). A recent study was conducted to test whether language ability has an independent effect on challenging behaviors, specifically on attention deficit and externalizing behaviors, commonly manifesting as aggressive and oppositional behaviors (Petersen et al., 2013). Petersen et al. (2013) tested whether there is a direction of effect between language ability and behavioral regulatory problems (Petersen et al.,

2013). The study defined language ability as “language-related skills such as language mechanics, expression and vocabulary” (Petersen et al., 2013, p.542). The study found an independent effect of language on externalized challenging behaviors, as measured by the Aggression and Delinquency subscales of the Child Behavior Checklist (CBCL). Additionally, a directional effect was found from language ability on externalized behavior problems in that language ability predicted later challenging behaviors more strongly than challenging behaviors predicted later language ability (Petersen et al., 2013). This study demonstrated that many children in early childhood settings who demonstrate challenging behaviors could benefit from language intervention (Hester, et al., 2004; Kaiser, Cai, & Hancock, 2002; Qi, Kaiser, & Milan, 2006; Wickstrom-Kane & Goldstein, 1999).

Qi, Kaiser, and Milan (2006) conducted a study examining behavior among children classified as having either high or low language abilities in Head Start classrooms during teacher-directed and child-directed activities. Qi et al. (2006) found that language delays and classroom behaviors might affect each other bi-directionally over time causing more challenging behaviors and further language learning difficulties. The study found that challenging behaviors were most evident during child-directed unstructured activities for girls with low language abilities and during teacher-directed structured activities for boys with low language abilities. Research has shown that boys who exhibit challenging behaviors are more likely to have low language skills than their male peers who do not exhibit such behaviors, and the pattern is not as clear for their female peers (Kaiser, Cai, & Hancock, 2002).

A main concern with children exhibiting these behaviors is how they are perceived by their peers, how their peers respond to them, and whether they are able to create and maintain friendships and cooperative relationships both inside and outside of the classroom (Hester et al.,

2004). These relationships are important factors in school readiness, because a child must understand classroom dynamics and how to interact with his or her peers in a constructive manner to be successful (Hester et al., 2004). A child's social skills are dependent on the different contexts of reciprocal interactions that are available and take place between the child and his or her communication partners, such as his or her peers, teachers or caregivers (Hester et al., 2004).

Receptive language delay has been shown to correlate with peer rejection and externalized behaviors. A study by Menting, van Lier & Koot (2011) demonstrated this correlation in that children with poorer receptive language skills, as assessed using the Peabody Picture Vocabulary Test, showed increasing externalized behaviors and were rejected by their peers more frequently than children with higher receptive language skills over time. This particular research study also demonstrated that these links are much more common in boys than girls, and that when receptive language skills improved, the occurrence of externalized behaviors decreased (Menting et al., 2011). Menting et al. (2011) demonstrated that the mediator of the link was a decrease in peer rejection. Children who are more confident, accepted and well-liked by their peers are less likely to exhibit increasing externalized behaviors over time (Menting et al., 2011).

Social problems are the most common and longest lasting problems in children with specific language impairment (SLI) when compared with behavioral and emotional problems, which tend to decrease over time to arrive at normative levels by adolescence (St. Clair, Pickles, Durkin, & Conti-Ramsden, 2004). St. Clair et al. (2004) defined SLI as significant language impairments in the context of normal nonverbal ability, hearing and neurological status. Expressive language difficulties have been shown to be highly correlated with behavioral

problems among individuals with a history of SLI (St. Claire et al., 2004). St. Claire et al. (2004) reported SLI affects about 7 percent of the population in the US. Children who have a history of difficulty with both expressive and receptive language are more likely to experience social problems after adolescence (St. Claire et al., 2004). Yew and O’Kearny (2013) conducted a meta-analysis of studies completed with children with SLI and found that these children experience overall emotional, behavioral, and attention deficit hyperactivity challenges more severely and more frequently at a clinical or disorder level than children with typical language development (TLD). These challenges are two times more likely to occur in children with SLI than in children with TLD (Yew & O’Kearny, 2013).

Language Ability Linked to Self-Regulation

Theorists such as Vygotsky (1934/1962/1986) and Luria (1961) have believed for decades that self-regulation of thought and behavior is learned through a process in which children learn their culture’s symbols and thought patterns by internalizing their caregivers’ regulatory speech. As these symbols are typically words, those words can become mental tools to be used in service of manipulating one’s own mind and behavior (Vallotton & Ayoub, 2011). Self-regulation is under the umbrella of executive functioning (EF).

The Cognitive Complexity and Control theory (CCC theory) by Zelazo, Muller, Frye, & Marcovitch (2003) postulates that there are four distinct phases related to executive functioning and language where in the first phase, a mental representation of the problem is created; in the second phase, children evaluate potential solutions to the problem or devise a plan to solve the problem; in the third phase, children execute their plan; and in the fourth phase, children evaluate the plan for errors and successes (Zelazo, Carter, Reznick, & Frye, 1997). CCC theory assumes that children represent mentally the rules needed to solve a problem through language and use

labels to create a conscious representation of the problem (Zelazo et al., 2003). Language, therefore, is a prerequisite to representing conflicting rules mentally when engaging in executive functions (Zelazo et al., 2003).

Kuhn (2012) designed a study to examine the relationship between gestures and the development of executive functioning. She believes gestures to be a precursor to language, and designed the study to investigate how young children up to age four develop EF before they have the ability to use complex speech for scaffolding their EF (Kuhn, 2012). Kuhn (2012) also used the Hierarchical Competing Systems Model (HCSM; Marcovitch & Zelazo, 2009), which was proposed to explain the emergence of early EF during the first two years of life. The HCSM suggests that language plays an active role in the transition to a young child's conscious reflection of experiences because the strength of a representation can be increased if children have the ability to label it through symbols and then rule use (Marcovitch & Zelazo, 2009). Both the use of symbols and of rules have their roots in language and are part of cognitive symbolic representation (Kuhn, 2012). Goodwyn & Acredolo (1993) demonstrated that, on average, three months after children use a symbolic gesture to refer to an object, they speak the corresponding word for that object. Goldwin-Meadow, Goodrich, Sauer, & Iverson (2007) found that approximately 75 percent of children's early vocabulary occurred first as a symbolic gesture. This could be important if children with challenging behaviors are using their behavior as a symbolic gesture and cannot produce the vocabulary if their language is delayed.

Kuhn (2012) found that there was not a significant direct association between children's gestures and EF ability, but that children's vocabularies and syntax did have a direct association. Goldwin-Meadow et al. illustrated in their 2007 study that early gestures have been found to be precursors to emergent vocabulary. Kuhn (2012) also found that children's gestures had an

indirect association with EF through early language. Kuhn (2012) tested children's gestures and language at three different points: gestures at 15 months, and language skills at 24 and 36 months. Kuhn's study (2012) supported the speculation of Zelazo et al. (Marcovitch & Zelazo, 2009; Zelazo, et al., 1997), that syntax is not as powerful a predictor of children's later EF abilities as vocabulary. This supports the conclusion that children need to have the capacity to represent or label a problem before they can be able to solve it, and that interventions could be developed to do this for much younger children (Kuhn, 2012). As Kuhn (2012) states, two-year olds could receive intervention at the level of vocabulary to boost their later EF skills, which include self-regulation.

In another study examining self-regulation, Vallotton and Ayoub (2011) found that, even when controlling for cognitive development, expressive language has a unique role in self-regulation among toddlers. Expressive language seemed to be more beneficial for self-regulation among the sample of boys than girls (Vallotton & Ayoub, 2011). Vallotton and Ayoub (2011) suggested the reason for better self-regulation through expressive language development in boys could be that the expansion of boys' vocabularies in particular is a necessary tool for self-regulation. The authors offer the hypothesis that boys and girls may use language differently in self-regulation (Vallotton & Ayoub, 2011).

Children's self-concept is an important factor in the literature about children with SLI (Lindsay & Dockrell, 2012). Self-concept is developed through interaction with and interpretations of one's environment (Lindsay & Dockrell, 2012). Lindsay and Dockrell (2012) defined self-concept as a person's self-perceptions, feelings and attitudes concerning different domains in his or her life, such as academic competence and social acceptance. The study examined the self-concepts of a population of children with a history of SLI in a longitudinal

design (Lindsay & Dockrell, 2012), because it was determined in a small-scale study in the UK that two-thirds of children who are expelled from school have a history of language difficulties (Clegg, Stackhouse, Finch, Murphy & Nicholls, 2009). Clegg et al. (2009) found that earlier language ability (before ten years) did not predict later self-concepts among the children in the study, but that literacy skills at ten years of age did. They also found that males with lower language abilities had lower self-concepts (Clegg et al., 2009). Poor academic achievement was determined a major factor that links behavioral difficulties related to self-concept, not language ability (Clegg et al., 2009). Language abilities, though, obviously contribute to academic achievement and literacy (Clegg et al., 2009). This demonstrates the importance of fostering language development in order to promote higher academic achievement which will often lead to higher self-concepts and more social interaction among children with a history of language difficulties and their TLD peers (Clegg et al., 2009).

Behavioral competence has been shown to influence school achievement and provide a resource for children who demonstrate externalizing behaviors, including hyperactivity, aggression, disruptiveness, defiance and impulsivity to change their behaviors (Kwon, Kim, & Sheridan, 2012). Behavioral competence was defined within a multifaceted model including competencies in prosocial skills, social responsibility, self-regulation, interpersonal skills, study skills, cooperation, communication, helping, and giving compliments (Kwon et al., 2012). This study added to previous research by demonstrating that behavioral competence can be more important than parental risk factors, even parents' limited educational achievement, which has been shown to strongly correlate with lower academic functioning (Kwon et al., 2012). These findings illustrate the significance of identifying and promoting behavioral competencies when working with children with challenging behaviors. They also highlight the benefit of positive

psychology and strengths-based models and perspectives, because then the child is not restricted to his or her behavioral challenges.

Kwon et al. (2012) also demonstrated that these problems compound over time and accumulate to produce underachievement in school. The authors concluded that early intervention could be very important to these children with externalized behaviors (Kwon et al., 2012). The research connecting competencies and peer interactions also demonstrates the need to emphasize social peer interaction and the building of prosocial skills in the classroom, so that children can learn skills to counteract the negative effects of language delay and externalized behaviors which lead to peer rejection (Clegg et al., 2009; Kwon et al., 2012; Lindsay & Dockrell, 2012; Menting et al., 2011).

Teachers' Roles within Schools

Many teachers report feeling unprepared to help children who exhibit challenging behavior and who are unable to form positive relationships with peers or adults (Escalon, Shearer, Greenfield, & Manrique, 2009; Hemmeter, Santos, & Ostrowsky, 2008). There is substantial empirical evidence, however, that executive functioning and self-regulation skills can be taught to these students who exhibit challenging behaviors (e.g., Blair & Diamond, 2008; Langevald, Gunderson, & Svartdal, 2012; Vallotton & Ayoub, 2011). Teachers need to consider that the roots of challenging behavior might lie in children's lack of expressive language skills to express themselves effectively or lack of comprehension to understand teacher demands or peer initiations (Qi, Kaiser, & Milan, 2006).

Some of the most important factors that contribute to and influence the development of children's behaviors in school are the quality of the classroom instruction, teacher-child interaction, peer influences, and the child's social communication abilities (Hester et al., 2004).

There is mounting evidence that severe and chronic challenging behavior demonstrated by school aged children and adolescents largely stem from patterns in early childhood (Hester et al., 2004). Preschool-age children who demonstrate significant challenging behaviors have a higher chance of experiencing future problems, such as peer rejection, drug abuse, depression, juvenile delinquency, and dropping out of middle and high school (Hester et al., 2004). Children 3 to 5 years old who display externalizing and/or internalizing behavior are often at high risk for developing Emotional Behavior Disorders (EBD; Hester et al., 2004). Young children with challenging behavior are three times more likely to be expelled from their preschool or childcare program than K-12 students (Gilliam, 2005). Zero Tolerance policies have been put into place and supported as a method to deal with students exhibiting these types of behaviors, and some evidence has shown that these policies are effective (Stader, 2004). Suspensions and expulsions, however, are a product of the application of school policy based upon expected student behavior (Stader, 2004). Stader (2004) suggests that some policies need more flexibility in dealing with some students, because kindergarten students should not have to be suspended so often.

Teachers must be aware of the importance of their role in referral and creating access to services and additional instruction (Hester et al., 2004). School personnel are reluctant to give certain labels of “at risk” because they do not want to falsely identify a child (Hester et al., 2004). It is important for teachers to understand that getting children the help they need is important and they must move forward, even if it involves formal referral and screening that might lead to a diagnosis (Hester et al., 2004). The diagnosis could and should lead to quality intervention for the child (Hester et al., 2004). Properly conducted screenings and assessment that lead to intervention can prevent children from developing behaviors that will impair their relationships and well-being because children are most responsive to intervention during their

early childhood and are more likely to maintain better outcomes if conducted early (Hester et al., 2004).

There are four principles that guide early intervention and explain why it is important, according to researchers in Head Start: the early experiences hypothesis, the contemporaneous experiences hypothesis, the idea of concurrent intervention influencing sensitive periods, and the incremental or augmented experiences hypothesis (Raikes, Brooks-Gunn, & Love, 2013). Raikes et al. (2013) explain the first hypothesis – that early experiences outweigh later ones because they have a significant effect on development. They also explain, somewhat paradoxically, that, at the same time, current experiences may be more important than earlier ones because they offer a connection to previous experiences and knowledge and allow for extension of those experiences (Raikes et al., 2013). Concurrent intervention is important because development is happening quickly within the first three years of life, and there are many sensitive periods in learning during that time (Raikes et al., 2013). The incremental or augmented experiences hypothesis states that early experiences produce effects that are maintained by later experiences (Raikes et al., 2013). One can therefore expect that early intervention will make children better prepared for school because they have been given opportunities to practice essential social-emotional and academic skills before entering elementary school and the effects will be maintained throughout their schooling afterwards (Raikes et al., 2013).

Research demonstrates that young children from families with low income are highly susceptible to ongoing challenging behaviors and language delays (Kaiser, Cai, & Hancock, 2002; Qi, Kaiser, & Milan, 2006). Without early identification and proactive prevention, intervention and training of young children at risk, these behaviors will likely continue (Hester et al., 2004). We must remember that neither the problem nor the solution of behavioral problems

rests solely with the child, but that it is a teacher's responsibility to modify his or her classroom in order to provide an effective intervention (Hester et al., 2004). We must focus on the social, emotional and physical context in which that behavior occurs and modify any of those for the benefit of the child. If the challenging behavior is serving a purpose for the individual, that very purpose will most likely continue to be important even after the means to achieve this purpose – the challenging behavior – has been reduced or eliminated (Wickstrom-Kane & Goldstein, 1999). The function of the challenging behavior must be identified and the child must be taught a new appropriate behavior to replace the old one while serving the same function (Wickstrom-Kane & Goldstein, 1999). The A-B-C model (Bijou et al., 1968) can be used to determine what antecedents and consequences maintain challenging behaviors.

The Function of Challenging Behavior

Edward (Ted) Carr first highlighted the function of behavior in his seminal 1971 article in *The Psychological Bulletin* which led to functional assessment and analysis. There are various means of communication and conventional communication behaviors are expected in schools; however, some individuals do not develop these conventional forms of communication (Carr & Durand, 1985; Carr et al., 1994; Wickstrom-Kane & Goldstein, 1999). Carr and Durand (1985; 1994) define the communication hypothesis as the notion that individuals use challenging behaviors to communicate. Caregivers of these children give them desired consequences simply because the caregivers comply with unconventional behavior and grant the children what they want (Wickstrom-Kane & Goldstein, 1999). The children then have no use for conventional communication (Wickstrom-Kane & Goldstein, 1999). Wickstrom-Kane & Goldstein (1999) give the example of a child communicating a desire for attention by injuring him/herself, which is not common or a conventional way to reach out for a teacher's attention. The behavior is

functioning as communication, but the “form-function relationship is unconventional” (Wickstrom-Kane & Goldstein, 1999, p.71-72). This hypothesis is not intended to explain all challenging behaviors, but, for those examined in this study, the hypothesis is highly relevant in order to approach intervention.

Punishment procedures may have some undesirable side effects with this particular population of children exhibiting challenging behaviors (Wickstrom-Kane & Goldstein, 1999). The use of punishment does not teach new skills because punishment does not guarantee that more adaptive behaviors will replace the challenging behaviors (Wickstrom-Kane & Goldstein, 1999). Theoretically, if challenging behavior is seen as functional or adaptive in some way, then reductive procedures may be “burning developmental bridges” for some children (Wickstrom-Kane & Goldstein, 1999, p.73).

Explicitly teaching social emotional skills is important, because early social-emotional skills predict later social emotional skills, cognitive development, and literacy and numeracy skills (Pianta & Walsh, 1996). Teachers need to explicitly teach students what is expected of them, and acknowledge appropriate behavior in ways that the student will understand and appreciate feedback (Hester et al., 2004). Kauffman (1999) contends that for early intervention to be successful, we must provide young at-risk children with environments that both teach adaptive behaviors directly and actively support these behaviors over time (Hester et al., 2004). This implies that we must modify environments—not children (Hester et al., 2004). Interventions must focus not only on cognitive, language and motor delays, but also on social and emotional skills (Kaiser, Cai, & Hancock, 2002; Pianta & Walsh, 1996; Qi, Kaiser, & Milan, 2006).

Positive Behavior Support (PBS)

Beginning with the signing of IDEA into law in 1997, Positive Behavior Support (PBS) and Functional Behavior Assessment (FBA) have been promoted as important for improving the quality of children's education, especially in social-emotional skills (Sugai, et al., 2000).

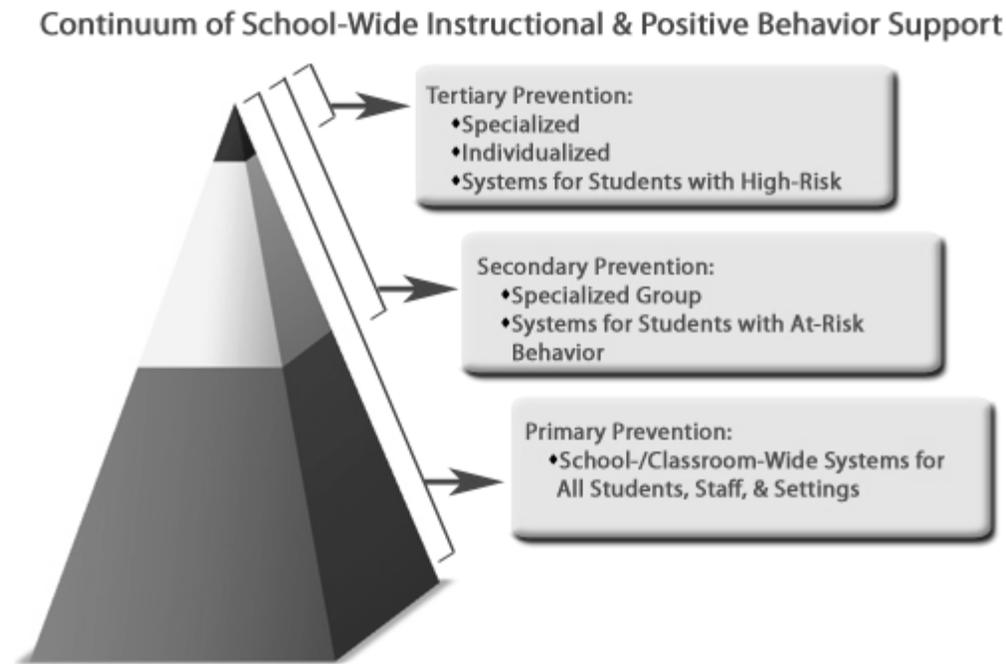
Schools often rely on outside behavior support expertise because staff lack specialized skills in educating children with persistent challenging behaviors (Sugai, et al., 2000). PBS is a model that can be implemented school-wide to promote the improvement social emotional skills and modify behavior (Sugai et al., 2000). PBS is built on the foundation of three major sources: Applied Behavior Analysis (ABA; Baer, Wolf, & Risley, 1968), person-centered planning, and the inclusion movement that promotes the belief that people with disabilities should be included in all aspects of society as possible (Carr, et al., 2002). PBS is a more strengths based model, moving away from pathology-based models, affirming the strengths of each individual (Carr et al., 2002).

Before the PBS approach, social skills had not previously been a systematic component of school-wide curriculum (Sugai et al., 2000). Often, there had not been a contextual fit in schools between the procedures recommended as best practices and the practices within the classroom (Sugai et al., 2000). Many schools continue to have this disconnect (Sugai et al., 2000). The goal of PBS is to create effective host environments for students through environmental redesign, curriculum redesign, modification of behavior and removal of maintaining factors of disruptive behaviors (Sugai et al., 2000). The focus of PBS is on creating and sustaining environments that improve lifestyle results for all children by making challenging

behaviors less effective and efficient and desired prosocial behaviors more functional, through a tiered model, as depicted in Figure 1.1¹ (Carr et al., 2002; Sugai et al., 2000).

Figure 1.1

The Positive Behavior Support Model



PBS uses a life span perspective and utilizes educational and systems change methods (Carr et al., 2002). PBS encourages ecological and social validity within natural contexts and offers more flexibility and collaboration across individuals in the educational system (Carr et al., 2002). PBS is a system-wide approach because continuity and consistency of intervention, as well as interaction across people, settings and time are essential for successful intervention (Carr et al., 2002; Hester et al., 2004; Sugai et al., 2000). The Department of Public Instruction (DPI) in North Carolina began to support Positive Behavior Support (PBS) on a state-wide basis during the 2001-2002 school year (Elder & Peed, 2007). At that time, the DPI encouraged individual

¹ Note. From “What is school-wide positive behavioral interventions & supports?” by OSEP Center on Positive behavioral Interventions and Supports. May 4, 2009, retrieved from www.pbis.org

schools to begin using PBS as an effective and proactive process for improving social competence and academic achievement for all students (Elder & Peed, 2007). By the 2006-2007 school year 518 schools in North Carolina had begun to implement PBS (Elder & Peed, 2007).

The *Teaching Pyramid* (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003) provides a framework for organizing evidence based practices in Early Childhood Education to support social emotional development through promotion, prevention and intervention. The *Teaching Pyramid* is based on public health prevention framework and school-wide PBS (Hemmeter & Fox, 2009). It is also a tiered model that educators and systems can use in Early Childhood Education, depicted in Figure 1.2² (Hemmeter & Fox, 2009).

Figure 1.2

The Teaching Pyramid Model



² Note. From “The center on the social and emotional foundations for early learning: Home,” by CSEFEL, retrieved from csefel.vanderbilt.edu/index.html

Carr et al. (1994) emphasize a skill building approach to challenging behavior by not only changing behavior, but also changing social systems and environments where the children find themselves everyday (Wickstrom-Kane & Goldstein, 1999). This approach is easier when implemented younger because it would require less dramatic change in social systems for the child (Wickstrom-Kane & Goldstein, 1999). Teachers should receive training in specific strategies that can promote appropriate student behaviors (Hester et al., 2004). Schools should develop clear school-wide expectations of behavior and they should be taught by all teachers (Hester et al., 2004). This will ensure stability and predictability of expectations and behavior over time, which is often lacking in schools (Hester et al., 2004). The following study examines how these approaches influence strategies that teachers can use to inform their instruction of children with language delays and externalizing challenging behaviors.

Method

Research Design

This study is a literature review of peer-reviewed studies in scholarly journals that discuss intervention strategies targeting behavior and language. These strategies will allow students who have challenges in the classroom to be more successful. This study aims to provide teachers with different strategies to help students with challenging behaviors, commonly manifesting as aggressive and/or oppositional behavior, to become better in behavioral self-regulation. Self-regulation encompasses volitional behavior and cognitive processes through which people maintain levels of motivational, cognitive, and emotional arousal that facilitate positive adaptation and adjustment (Blair & Diamond, 2008). Self-regulation is mediated by language (Vallotton & Ayoub, 2011). This study also aims to provide rationale for using these strategies in the classroom. Children with these behavioral challenges are often the cause of teachers' increased stress in the classroom because they are not able to stay on task with their curriculum because they feel they must focus on correcting the students' behavior (Bulotsky-Shearer & Fantuzzo, 2008). This study could be highly beneficial for teachers who interact with such students because these strategies can help give students opportunities to be successful. These strategies will also be helpful to instruction, because teachers will be able to meet accountability standards better. This study also examines interventions that will promote positive peer relationships because research shows that these relationships can lead to a decrease in challenging externalizing behaviors (Menting et al., 2011).

The field of Applied Behavior Analysis (ABA) has developed interventions using functional assessment that have been useful for children with language delays and behavior challenges, such as Functional Communication Training (FCT) as outlined by Wickstrom-Kane

& Goldstein (1999). This study aims to investigate what types of functional interventions have been used in schools in recent years. The Department of Public Instruction in North Carolina began to support positive behavior support (PBS) in 2001, and encouraged individual schools to begin using PBS as an effective and proactive process for improving social competence and academic achievement for all students (Elder & Peed, 2007). This study aims to help teachers understand their role within the positive behavior support (PBS) and response to intervention (RTI) framework that are growing within schools (Dunlap & Fox, 2011; Scott, Alter, Rosenberg, & Borgmeier, 2010). The study also aims to provide teachers with tools to increase the effectiveness of their teaching not only academically but also socially and emotionally, as social skills training has been shown to be a great method for behavior intervention (Hester et al., 2004; Wickstrom-Kane & Goldstein, 1999).

Data Collection

Scope of literature. Four databases were used to search for peer-reviewed studies from 2010-2013: ERIC, Education Full Text, PsycINFO, and Academic Search Complete.

Search 1. Search 1 included three relevant subject headings. In both ERIC and Education Full Text the following terms were searched: “language acquisition,” “problem behaviors,” and “intervention.” In PsycINFO the following were searched: “language development,” “behavior problem,” and “intervention.” In Academic Search Complete the following were searched: “language development,” “problem behaviors,” and “intervention.”

Table 2.1 demonstrates the amount of studies found in each database with the results of the first search. The number of studies found included studies with criteria that were excluded from this study. The number of studies used is less because those include the relevant criteria,

that the population is between 2 and 8 years, and interventions are targeted toward language delay and problem behavior.

Table 2.1

Number of Studies Used with Terms in Search 1

| Database | Studies Found | Studies Used for Analysis |
|--------------------------|---------------|---------------------------|
| ERIC | 4 | 2 |
| Education Full Text | 3 | 3 |
| PsycINFO | 11 | 2 |
| Academic Search Complete | 12 | 5 |

Three of the same studies were found in both Academic Search Complete and Education Full Text, and one was found in both Education Full Text and Academic Search Complete, yielding 9 studies total.

Search 2. The same four databases were used in Search 2 with the following terms: “functional assessment,” “classroom,” “behavior,” “intervention,” and “young children.”

Search 2 yielded the number of studies indicated in Table 2.2. The term “language” was added to the search, but yielded no studies. “Language” was therefore not used as a term. Some of the studies did not fit the criteria and were not used. Many of the studies were found in multiple databases, and all of them were found in the initial search in ERIC.

Table 2.2

Number of Studies Used with Terms in Search 2

| Database | Studies Found | Studies Used for Analysis |
|--------------------------|---------------|---------------------------|
| ERIC | 6 | 5 |
| Education Full Text | 2 | 1 |
| PsycINFO | 3 | 3 |
| Academic Search Complete | 3 | 2 |

The total number of studies used from Search 2 is 5.

Search 3. An additional term was added to Search 2, “positive behavior support,” but did not yield any studies. The term “young children” was therefore taken away from Search 2 and “positive behavior support” was added for Search 3. The search terms for Search 3 included: “functional assessment,” “classroom,” “behavior,” “intervention,” and “positive behavior support.”

Search 3 yielded the number of studies indicated in Table 2.3. Some of the studies did not fit the criteria and were not used. Many of the studies were found in multiple databases.

Table 2.3

Number of Studies Used with Terms in Search 3

| Database | Studies Found | Studies Used for Analysis |
|--------------------------|---------------|---------------------------|
| ERIC | 6 | 5 |
| Education Full Text | 4 | 4 |
| PsycINFO | 5 | 5 |
| Academic Search Complete | 7 | 7 |

The total number of studies used from Search 3 is 9.

Search 4. The following terms were searched in each database in Search 4: “self regulation,” “behavior,” “language,” and “intervention.” Search 4 yielded no results in any database except for Educational Full Text, where one study was found. It was added to the other studies for analysis.

There were a total of 24 studies from all four searches which will guide this analysis of the literature to answer two research questions:

1. What is the relationship between language development and externalizing behaviors?
2. How can teachers minimize these students' externalizing behaviors?

Table 2.4 lists the distribution of journals in which all of the studies were found, as well as the number of studies found in each journal.

Table 2.4

Distribution of Studies

| Title of Journal | Number of Studies |
|---|--|
| Psychology in the Schools | 1 |
| Teaching Education | 1 |
| Remedial and Special Education | 1 |
| Topics in Early Childhood Special Education | 2 |
| Journal of Early Intervention | 1 |
| Education and Treatment of Children | 2 |
| Emotional and Behavioural Difficulties | 1 |
| Child & Family Behavior Therapy | 1 |
| Journal of Applied Behavior Analysis | 1 |
| The Clearing House | 1 |
| Intervention in School and Clinic | 1 |
| Early Childhood Research Quarterly | 1 |
| Scandinavian Journal of Educational Research | 1 |
| Monographs of the Society for Research in Child Development | 4 (all were a part of the same study) |
| Psychology | 1 |
| Journal of Child Psychology and Psychiatry | 1 |
| Journal of Behavioral Education | 1 |
| British Medical Journal: BMJ | 1 |
| Journal of Child and Family Studies | 1 |

Criteria for Inclusion and Exclusion. As this study is concerned with developmental delays in both receptive and expressive language as measured by appropriate diagnostic instruments of communication, studies relating to specific diagnoses such as autism spectrum disorder and substance abuse were excluded. Studies pertaining to intervention for English language learners, deaf or hearing-impaired individuals, individuals with cerebellar malformations or spina bifida and specific language intervention without a focus on behavior were also excluded. Studies related to parental needs outside of a school setting that were unrelated to children's self-regulation were also excluded. Spanish studies were also excluded. This study also restricted the age range from 2 years to 8 years to focus on early childhood and early intervention. The study also focused on intervention that can be used within a school setting so that teachers have practical tools to use with this population. All studies analyzed were from recent intervention strategies, from the last three years: 2010 to 2013.

Data Analysis

In reviewing the literature, interventions will be examined for their effectiveness in increasing language ability and decreasing challenging externalizing behaviors. Individualized interventions will be discussed as well as classroom behavior management strategies. The study will also comment on school-wide support methods can be used to aid teachers in identifying how these strategies can be implemented in classroom curriculum to benefit all students.

Results

There is ample literature that discusses challenging behaviors within the classroom as interfering with teachers' abilities to focus on teaching and help children stay on task (e.g. Bulotsky-Shearer & Fantuzzo, 2011; Raver et al., 2008). Research has shown that the demonstration of early, persistent challenging behavior in children can lead to later problems (Long, Gurka, & Blackman, 2008). Language ability has also been shown to be important for regulating behavior (Petersen et al., 2013) and for establishing positive relationships (Bulotsky-Shearer & Fantuzzo, 2011; Campbell, Shaw, & Gilliom, 2000; Kaiser, Cai, Hancock, 2002; Long, Gurka, & Blackman, 2008; Mendez & Fogle, 2002; Petersen et al., 2013; Qi, Kaiser, & Milan, 2006; Ross & Weinberg, 2006). The following review discusses teaching strategies that can be used with children who exhibit challenging behaviors and language delays in the 24 research studies examined. These strategies follow a PBS model and include themes of prediction, evidence based interventions such as positive praise, effective instruction, classroom behavior management, modeling, establishing positive relationships, Early Head Start, consistency, teaming, assessment to monitor progress, social skills instructions, involving and coaching parents, functional behavior assessment (FBA), teaching alternative behaviors, and training of both pre-service and serving teachers.

Positive Behavior Support (PBS)

Positive Behavior Support (PBS), also known as Positive Behavioral Intervention Supports (PBIS), was a key model identified in many of the studies (Blair, Fox, & Lentini, 2010; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; LeGray, Dufrene, Mercer, Olmi, & Sterling, 2013; Moreno & Bullock, 2011; Nahgahgwon, Umbreit, Liaupsin, & Turton, 2010; Nordness, Epstein, & Cullinan, 2012; O'Neill & Stephenson, 2012; Scott, Alter,

Rosenberg, & Borgmeier, 2010; Stoiber & Gettinger, 2011; Taylor, 2011). From this point forward, PBS will be used to describe the model. PBS emphasizes universal screening and supports and uses a continuum of intervention (Scott et al., 2010). The surrounding context of the challenging behavior is the first factor to be modified within a PBS model (Bulotsky-Shearer & Fantuzzo, 2011; Funk & Axelrod, 2013; Scott et al., 2010). It is important to highlight that PBS is founded upon the framework of Applied Behavior Analysis (ABA) and the function of behavior within behaviorism (Dunlap & Fox, 2011). The functional hypothesis states that all challenging behaviors are better defined by their functions or motivations than by their topographies, also described as types of behavior or what they look like (Bulotsky-Shearer & Fantuzzo, 2011; Dunlap & Fox, 2011; Taylor, 2011; Moreno & Bullock, 2011).

Tiered Model. PBS is most commonly described as a three tiered model with 80% of students served by the first tier and the other 20% served by the second and third tiers (Scott et al., 2010). About 5-15% of students are served by the second tier and 1-3% are served by the third (Moreno & Bullock, 2011; Scott et al., 2010). The multitiered framework is designed to reduce the need for secondary and tertiary supports and interventions because the majority of the children will be served by the first tier (Dunlap & Fox, 2011). This is why the model is referred to more as a continuum than three separate approaches (Scott et al., 2010).

The *Pyramid Model* (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003) for Early Childhood Education is a tiered promotion, prevention and intervention framework for social-emotional development focusing on nurturing and responsive relationships through social skills curricula. Dunlap and Fox (2011) believe it to be a good model for early childhood, as stated in their overview of PBS. The second tier within the *Pyramid Model* addresses the children who are at risk of developing challenging behavior and those who have developmental delays in social

emotional skills (Dunlap & Fox, 2011). The third tier in the *Pyramid Model* uses functional assessment to develop a comprehensive behavior support plan and to monitor outcomes (Dunlap & Fox, 2011). At the time of the publication of the overview by Dunlap and Fox (2011), the Pyramid Model had been implemented in 15 states.

Scott et al. (2010) published an overview of decision making in secondary and tertiary interventions. They suggest that schools need to be asking not only *who* requires intervention and why, but also the following questions: What did the student do? Where are these behaviors most likely to take place? When are the times when these behaviors are most likely to take place? With whom was the student (peers, adults etc.)? Asking these guiding questions will allow for the creation of more effective intervention for these students (Scott et al., 2010). The authors also describe four key components within a school-wide system of PBS: prediction, high-probability interventions, consistency and assessment (Scott et al., 2010). They believe that these must all be present within the framework of PBS so that the system can predict which students will likely need support beyond the universal first tier. These four components also ensure that interventions are designed to use existing relationships to efficiently and effectively increase students' success through instruction and behavior management (Scott et al., 2010). Consistency across the system is also important in order for PBS to be more successful. Formative assessments must be used to monitor students' progress and to make data-based decisions within the system (Scott et al., 2010). All of these components will be discussed below.

Scott et al. (2010) refer to this model as a “machine” or a school-based evaluation mechanism of universal assessment and observation to predict student failure and to effectively implement interventions to help those students who fail within the first tier. The failure they refer to is more related to social-emotional development and behavior than to academic failure (Scott

et al., 2010). PBS aims to implement interventions that are logical to children's behavior and realistic to children's behavior and to stake-holders (Scott et al., 2010).

Universal Strategies within the First Tier of PBS

Prediction. One of the first steps that Scott et al. (2010) outline within the universal first tier of PBS is prediction. This involves teaming within schools in order to set up an environment where all adults involved can collaborate in examining the antecedents and consequences of behavior, which is important when determining the function of behavior (Scott et al., 2010). Thirteen of the studies analyzed mentioned teaming as an effective evidence-based practice for schools to implement, including all members relevant to the student such as the general education teacher, parents, administrators, any paraprofessionals involved, the special education teacher, and trained specialists in behavioral interventions (Blair et al., 2010; Bulotsky-Shearer & Fantuzzo, 2011; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Plavnick, Ferreri, & Maupin, 2010; Raikes, Brooks-Gunn, & Love, 2011; Stoiber & Gettinger, 2011; Taylor, 2011; Wood, Ferro, Umbreit, & Liaupsin, 2011). The studies suggest using all adults to help assess and implement the intervention. Many of the studies also discussed the importance of training all team members in the targeted intervention, especially if a trained specialist is involved in the creation of the intervention. This will ensure consistency and that each team member can generalize the interventions across time and place (Stoiber & Gettinger, 2011; Goh & Bambara, 2012; Dunlap & Fox, 2011; Wood et al., 2011; Blair et al., 2010).

Stoiber and Gettinger (2011) conducted a study involving seventy teachers and ninety students within a two year period from Pre-Kindergarten to Second Grade. Half of the teachers were in a control group in which they did not receive manualized training in functional

assessment and the other half received the training (Stoiber & Getting, 2011). The manuals used the technique of Preventative-Teaching-Alternative Response (PTA) where teachers were taught: 1) strategies to buffer against triggers that set off challenging behavior, 2) strategies to develop children's competencies, and 3) strategies to alter responses or consequences of the behaviors (Stoiber & Getting, 2011). Each teacher was instructed to nominate two children exhibiting challenging behaviors and design interventions for both students. The study examined whether the teachers were able to generalize the process of creating interventions with help from specialists' training from their first target student to the second. Stoiber and Getting (2011) found that the teachers who received professional training felt more confident in their assessment and intervention of challenging behaviors and were also more effective than the control group. The experimental teachers were also able to effectively generalize the process of assessment and intervention across students and the intervention was more effective than the strategies used by the teachers who did not receive training (Stoiber & Getting, 2011).

In a study conducted by Wood et al. (2011), the classroom teacher, teacher assistant and one grandmother were trained to implement functional behavioral interventions with three students in their classroom. Wood et al. (2011) found that both the teachers and the grandmother effectively implemented the intervention in the classroom (and at home, for the grandmother). The teachers implemented the interventions more accurately and more efficiently over time than the grandmother, but the grandmother also became accurate in her implementation soon after (Wood et al., 2011).

A literature review conducted by Goh and Bambara (2012) examining 83 studies representing 145 participants from 1997-2008 also found that teaming within the design of intervention produced more effective interventions. They propose that this could lead to higher

maintenance effects because typical agents, such as classroom teachers, are included within the teams and receive support (Goh & Bambara, 2012). 82% of the 83 studies were conducted in a regular classroom, and the majority of the studies were conducted in an elementary school classroom (Goh & Bambara, 2012).

Evidence Based Interventions. The following includes an outline of evidence based interventions such as positive praise, effective instruction, training of pre-service teachers, creating a classroom behavior management plan, establishing positive relationships, and Early Head Start.

Positive Praise. Interventions can be as simple as immediate, specific positive praise, which is an evidence-based strategy found in eight studies that can be used for all students within the first tier of the PBS model (Blair et al., 2010; Funk & Axelrod, 2013; Langevald et al., 2012; LeGray et al., 2013; Nahgahgwon et al., 2010; Scott et al., 2010; Stoiber & Gettinger, 2011; Wood et al., 2011). Praise should be behavior-specific describing explicitly what the student did and it should be contingent on the behavior (Funk & Axelrod, 2013). A pre-determined fixed interval for the delivery of praise following a positive behavior can also be a good method of ensuring that the student is recognized for his or her positive behavior. For example, Wood et al. (2011) used a method that included praising on task behavior at least once every minute when a child is exhibiting that behavior.

Effective Instruction. Another important component of the first tier of PBS is effective evidence based instruction (Scott et al., 2010). Bulotsky-Shearer and Fantuzzo (2011) conducted a study examining the relationship between classroom behavior problems and language and literacy outcomes in one cohort of Early Head Start including 2682 four-year-old students. The authors highlight that age appropriateness of teacher demands as well as whether the demands of

the lesson are appropriate to the self-regulation, attention or cognitive skills of the children in the classroom are important for teachers to think about when designing learning activities (Bulotsky-Shearer & Fantuzzo, 2011).

The following are strategies mentioned in the studies that encourage active participation and empower students to take on responsibility in the classroom. Giving frequent opportunities for children to respond empowers children (Funk & Axelrod, 2013; Scott et al., 2010), as within the framework of active student responding (ASR). In ASR, students have many opportunities to participate in fun activities and are less likely to engage in off-task disruptive behavior (Funk & Axelrod, 2013). Stoiber and Gettinger (2011) state that providing children with responsibility is a great way to foster social behaviors. Active engagement (Blair et al., 2010; Funk & Axelrod, 2013; Scott et al., 2010) is another important aspect of the classroom that teachers can promote. In a study by Blair et al. (2010) engagement was defined as appropriately following the sequence of the activity for the majority of an interval, complying with all teacher instructions/requests or expectations of the group. Children in Early Head Start demonstrated higher active engagement during play with their parents through a program of intervention (Vogel et al., 2013).

The following methods can promote more active engagement. Giving children choices in the classroom can be an effective but simple strategy to actively engage students (Wood et al., 2011; Blair et al., 2010; Stoiber & Gettinger, 2011). Numerous studies allowed children to have free time when a task was completed or allowed access to a preferred task to promote more prosocial behavior and less challenging behaviors (Nahgahgwon et al., 2010; Wood et al., 2011; Blair et al., 2010). The use of visual and physical cues and prompts can also be effective in redirecting students who are engaging in off task behavior, and can give them extra supports if

they need them (Blair et al., 2010; LeGray et al., 2012; Nahgahgwon et al., 2010; Scott et al., 2010; Wood et al., 2011).

One study highlighted the benefits of breaking up work for some individuals who exhibit challenging behavior when a task is too long (Nahgahgwon et al., 2010). Others suggested altering work for some individuals and giving explicit examples and non-examples of expectations (Goh & Bambara, 2012; Scott et al., 2010). Modeling appropriate behaviors is important to promote students' social competence because modeling can give students examples of prosocial behaviors to add to their behavioral repertoires (Blair et al., 2010; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; Langevald et al., 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Scott et al., 2010; Wood et al., 2011). Wood et al. (2011) highlight the effectiveness of using a peer to model prosocial behavior. Taylor (2011) mentions shaping and how it is important to reward approximations of the alternative behavior.

Many of the authors of the studies analyzed discussed strategies that could be categorized under a comprehensive classroom behavior management plan in order to reduce the likelihood of challenging behavior occurring. Behavior management plans can also effectively promote prosocial behavior within the classroom (O'Neill & Stephenson, 2012). The following study examined the importance of training in classroom management practices and why many teachers, both old and new alike, feel unprepared when faced with challenging behaviors in their classrooms (O'Neill & Stephenson, 2012).

Pre-Service Training. O'Neill & Stephenson conducted a study (2012) examining 35 universities with undergraduate pre-service teaching programs in Australia that included models of classroom behavior management (CBM) within their instruction. The authors mention that

previous research has demonstrated that all teachers succumb to the stress that challenging student behaviors present. O'Neill and Stephenson (2012) surveyed whether universities used stand-alone CBM units or embedded units, which are units that embed CBM into instructional practice. They found that only 20% of embedded units were coordinated by a staff member with stated CBM research interests (O'Neill & Stephenson, 2012). Embedded units have proven to be more effective in influencing pre-service teachers than stand-alone units that solely focus on CBM without embedding them into classroom instruction (O'Neill & Stephenson, 2012). The authors also found that multimodel approaches were common, in all but one unit surveyed presented multimodel approaches (O'Neill & Stephenson, 2012). An overview of CBM was given ten hours or less within embedded units overall (O'Neill & Stephenson, 2012). The following are the twenty models mentioned within the study, from most common to least common in Australian universities: Decisive Discipline, Applied Behavior Analysis, Choice Theory/Reality Theory, Assertive Discipline, Goal-Centered Theory, PBIS, Democratic Teaching, Variables, Restorative Justice, Teacher Effectiveness Training, Positive Classroom Discipline, Ecological Approach, Functional Behavioral Assessment, Social Learning Theory, Dealing with the Group, Plan-Teach-Evaluate, Self-Reflective Teaching, Congruent Communication, Developmental Approach, and Resilience (O'Neill & Stephenson, 2012).

The top five models were given 10 hours of instructional time as mentioned in the surveys within the study (O'Neill & Stephenson, 2012). Decisive Discipline, created by Rogers in 1989, is an Australian model which consists of rules, praise and time out (O'Neill & Stephenson, 2012). Applied Behavior Analysis (ABA) has been discussed, focusing on the behaviorist notion of the function of behavior (Dunlap & Fox, 2011). Choice theory or reality therapy, created by Glasser in 1997, consists of providing good choices for children and handling

disruptions in a calm and logical manner as well as the structure of the classroom meeting to discuss rules (Brewer, 2004). Assertive Discipline, created by Canter in 1976, involves establishing rules and posting them within the classroom along with the punishment associated with the rules, but this model does not examine the causes of behavior (Brewer, 2004). Goal-Centered Theory, created by Dinkmeyer and Dreikurs in 2000, emphasizes logical consequences to challenging behavior (Brewer, 2004). Within this model, teachers discipline students through teaching them to impose their own limits on themselves through goal setting, focusing on positive behavior (Brewer, 2004). The authors mentioned that the most popular models in the US were ABA and PBIS (O'Neill & Stephenson, 2012), but that the most recent survey of popular CBM methods was conducted in 1994 by Blum (O'Neill & Stephenson, 2012). The results of the present study seem to confirm that this is still the case.

Structured Learning under Classroom Behavior Management Strategies. Eight studies mentioned consistent and structured, but flexible, routines as a part of effective instruction in early childhood and the early grades (Blair et al., 2010; Bulotsky-Shearer & Fantuzzo, 2011; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Nordness et al., 2012; Scott et al., 2010; Spratt, et al., 2012; Wood et al., 2011). Bulotsky-Shearer and Fantuzzo (2011) discussed three situational dimensions when challenging behavior is likely to occur. The first dimension discussed were problems structured learning, which predicted lower literacy outcomes in children across all time points within their study (Bulotsky-Shearer & Fantuzzo, 2011). Other examples of difficult times within the classroom are: transitions between activities (Dunlap & Fox, 2011; Funk & Axelrod, 2013; Stoiber & Gettinger, 2011; Wood et al., 2011), departure and arrival times (Wood et al., 2011), and switching from structured and unstructured activities and vice versa (Bulotsky-Shearer & Fantuzzo, 2011; Stoiber & Gettinger, 2011). Taylor (2011) also highlighted

that the time of day can affect challenging behavior. Blair et al. (2010) gave a specific example in which they reduced the duration of circle time during their study because they found that to be an effective strategy in reducing behavioral challenges. Minimizing wait times is also important (Funk & Axelrod, 2013).

Environmental changes, or changes in the physical arrangement of the classroom, can be a simple and effective way to reduce challenging behaviors (Blair et al., 2010; Nordness et al., 2012; Scott et al., 2010). For example, having well-organized learning centers and limiting the number of children in crowded spaces are effective strategies in reducing the amount of externalizing behaviors that occur because children are not given the opportunity to act out as much in reaction to disorganized space (Goh & Bambara, 2012; Stoiber & Gettinger, 2011). Allowing children with challenging behaviors to be close to the teacher can be an effective change as well because their behavior can be more closely monitored (Blair et al., 2010). Blair et al. (2010) demonstrated the effectiveness of teacher proximity in their study when a child was assigned a seat closer to the teacher during circle time.

Five studies highlighted the importance of discussing classroom rules as a whole class, posting the rules, and reviewing them often (Blair et al., 2010; Funk & Axelrod, 2013; Langevald et al., 2012; Nordness et al., 2012; Scott et al., 2010). It is better to have fewer rules that communicate the expectations for this age group. They must be clear, precise and positively stated (Blair et al., 2010; LeGray et al., 2013; Nahgahgwon et al., 2010; Scott et al., 2010; Wood et al., 2011). Scott et al. (2010) discussed the benefits of having school wide rules, using the same language to describe them. Teachers must use clearly communicated high expectations in their classrooms and remind the children of them often (Langevald et al., 2012; Scott et al., 2010). Teachers can redirect children through restating the positive expectations (Blair et al.,

2010). Scott et al. (2010) highlighted that even the best intervention plans will fail in chaotic environments, implying that teachers must create a structured, yet flexible, environment with clear, consistent expectations (Scott et al., 2010).

Clear Expectations. In a study examining the use of functional behavior assessment (FBA) with three children in an inclusive classroom, it was found that prior to the development of function based interventions there were no clear circle time or transition times behavioral expectations (Wood et al., 2011). Routines were inconsistent and negative directives were primarily used within the classroom (Wood et al., 2011). All three of which are not evidence based best practices (Wood et al., 2011). After an intervention was established in which expectations were clarified, peers modeled replacement skills to the children demonstrating challenging behavior, and positive feedback was given, children demonstrated more positive engaging behavior (Wood et al., 2011).

Consequences. Consistent consequences are highly associated with student success (Scott et al., 2010). Planned ignoring, also referred to as extinction, can be effective in some cases, when the teacher explains to the student explicitly the situations in which he or she will ignore the student. Planned ignoring could be effective in a situation where the child is desiring attention and demanding it through an inappropriate behavior that the teacher previously acknowledged with attention, thereby reinforcing the behavior. Using planned ignoring, the teacher is trying to render the challenging behavior extinct by not giving attention (Blair et al., 2010; Dunlap & Fox, 2011; LeGray et al., 2013; Nahgahgwon et al., 2010; Taylor, 2011). Planned ignoring has been used for a long time, but does not necessarily teach an alternative behavior to the student (Blair et al., 2010; Dunlap & Fox, 2011; LeGray et al., 2013; Nahgahgwon et al., 2010; Taylor, 2011).

Positive Relationships. Another key theme within the results includes the establishment of positive relationships between the children and adults and their peers. Bulotsky-Shearer and Fantuzzo (2011) also mention, in addition to problems in structured learning, two other contexts where challenging behavior most likely occurs: problems in peer interactions and problems in teacher interactions. Scott et al. (2010), Spratt et al. (2012) and the authors examining an Early Head Start Research and Evaluation Project (EHSREP) study (Brooks-Gunn et al., 2013; Raikes et al., 2013; Vogel et al., 2013) mention positive relationships and supportive, responsive caregiving and as a key component of effective instruction for improving behavior within early childhood.

A study by Menting, van Lier, & Koot (2011) including 759 children found that fostering and promoting good peer relationships can be essential in promoting positive behavior among young children, because children with both receptive language delays and challenging externalizing behaviors are more often rejected by their peers, especially among boys. The authors hypothesize that boys are more influenced by social status threat than are girls, which is why boys with poor receptive language skills respond with more physical aggression (Menting et al., 2011). Menting et al. (2011) suggest that peer rejection is a mediator between receptive language delays and challenging externalizing behaviors. This demonstrates that teachers should pay attention to peer relationships and ensure that they are fostering positive peer relationships within the classroom (also Bulotsky-Shearer et al., 2008).

Bulotsky-Shearer and Fantuzzo (2011) found that problems in teacher and peer interaction negatively predicted children's phoneme segmentation fluency at the end of first grade. They also found that problems in peer interactions specifically negatively predicted reading and language achievement at the end of first grade (Bulotsky-Shearer & Fantuzzo,

2011). They also highlight previous research that demonstrates that difficulties in teacher-child relationships are correlated with academic outcomes in literacy throughout elementary school (Bulotsky-Shearer & Fantuzzo, 2011). This study demonstrates that children could benefit from social skills instruction to promote language skills.

Scott et al. (2010) also highlight the important role that positive relationships play within the classroom in creating an environment where children feel more socially competent and are more likely to feel safe to practice pro-social behaviors. They will feel this way because each child's strengths are acknowledged, not only their failures or challenging behaviors. Scott et al. (2010), as well as other studies (Bulotsky-Shearer et al., 2008; Spratt et al., 2012), inform teachers that they should take initiative in positive interactions within the classroom to model what is expected of the children, according to best practices. Spratt et al. (2012) also discuss the importance of linguistic input and emotionally responsive caregiving among low-income children, where low income is highly associated with child abuse, neglect, and challenging behaviors.

Early Head Start. Early Head Start is a program that aims to improve the lives of many children and their families by providing services to produce academic readiness skills, language skills and positive behavioral skills (Brooks-Gunn et al., 2013; Raikes et al., 2013; Vogel et al., 2013). Numerous authors of the studies found in the Monographs of the Society for Research in Child Development commented on the Early Head Start Research and Evaluation Project (EHSREP), which included 3001 low income families, defined by EHS as 200% of the poverty level (Raikes et al., 2013). Half of the population served as a control group without EHS intervention and half were in the experimental group with children attending one of seventeen EHS programs (Raikes et al., 2013). EHS can begin during pregnancy until three years of age,

which benefits low income children in their overall development compared to other low income children who do not receive EHS services, because of the rapid development during the first three years (Raikes et al., 2013). Raikes et al. (2013) list numerous studies demonstrating benefits including: less dropout rates, higher social-emotional benefits, and better school readiness and achievement. The children's behavior, language, and academic readiness skills, such as reading and attention, were measured in EHSREP at 2 years, 3 years and 5 years. The aim of the study was to examine cumulative effects of intervention from birth until formal schooling at 5 (Raikes et al., 2013). Almost 90% of all the children participated in kindergarten (Collins, 2013).

Early life experiences, from the ages of 0-3, have been proven to be important for self-regulation (Raikes et al., 2013). The EHSREP impacted language and behavior, although interesting effects were demonstrated in children who were enrolled in formal preschool from the age of 3-5 when children were not able to participate in EHS or Head Start (HS). Interestingly, these children's aggression mildly increased during that time from 3-5 than measured previously after EHS (Brooks-Gunn et al., 2013). The EHSREP study, however, found that children in an EHS program had less measured aggressive behavior overall, decreasing over time (Vogel et al., 2013). The children within the EHS experimental group also were found to demonstrate higher rates of attention, better approaches to learning, and better language and literacy at home with their families. These factors demonstrate enhanced school readiness (Vogel et al., 2013). Benefits to parenting were also found, in that parents demonstrated better parenting behaviors in the experimental group because EHS stresses parent-child relationships (Vogel et al., 2013; Brooks-Gunn et al., 2013). Children within the experimental group also demonstrated enhanced cognitive skills and higher engagement with their parents during play, which impacted social

behavior problems in that the experimental group demonstrated less social behavior problems at age 5 than the control group (Brooks-Gunn et al., 2013). Brooks-Gunn et al. (2013) also found that the impacts on social-emotional development within EHS were sustained longer than the effects on cognitive and language development.

There are many strategies that influence effective instruction within the universal curriculum that all students, including those who exhibit challenging behaviors, can benefit from. Evidence shows that teachers can proactively plan to involve students in activities and promote active engagement by getting to know the children in their classrooms and fostering positive relationships within the classroom. The creation of behavior management plans can also be effective in reducing challenging behaviors in the classroom because the teacher has given less opportunities for the common situations in which they occur to take place in the classroom.

Consistency. As highlighted in the section discussing teaming, interventions will be more effective if all members involved are consistent in delivering the contexts, rules and consequences of interventions (Scott et al., 2010). Six of the studies discussed the importance of consistency in maintaining the positive effects of intervention (Brooks-Gunn et al., 2013; Bulotsky-Shearer & Fantuzzo, 2011; Goh & Bambara, 2012; Raikes et al., 2013; Scott et al., 2010; Vogel et al., 2013). Children should not be expected to act in a certain way in one context, such as the classroom, and another way in a different context, such as in specials, because each place then has a new set of demands (Bulotsky-Shearer & Fantuzzo, 2011). Many children do not have positive behaviors expected by their teachers in their repertoires when they enter school (Bulotsky-Shearer & Fantuzzo, 2011; Funk & Axelrod, 2013; LeGray et al., 2013). The authors stress that within a social-ecological model, all relevant members should try to communicate the

same expectations in order to provide children more opportunities for success (Bulotsky-Shearer & Fantuzzo, 2011).

Plavnick, Ferreri and Maupin (2010) discussed the need for more consistency in implementing interventions. The authors measured procedural integrity in a study where three teachers received training in self-monitoring and were asked to complete checklists about their interventions in order to monitor their implementation of the interventions targeting two students (Plavnick et al., 2010). Plavnick et al. (2010) found that teachers were more accurate in implementing the interventions when completing the checklists than without them. Plavnick et al. (2010) highlighted that training in implementing intervention is often not enough to implement procedural integrity as when self-monitoring methods are used (Plavnick, Ferreri, & Maupin, 2010). Goh and Bambara (2012), in their meta-analysis of 83 studies, stated that many of the studies they examined did not measure consistency of interventions over time and generalizability of interventions over time, and highlighted those two factors as an important avenue for further research.

Assessment. Fifteen studies mentioned assessment to guide progress monitoring as the fourth important aspect of effective interventions in all tiers (Blair et al., 2010; Brooks-Gunn et al., 2013; Bulotsky-Shearer & Fantuzzo, 2011; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Plavnick et al., 2010; Raikes et al., 2013; Scott et al., 2010; Stoiber & Gettinger, 2011; Vogel et al., 2013; Wake et al., 2011). Progress monitoring can be used to monitor system effectiveness for all levels of intervention in schools (Scott et al., 2010). The studies examined mentioned many different methods to measure progress, including checklists and screenings. These measured not only students' progress but also teachers' progress in implementing effective

intervention. Progress monitoring in some form is also important to ensure that strategies used within interventions are effective (Blair et al., 2010; Brooks-Gunn et al., 2013; Bulotsky-Shearer & Fantuzzo, 2011; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Plavnick et al., 2010; Raikes et al., 2013; Scott et al., 2010; Stoiber & Gettinger, 2011; Vogel et al., 2013; Wake et al., 2011).

Scott et al. (2010) stressed that PBS must use fidelity measures to ensure that interventions are being implemented properly, echoing the emphasis on procedural integrity by Plavnick et al. (2010).

Summary of Universal First Tier

First tier interventions are implemented on a school-wide level and emphasize a universal curriculum that is focused on the development of social emotional skills and positive relationships in order to curb behavioral challenges. Scott et al.' (2010) give guiding questions that schools can use for each component when implementing a PBS model or approach: for 1) prediction – What are the predictable failures, those students who look like they will need support beyond the universal first tier? 2) intervention – What is the simplest thing we can do to prevent these failures? 3) consistency – How will we maintain consistency? 4) assessment - How will we know if it is working? (Scott et al., 2010). These are relevant for the following two tiers as well, and can consistently be asked as students need extra supports.

Second Tier: Extra Targeted Supports

The secondary tier should deliver targeted supports to reduce challenging behaviors by giving more explicit instruction in social emotional skills, such as instruction in self-regulation and social problem solving to small groups or individuals (Moreno & Bullock, 2011; Scott et al., 2010). Group intervention should be justified by the number of students referred and by the

amount of resources allocated to group intervention (Scott et al., 2010). The following are assessment questions for progress-monitoring at the secondary level: are there enough students being referred to each secondary intervention to justify resources for a group intervention? Does data suggest that a sufficient number of students are responding successfully to the group intervention (Scott et al., 2010)?

A useful strategy within the secondary tier approach is direct social skills instruction, and can include using peers to teach and model appropriate behavior (Wood et al., 2010). Another strategy is to coach families, which is also an important aspect of the *Pyramid Model* (Blair et al., 2010; Dunlap & Fox, 2011). As stated above, the *Pyramid Model* is a tiered promotion, prevention and intervention framework for social-emotional development focusing on nurturing and responsive relationships through social skills curricula (Dunlap & Fox, 2011).

Social Skills Instruction. Many children may suffer from skill deficits and may need to acquire the skills through explicit instruction (Scott et al., 2010). Simpler strategies should be tried at first and then more complex strategies should be used, as on a continuum (Scott et al., 2010). Many of the studies highlighted the importance of increasing social competence in the classroom (Langevald et al., 2012; Scott et al., 2010; Stoiber & Gettinger, 2011). Specific skill instruction and intervention is important because it is important to determine a replacement behavior that serves the same function as the challenging behavior (Blair et al., 2010; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; Langevald et al., 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Nordness et al., 2012; Plavnick et al., 2010; Scott et al., 2010; Stoiber & Gettinger, 2011; Taylor, 2011; Wood et al., 2011). Pairing a child who exhibits less appropriate social skills, or no social skills, with a peer who exhibits appropriate social skills can be effective (Blair et al., 2010).

Langevald, Gundersen & Svartdal (2012) conducted a study including 112 primary and secondary school students in Norway who underwent a 10 week social competence training known as Aggression Replacement Training (ART), in cooperation with the students' teachers. Teachers and parents provided information about the participants through questionnaires and checklists (Langevald et al., 2012). ART includes three separate modules: 1) social skills training, 2) anger control training, and 3) moral reasoning training. Each module includes clearly defined rules, clearly communicated consequences, and positive reinforcement (Langevald et al., 2012). The study often used small games to reinforce positive behavior and to secure the motivation of the trainees (Langevald et al., 2012). During each session, a demonstration of a skill given, and then the children role-play and are guided through questioning where and when to use the skill (Langevald et al., 2012). The children then received feedback and evaluation and homework is given (Langevald et al., 2012). ART has an emphasis on self-control and cooperation and was effective in both boosting social competence and reducing challenging behavior in the younger population, but was not effective within the older population (Langevald et al., 2012). Both boys and girls benefitted from the training, but boys benefitted more because they demonstrated less social competence overall at the basal level (Langevald et al., 2012). Those who benefitted most were those who had the lowest levels of social competence (Langevald et al., 2012). The authors indicated that social competence mediates change in challenging behaviors toward more positive prosocial behaviors. They suggested that early intervention in social competence training could be important for younger children (Langevald et al., 2012).

Two strategies used in the classroom where Blair et al. conducted their study (2010) on three children to promote self-regulation included using a scripted story with a puppet during

times of frustration and anger and reading a book about the transition from home to school every day. It had been found that the child enjoyed books and puppets during free play, and the teachers capitalized on his interests in order to promote self-regulation skills through role playing (Blair et al., 2010). At the end of the study, the authors found that there was a large decrease in challenging behaviors displayed by this child and a large increase in the child's engagement (Blair et al., 2010).

Interventions Targeting Parents. Five studies demonstrated the benefit of including parents and promoting their role in children's lives, especially in self-regulation and vocabulary promotion (Brooks-Gunn, Love, Raikes, & Chazan-Cohen, 2013; Piotrowski, Lapierre, & Linebarger, 2012; Spratt et al., 2012; Vogel, Brooks-Gunn, Martin, & Klute, 2013; Wake, et al., 2011). These studies highlighted the importance of schools stressing parent's roles in self-regulation, because self-regulation has emerged as a central variable influencing how children learn and adapt to formal school settings (Piotrowsky et al., 2012). Brooks-Gunn et al. (2013) especially stressed the importance of early interventions to support parenting and to promote changes in parenting behaviors during the first three years of a child's life. The authors mentioned the curricula Parents as Teachers (PAT), Partners in Parenting Education (PIPE) and the parent activities within the Hawaii Early Learning Profile (HELP) as examples of helpful resources for parents (Brooks-Gunn et al., 2013).

Spratt et al. (2012) demonstrated in a study of 60 adopted children between 3 and 10 years of age, controlling for neglect, that parents' coping styles are important influences on children's development of self-regulation and positive prosocial behavior. Piotrowski et al. (2012) examined large survey data of 1,141 parents under the categories of children's behavior and parenting styles. The study highlighted that child age, gender, family income and parenting

styles are significant factors that influencing the ability to self-regulate (Piotrowski et al., 2013). Girls of the same age are generally found to have stronger self-regulation skills than boys (Piotrowsi et al., 2012). The findings of Piotrowski et al. (2012) also showed that race is not a factor when considering self-regulation, but that socioeconomic status affects self-regulation. They demonstrated that the economic climate at home can be more important in influencing self-regulation than the educational climate, especially in influencing behavior, because these families often have less resources to promote and practice regulatory skills (Piotrowski et al., 2012). Authoritarian parenting styles were a stronger predictor of children's self-regulation than authoritative parenting (Piotrowski et al., 2012). The strongest finding was that permissive parenting was highly correlated with poor self-regulation skills compared to all other results (Piotrowski et al., 2012). The authors highlight that schools should educate parents about the benefits of following through with disciplinary measures and maintaining appropriate limits with their child and that other caregivers, such as teachers, should also follow through with these procedures and demonstrate consistency (Piotrowski et al., 2012).

Another study in Australia examined a program promoting vocabulary development by educating parents in order to improve the outcomes of children who had delayed language at 18 months. The children with delayed language demonstrated abilities lower than the 20th percentile on checklists of expressive language and had demonstrated minimal or no words spoken yet (Wake, et al., 2011). Wake et al. (2011) found that parents who participated in the program, "You Make a Difference" felt that they communicated better with their children, as reported by 86% of the 100 parents surveyed. 72% of parents reported positive change in their children's communication and 62% reported positive changes in their children's behavior (Wake et al., 2011). The findings indicated, however, that most children screened in the study caught up to

their peers' abilities by 2 and 3 years of age, even if their parents attended minimal amounts of the intervention, demonstrating that this type of intervention may be more preventative and effective if children were screened at 2.5 years of age and if receptive language screenings were also included (Wake et al., 2011).

Summary of Second Tier

Tier two includes extra targeted supports such as social skills instruction and involving and coaching parents. These interventions were shown to be effective methods of reducing the occurrence of challenging behavior in the studies discussed (Blair et al., 2010; Brooks-Gunn et al., 2013; Langevald et al., 2012; Piotrowski et al., 2012; Scott et al., 2010; Spratt et al., 2012; Vogel et al., 2013; Wake et al., 2011). As mentioned previously, it is important to include all relevant adults in designed interventions in order to render them more successful and to try to ensure that the simplest method of intervention is utilized (Scott et al., 2010).

Third Tier: Individualized Support

Functional Behavior Assessment (FBA). For children with persisting challenging behaviors, despite intervention and prevention within the first two tiers, the third tier moves into a continuum of FBA (Scott et al., 2010). The third tier has been called tertiary intervention or individualized PBS (Goh & Bambara, 2012; Scott et al., 2010). The continuum progressively has more formal and intense procedures and practices that are insufficient unless the first two tiers are still part of the system to support children with persistent challenging behaviors (Scott et al., 2010). IDEA requires that the FBA process is implemented when students exhibiting challenging behaviors are nearing the tenth cumulative day of out-of-school suspension, but they need to be implemented before then in order allow the child to be successful and to offer replacement

behaviors so that the child does not become suspended in the first place (Moreno & Bullock, 2011).

Seven Components of IPBS. Goh and Bambara (2012) mention seven key features of individualized PBS (IPBS; Goh & Bambara, 2012), or tertiary support, in their meta-analysis of 83 studies. The authors stress that IPBS is FBA-based, where comprehensive interventions are logically linked to assessment, through multiple sources of information about function and environment (Goh & Bambara, 2012). IPBS is also proactive, based on preventing problem behavior through environmental modifications and teaching of skills (Goh & Bambara, 2012). IPBS is comprehensive and emphasizes multiple components within intervention in order to promote the best intervention (Goh & Bambara, 2012). Interventions within IPBS should be designed with the decisions of typical agents such as teachers, parents, service personnel (Goh & Bambara, 2012). They also emphasized that IPBS is team based, with the different people not only involved in implementation but also planning and decision making (Goh & Bambara, 2012). Interventions are also designed to achieve positive outcomes over time and generalizing across life events to improve lifestyles (Goh & Bambara, 2012). An emphasis on social validation exists within IPBS, using all people involved in the intervention to measure the acceptability and perceived viability of the implemented interventions (Goh & Bambara, 2012).

The case study conducted by Nordness et al. (2012) examining the screening tool *Scales for Assessing Emotional Disturbance-Second Edition* Observation Form (SAED-2 OF) examined the process of social validation by comparing the target student to a peer using the observation form. Nordness et al. (2012) discussed the process of social validation as a context for understanding how different the behavior of the target student is to his or her typical peers. This

study highlighted that it can be helpful to have this information to determine reasonable treatment goals within the classroom by measuring the student against his or her peers.

Quick/Truncated FBAs for All Teachers. The authors of two studies, Taylor (2011) and Moreno and Bullock (2011), stressed that all teachers can benefit from implementing their own quick or truncated FBAs in their own classrooms if they have knowledge that behavior serves a function and knowledge of the process of conducting a functional assessment. Taylor (2011) highlighted that teachers can transform their interactions and strategies with students demonstrating challenging behaviors by simply knowing that the basic guiding premise of behaviorism is function and through conducting a quick FBA to determine the function of behavior and finding its antecedents and consequences. She also highlighted the importance of acknowledging that an intervention may be effective in one situation but not in another seemingly identical situation, because the same behavior may be serving a different function (Taylor, 2011).

Moreno and Bullock (2011), in their overview of FBA for use beyond special populations, also discuss the truncated FBA process, where all individuals involved in a child's life collaborate to design an intervention that provides a replacement behavior for the challenging behavior. Challenging behavior serves one of two functions generally: 1) avoiding something or 2) obtaining something, whether it is attention from peers or teachers, tangibles such as items, objects or activities, or sensory input (Taylor, 2011). Within the framework of behaviorism it is important to note that the analysis is of the behavior and not the product of the behavior (Taylor, 2011). Teachers can greatly benefit from being taught the principles of examining the function through the Antecedent-Behavior-Consequence (A-B-C) model (Bijou, Peterson, & Ault, 1968), where one examines the triggers or antecedents of the behavior, and the consequences of the

behavior that maintains the challenging behavior (Taylor, 2011; Moreno & Bullock, 2011). This is much like the Preventative-Teaching-Alternative Response (PTA) that Stoiber and Gettinger (2011) used to train teachers. There are three phases of the initial FBA process: first, indirect data collection, including conducting interviews of all relevant adult members in a child's life; second, direct data collection, including quantitative data from observations of the student, often using the A-B-C model, and checklists; and third, the development of the working hypothesis of behavior (Moreno & Bullock, 2011).

Operational Definition of Target Behavior. In order to conduct an FBA, one needs an operational definition of behavior, also known as a statement of function of the target behavior, which is the challenging behavior that one is looking to replace (Blair et al., 2010; LeGray et al., 2013; Moreno & Bullock, 2011; Taylor, 2011; Wood et al., 2011;). There are generally two functions of behavior: to obtain or escape a specific condition, situation or tangible item, as stated before (Carr, 1977; Moreno & Bullock, 2011). One must determine what condition is reinforcing a child's challenging behavior and generate an operational definition, which is generally generated during the indirect data collection phase in order to drive the direct data collection (Moreno & Bullock, 2011).

Hypothesis development and Intervention Design. In the stage of hypothesis development, multiple methods are used to collect data to determine whether the operational definition of the behavior is correct and what conditions maintain the function of the behavior (Blair et al., 2010; Moreno & Bullock, 2011; Nahgahgwon, 2010; Taylor, 2011; Wood et al., 2011). The next steps after determining the function of behavior are to develop a behavior intervention plan based on the hypothesis and then to implement the plan (Moreno & Bullock, 2011). To make a support plan, A-B-C changes should be made to ensure that the behavior is not maintained (Blair et al.,

2010; Moreno & Bullock, 2011; Nahgahgwon, 2010; Taylor, 2011; Wood et al., 2011). Goals should be designed for the individual children that are attainable and use the replacement behaviors that are taught to replace the target behaviors (Goh & Bambara, 2012; Nordness et al., 2012; Stoiber & Gettinger, 2011). As mentioned previously, Nordness et al. (2012) highlighted the importance of a social validity measure for the goals in comparing the target student to a peer to ensure that the goals are proximal for the child.

A study by Nahgahgwon et al. (2010) examined the use of FBA by teachers with three five to six year old students in elementary schools. They found that teachers preferred using the principles of FBA in their classrooms to the practices that they had previously used once they were trained in the FBA framework (Nahgahgwon et al., 2010). Teachers have been proven to return to the types of assessment and intervention methods with which they are most comfortable, not necessarily which have been proven the most effective and evidence based (Nahgahgwon et al., 2010). Just as progress monitoring was important in the first two tiers, so it is also just as important within individualized interventions so that teachers can see the positive outcomes of intervention and modify the intervention if needed (Moreno & Bullock, 2011; Scott et al., 2010).

The Function-Based Intervention Decision Model. The *Function-Based Intervention Decision Model* (Umbreit, Ferro, Liaupsin, & Lane, 2007) is a framework for determining whether children can perform functional replacement behaviors and whether the setting represents evidence-based best practices (Nahgahgwon et al., 2010; Wood et al., 2011). This model was used by multiple studies in order to ensure that evidence-based practices are used within the classroom where intervention is being implemented and that children are taught replacement behaviors (Nahgahgwon et al., 2010; Wood et al., 2011). This addresses the skill

deficit that many preschool children have (Nahgahgwon et al., 2010; Wood et al., 2011). Wood et al. (2011) were the first to use this particular model with children under 5 years of age. Two questions are asked within this model after the functional behavioral assessment has been conducted and an acceptable replacement behavior(s) have been selected to instruct: 1) Can the student perform the replacement behaviors? 2) Do the antecedent conditions represent effective, evidence-based, practices? (Nahgahgwon et al., 2010; Wood et al., 2011).

Wood et al. (2011) used this framework when designing interventions for the three children in their study, one of whom had a severe language delay. The authors determined that one of the children, the one with a language delay, could perform the targeted replacement behavior because he exhibited it during preferred tasks (Wood et al., 2011). They also determined that antecedent conditions did not represent evidence-based best practices for this child (Wood et al., 2011). He needed a visual organizer and did not have one and adults used long explanations of activities that he could not understand (Wood et al., 2011). The authors therefore coached the teachers in modifying the conditions of the classroom for him, including the addition of a visual organizer and simplified instructions (Wood et al., 2011). The second child was also found able to perform the replacement behavior, because he exhibited it during circle time (Wood et al., 2011). The authors found that the classroom did not offer best practices to him either, because there were no clear circle time behavioral expectations, negative directives were used, and teachers did not use materials to engage the students (Wood et al., 2011). The conditions were also modified for him to include clear expectations, positive directives, and materials (Wood et al., 2011). The third child was determined unable to perform the replacement behavior, so he needed to be taught appropriate transition behaviors through modeling by the teacher and a peer (Wood et al., 2011). The teachers gave him the opportunity to practice with

feedback and prompting (Wood et al., 2011). The study did not discuss whether the antecedent conditions represented evidence-based best practices for him (Wood et al., 2011).

The Importance of Teaching Alternative Behavior. In order to replace challenging behaviors, students need an alternative method of serving the same function and must be taught that behavior (Blair et al., 2010; Dunlap & Fox, 2011; Goh & Bambara, 2012; Langevald et al., 2012; LeGray et al., 2013; Moreno & Bullock, 2011; Nahgahgwon et al., 2010; Scott et al., 2010; Stoiber & Gettinger, 2011; Taylor, 2011; Wood et al., 2011). A study by LeGray et al. (2013) found that the principles of FBA can be used with children of typical development between the ages of 4 and 6. The intervention increased the appropriate behavior of four children, two in preschool classrooms and two in kindergarten classrooms, and decreased their disruptive behavior (LeGray et al., 2013). LeGray et al. (2013) found that interventions including pre-teaching of appropriate behavior before an activity were more successful than those who did not have a pre-teaching component. The authors hypothesize that this is because many young children do not necessarily have the appropriate behaviors taught within their behavioral repertoires before coming to school and have limited learning histories because of their age (LeGray et al., 2013).

The study highlighted the difference between differential reinforcement of other (DRO) and differential reinforcement of alternative (DRA), which have both been used in functional behavioral interventions (LeGray et al., 2013). DRO has also been called omission training. DRO involves delivering a reinforcing stimulus, such as praise, when a particular response, the challenging behavior, is not emitted by the child for a specific amount of time (Reynolds, 1961). In DRO, however, there is a failure to reinforce instances of pre-specified replacement behaviors, and has been shown to be successful in about 50% of situations (LeGray et al., 2013). DRA

includes withholding the reinforcer of the challenging behavior as well as providing the reinforcer contingent upon the occurrence of the desired alternative behavior (Vollmer & Iwata, 1992). The study demonstrated that pre-teaching of pre-determined alternative behaviors increases the likelihood that these behaviors will be displayed (LeGray et al., 2013).

The study also used a three-prompt hierarchy to remind and redirect the children when they did not comply with a task demand (LeGray et al., 2013). First, teachers delivered a verbal command; second, they delivered a verbal command and gesture; and thirdly, they delivered physical guidance (LeGray et al., 2013). This demonstrates the importance of redirection and persistence from the teacher, even after children have been taught replacement skills, because they may need to be reminded of those skills (Blair et al., 2010; LeGray et al., 2013; Wood et al., 2011).

The Importance of Teacher Training and Technical Assistance. Stoiber & Gettinger (2011) demonstrated in their study that training all teachers in the FBA process, with support by paraprofessionals, and including them in the analysis of function within their classrooms can be highly effective. All 35 experimental teachers in their study effectively generalized the process of FBA to a second target student. Many of the other studies found in this analysis also stressed the importance of technical assistance and training to all teachers with children demonstrating challenging behaviors (Blair et al., 2010; Dunlap & Fox, 2011; Funk & Axelrod, 2013; Goh & Bambara, 2012; Langevald et al., 2012; LeGray et al., 2013; O'Neill & Stephenson, 2012; Plavnick et al., 2010; Scott et al., 2010; Taylor, 2011; Wood et al., 2011). Moreno and Bullock (2011) believe that the FBA process can be used to address the issue of disproportionality within special education, because the majority of referrals to special education come from teachers within general education classrooms who are not trained in the FBA process. With training in the

process of conducting an FBA and opportunities to generalize interventions across students, teachers can begin to implement effective evidence based interventions that will improve outcomes among their students (Moreno & Bullock, 2011) This will reduce the need to refer those students to special education (Moreno & Bullock, 2011).

Teachers within the studies analyzed used the following words to describe the process of learning about and implementing FBAs: they are warranted and acceptable (LeGray et al., 2013), effective, feasible, and generalizable (Blair et al., 2010). Teachers believed that the FBA-based interventions helped the target children to enjoy routines, deepened positive interactions and promoted more participation (Blair et al., 2010). The study by Blair et al. (2010) found that a grandmother who helped her three year old grandson in the classroom learned to effectively use the FBA process and implement the goals that were stated after the assessment along with the teachers. This demonstrates that teachers and family members can be effectively trained to implement targeted interventions.

Summary of Third Tier

The third tier of interventions includes individualized interventions based on FBAs, including information from multiple informants and sources and observations through an A-B-C model. Teachers should be coached and trained in the structure of FBAs so they can use a version of FBAs in their classrooms. This process can help guide teachers in their individualized instruction of children exhibiting challenging behaviors that have not been modified by tier one or tier two instruction. Teaching explicit social skills that replace targeted challenging behaviors in predetermined situations has also been proven to be effective in individualized interventions. Goals should be set that children can achieve. Children should also be praised for approximations of replacement behaviors. All interventions within a PBS model should focus on

the strengths and needs of all children and foster positive and adaptive relationships to promote skills necessary for life.

Discussion

This study was designed to examine effective interventions and preventative strategies that can be used with children with existing language delays who demonstrate challenging behaviors. Research has linked language abilities to the occurrence of challenging behaviors (Petersen et al., 2013; Yew & O’Kearny, 2013). Bi-directional effects have been found, in that poor language abilities can lead to more behavioral difficulties, which in turn can lead to more language difficulties (Qi et al., 2006). The importance of equipping teachers with strategies targeting these children is highlighted by the statistic that young children exhibiting challenging behaviors are three times more likely to be expelled from their preschool or childcare than typical K-12 students (Gilliam, 2005). In the last thirty to forty years the umbrella of Applied Behavior Analysis, under the foundation of behaviorism, has become a way to examine behavior and offer replacement behaviors to children (Scott et al., 2010). Carr (1977) wrote about the function of challenging behavior and the importance of teaching replacement skills to children who use unconventional communication skills that are perceived as challenging behaviors.

Research has shown that if children are not taught different means of prosocial communication or social emotional skills they are at risk of becoming rejected by their peers (Menting et al., 2011), and at risk of developing future behavior problems (Long et al., 2008). Self-regulation is also an important skill for young children when entering the classroom (Vallotton & Ayoub, 2011). Early social emotional skills are predictive of later social emotional skills, cognitive development and literacy and numeracy skills (Pianta & Walsh, 1996) and language (Petersen et al., 2013). Children who have language delays may experience problems in self-regulation and should be taught ways of regulating their behavior. The present thesis highlighted strategies that teachers can use in the classroom to combat challenging behaviors.

Implications for Teachers who Work with Young Children who have Language Delays

The present review of the literature highlights the importance of early intervention in that behavioral patterns stem from early childhood (Hester et al., 2004). The review demonstrated younger children benefit more from social skills training than older children (Langevald et al., 2012). Many children's challenging behaviors were modified within the literature when teachers were trained in evidence based practices such as positive praise and promoting social emotional skills.

The literature also demonstrated the importance of recognizing each child's strengths as well as acknowledging the disruptive behavior and for the teacher to initiate as many positive interactions with the child as possible. As Albert Bandura demonstrated decades ago in his Social Cognitive Theory, modeling appropriate positive behaviors and social skills is so important for these children, because they may not have them within their repertoires, and may not be able to demonstrate alternative behaviors as well without modeling (e.g. LeGray et al., 2013). Many studies highlighted the importance of establishing and promoting positive relationships within the classroom (e.g., Menting et al., 2011). The review demonstrated the importance of establishing a community of learners that is inclusive, where children feel safe to interact with each other without fear of criticism, from the first day of school. Teachers can describe behaviors that are appropriate and inappropriate and model them specifically to their children. Teachers can model appropriate behaviors or they can use peers to reinforce the alternative behavior.

Immediate specific positive praise is also a strategy that all teachers can employ within their classrooms that will provide a way for children to learn new social skills. The literature also emphasizes the importance of setting reasonable, attainable goals for the children, and offering

many opportunities for children to practice their social skills with feedback with much positive praise for approximations. As Vygotsky theorized, language is important for self-regulation and methods for self-regulation should also be modeled for these children. Most of the studies did not mention self-regulation specifically, but the study by Langevald et al. (2012) demonstrated the benefits of modeling self-regulation to younger children and these methods should be stressed within all early childhood programs. The *Pyramid Model* also highlights the importance of social emotional development in its universal first tier (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003).

Universal screening is highlighted within the PBS model and is important so that teachers can know the abilities of all students. Screening also helps schools offer evidence-based practices to all children to promote social emotional and linguistic development. This is especially important in early childhood because many children have not been taught the social skills needed to succeed in school, or have not had them modeled by an adult. Teachers should become familiar with PBS and other similar models of school-wide social emotional and behavior supports because they are on the rise in schools (e.g. Elder & Peed, 2007; Scott et al., 2010). Challenging behavior is cited by teachers to be the most stressful aspect of their jobs and the main cause of disruption within the classroom (Bulotsky-Shearer & Fantuzzo, 2011; Raver et al., 2008), so it is important that teachers are aware of these strategies, especially about examining the function of challenging behaviors through the A-B-C method.

The literature reviewed in this study suggests the importance of a comprehensive classroom and behavior management plan for all teachers. These plans can proactively prevent challenging behaviors from arising, promote positive interactions and behaviors, and allow teachers to implement interventions when needed. The literature highlighted the importance of

the training of pre-service teachers in classroom behavior management techniques (O'Neill & Stephenson, 2012). O'Neill and Stephenson (2012) found that less than ten hours is spent in universities preparing teachers in embedding management techniques within the classroom, which does not seem to be enough time because of the trouble that most teachers report in dealing with disruptive behaviors in the classroom. More time must be spent training teachers to reframe descriptions of challenging behaviors so that they can implement effective intervention giving children skills to use to be successful in the classroom. Schools can offer in-services to train teachers in implementing and improving their classroom behavior management plans as well for teachers who are already in the workforce.

Rules and expectations should be stated positively, not negatively, so that children are offered opportunities to practice exactly what the teacher expects. Offering class and individual reminders is also a strategy that can redirect students toward exhibiting prosocial behaviors. Many studies mentioned the benefit of school-wide rules and expectations and highlighted that they provide consistency and offer less opportunities for children to exhibit challenging behaviors, because they are aware of the expectations (e.g. Scott et al., 2010). Punishment procedures may deliver a consequence, but they do not teach a specific replacement skills. Children must be disciplined, but must also be given the opportunity to learn new functional skills and to practice them with specific feedback.

Other important, but simple, changes that teachers can make are intentional physical classroom arrangements and classroom structures are important, but simple, changes that teachers can make. Teachers also must be consistent over time. If such things as routines often change, children are more likely to act out, because young children need structure, which can minimize opportunities for acting out.

Teachers should use the simplest possible intervention that will be effective in extinguishing the challenging behaviors and it should be continually evaluated. Extra supports can be given over time if the challenging behaviors persist. Progress monitoring was a key theme within the literature, and is important to ensure that all interventions are effective over time. In order to make data based decisions, progress must be monitored and reported. Teachers are key individuals in monitoring the progress of children who are receiving these interventions, and are already monitoring children's progress within the classroom academically.

Most studies in this review stressed the importance of teaming, with at least one knowledgeable member of functional behavior analysis who can inform others. This relates to Bronfenbrenner's social ecological model where all individuals within the realm of an individual affect him or her. Many studies stressed the benefits of training teachers in the basics of functional analysis and the importance of offering field-based empirical demonstrations for practice. The literature demonstrates how teachers applied the knowledge of functional analysis to improve their classrooms and how they felt better equipped and in control of their classrooms (e.g. Stoiber & Gettinger, 2011). Thus, consultation with experts is strongly recommended. Consistency across all environments is also critical to ensure that interventions can be generalized to other environments. This will also ensure that children are not overwhelmed with multiple expectations in different environments across the school. The book review by Funk and Axelrod (2013) demonstrated that *Preventing Challenging Behavior in Your Classroom: Positive Behavior Support and Effective Classroom Management* by Matt Tincani (2011) is an excellent overview of these types of strategies that teachers can use and add to their professional libraries. The book offers direction on how to explore what types of plans they could implement in their classrooms.

Giving families ownership and letting them know explicit school-wide and classroom expectations is also important in regulating behavior, so that families can teach and reinforce expectations to their children (e.g. Brooks-Gunn et al., 2013). Families are important when thinking about the social ecological model and how children are affected and impacted by all of the close individuals in their lives. Consistency in communicating expectations and granting reinforcement, both in school and at home, could be important in modeling positive appropriate behaviors and extinguishing challenging behaviors.

Many of these strategies are intertwined and often are already present in classrooms. Teachers must be intentional and consistent in implementing these strategies, especially with young children. The literature highlights the importance of early intervention, because children are adversely affected when social skills are not modeled for them and reinforced by their teachers. Social emotional skills in early childhood are just as important as academic skills because they last throughout a person's life and impact all aspects of his or her life, especially later schooling (Pianta & Walsh, 1996).

Limitations

A major limitation of the present study is that it was restricted to studies published from 2010 to 2013, excluding all those published beforehand. An age range, 2-8, was also imposed on the present study in order to examine the effects of interventions on young children that could possibly be used within the typical classroom. Only two of the studies in the present analysis included children with diagnoses of a language delay (Blair et al., 2010; Wood et al., 2011). Only one of the studies specifically targeted language skills in young children (Wake et al., 2011). The interventions were therefore not specifically targeted at enhancing language skills along with social emotional skills. The strategies discussed, however, offer many opportunities

to promote language development. Although only of the studies mentioned self-regulation specifically (Piotrowski et al., 2012), many studies focused on skills that are used in self-regulation

The present study also did not include reviews of specific diagnoses, which could have contained many strategies that would be of use with the population of young children with language delays and challenging behaviors. Strategies used in studies with children with autism would probably be effective with this population. Studies including intervention with joint attention were also not examined, which could also be helpful with this population. Further research could include the use of methods that are typically implemented with children who have autism with children who have receptive/expressive language delays because many children with autism also have language delays.

Avenues of Further Research

The literature surveyed suggested further research in measuring lifestyle results of PBS models over time (Goh & Bambara, 2012). Measuring generalizability and sustainability of interventions within the PBS and FBA models will also be important over longer periods of time (Goh & Bambara, 2012). This will ensure that the interventions implemented by teachers have lasting effects and are carried throughout their time at school.

The present review also indicates that future studies should examine effective strategies used with children with language delay and externalizing behaviors specifically as a population. These could benefit this population beyond the generalized scope of the present study. Studies targeting the development of language and communication skills for children with challenging behaviors could be more beneficial than those reviewed in the present study. Examining joint

attention in young children with developmental delays and challenging behaviors in the absence of another diagnosis could also lead to better strategies for preschool and elementary teachers.

Conclusion

The present study includes an examination of the link between expressive and receptive language delay and externalizing behaviors, which teachers often view as challenging. The present review also examined strategies that teachers can implement to extinguish these challenging behaviors. Many of the strategies are intertwined and can be implemented through an intentional classroom management plan and setting clear, explicit expectations. Teachers can offer opportunities for children to practice these expectations with explicit feedback. The present study also highlights the importance of modifying challenging behavior based on its function and presenting the child with an acceptable alternative behavior. Employing these strategies to assist children has the potential to decrease or even eliminate challenging behaviors and allow children with language delays to improve both social emotional development as well as cognitive development, which can have a transforming impact on their futures.

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