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Assessing Early Educators' Knowledge of Behavior Management, Early Intervention, and Developmental Delay

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Assessing Early Educators' Knowledge of Behavior Management,

Early Intervention, and Developmental Delay

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Abstract

The current study examined pre-service teachers' knowledge of behavior management strategies, early intervention, and developmental delay. Data were collected from 107 participants. Thirty-two were pre-service early education teachers currently enrolled in educator prep courses and 75 were in-service early education teachers. Participants completed an online questionnaire that included the following topics: problem behaviors, evidence-based practices, preschool expulsion, and educator prep courses. In-service teachers were better than pre-service teachers at identifying the top three commonly observed preschool student problem behaviors. For evidence-based practices, a majority of pre-service and in-service participants indicated that they would probably or definitely (4 and 5 ratings) utilize several preventative practices in their classroom and provided specific examples or how the practices would be implemented. Most participants (66.6% pre-service and 55.8% in-service teachers) noted no reason for a preschool student to be expelled. Those indicating that expulsion was acceptable reported that a student could be expelled in the case of extreme and harmful behaviors. When asked about the frequency that certain topics were discussed in their educator prep courses, there were no statistically significant differences between the pre-service and in-service responses. Future research and implications of these findings are discussed.

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Assessing Early Educators' Knowledge of Behavior Management,

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Prevention and early intervention are critical to children's long-term development, especially in the areas of behavior and social-emotional well-being. Long-term studies of children who participated in high-quality preschool programs found a reduction in adolescent crime rates, were more likely to attend college, and were less likely to experience depressive symptoms (McCabe & Frede, 2007). Unfortunately, there are barriers to whether young children have access to early intervention services. For example, preschool is one setting where young children, who may benefit from preventative and early intervention services, may be identified. Furthermore, attending preschool prepares young children to be successful in kindergarten because they have experience in a structured setting that provides support for learning and development in the areas of language, emerging literacy, and social-emotional skills (Friedman-Krauss et al., 2020). Unfortunately, in the United States, preschool is not universally provided. Approximately 48% of three-year-old and 33% of four-year-old children are not enrolled in any type of early childhood education program (Friedman-Krauss et al., 2020). Furthermore, early educators who work in preschool settings may not have the skills necessary to handle common early childhood issues, such as noncompliance and aggression, that may increase the likelihood that children exhibiting these characteristics will be expelled from preschool settings (Stegelin, 2018).

Preschool suspension and expulsion are complicated issues involving characteristics unique to the child, the learning environment, classroom variables, teacher training, and teacher biases. Preschool children are expelled at three times the rate of children in kindergarten through 12th grade (Gilliam, 2005; Stegelin, 2018). In previous studies, African American students were

twice as likely to be expelled than white students; and boys were expelled at a rate over 4.5 times more than girls (Gilliam, 2005). The practice of preschool expulsion impacts the child, their families, and society overall. There are often long-term implications for social-emotional development which can influence adverse effects in later development, health, and education. Children who are expelled from preschool are ten times more likely to drop out of high school, have academic failure, and hold negative attitudes about school (Stegelin, 2018). Therefore, the aim of this study is to survey undergraduate students who are eligible for the early childhood endorsement to determine whether they are prepared to identify and support children at-risk for behavior problems and other developmental delays.

Common Behavior Problems in Preschool Children

Externalizing behaviors among children aged 2 to 5 years of age are a developmentally normative phenomenon (Floress et al., 2018). Common externalizing behaviors include arguing with caregivers, disobedience, stubbornness, and seeming sullen or irritable (Floress et al., 2018). According to Campbell (2002), most children will exhibit behaviors that could be considered symptomatic of a disorder, such as not listening, overactivity, fighting with other children, worrying, and excessive shyness. Even though many children will show these behaviors at some point, only a small percentage of children will display these behaviors with high enough intensity and frequency that they are considered to be indicators of more serious behavioral concerns (Campbell, 2002). Reports from parents and teachers indicate that a majority of children's problem behaviors, including fears and worries, tantrums, overactivity, attention problems, fighting with peers, and management difficulties, peak at age three and decrease in frequency and severity over the preschool years (Campbell, 2002).

While many children acquire the adaptive skills necessary to manage their emotions in challenging situations, some children with frequent or severe behavior problems have challenging behaviors that remain stable and contribute to future maladaptive outcomes (Hill et al., 2006). Children with frequent emotional outbursts may be lacking certain skills that are essential for self-regulation, such as impulse control, communication, and self-soothing (Hill et al., 2006). Up to 50% of parents report that their children exhibit externalizing behaviors, but less than 10% of these children display externalizing behaviors to the point where clinical treatment is necessary (Achenbach & Edelbrock, 1981). Differentiating between difficult behaviors that are typical and clinically significant depends on multiple factors including the frequency, intensity, social context, and whether the behavior impedes the child's adaptive functioning (Campbell, 2002).

Behavior Problems in Young Children: A Developmental Perspective

Although externalizing problems (e.g., aggression, impulse control) among young children are common and relatively stable, not all young children will continue to exhibit problem behaviors beyond preschool (Campbell, 1997). For instance, it is estimated that approximately 50% of children with problem behaviors in preschool will improve with development (Campbell, 1994; Campbell et al., 1986). Young children who "outgrow" problem behaviors (e.g., tantrums, non-compliance, overactivity, or difficulty with peers) may exhibit these behavior issues because they do not have the self-regulatory skills necessary to control their emotions or stress. In addition, there are individual characteristics, including a child's temperament, which may explain why some children have trouble self-soothing and others are more adaptable. The environment plays a role as well. If parents and teachers frequently accommodate the inappropriate behavior or use coercive discipline techniques, the child will

have difficulty developing self-discipline (Hill et al., 2006). Furthermore, the preschool years is a

transitional time for young children's development. The standards for behavior and social skills

in the context of a formal school setting are different from expectations in children's home

environment. These new expectations can cause distress and uncertainty in children, which may

result in problem behaviors. The next section will describe an environmental perspective used to

explain why young children, who do not outgrow early-onset behavior problems, continue to

exhibit externalizing behaviors (Campbell, 1997).

Behavior Problems in Young Children: Patterson's Coercive Model

Patterson's coercion model provides an explanation for young children who do not

outgrow externalizing problem behaviors. Patterson hypothesized that children's behaviors are

negatively reinforced when children respond aversively (e.g., cry or whine) to stop undesired

behavior from a parent or sibling (Eddy et al., 2001). Crying, during infancy, is an instinctual,

rudimentary, and adaptive way to shape caregivers' behavior to have needs met (e.g., cries, until

fed a bottle). Throughout infancy and toddlerhood, most children learn complex behaviors (i.e.,

verbally requesting a snack), which replace rudimentary ones, like crying. However, some

children continue to use the same crying, whining (aversive) behaviors because those behaviors

continue to meet their needs (McMahon & Forehand, 2003). For example, a child who is old

enough to speak may whine when they want their parents to get them a snack and the parents are

more likely to comply to stop the whining. The child learns whining is an effective strategy,

therefore the child is likely to continue to whine in the future to have their needs met.

Once a child becomes more skilled in using aversive rudimentary behaviors, the

following scenario shows how Patterson's coercion model is carried out through various back

and forth interactions that take place in day-to-day life. A parent tells their child to pick up their

toys and the child ignores them and continues to play. The parent returns 10-20 minutes later and finds the child has not picked up the toys. The parent tells their child again to pick up their toys, but this time more intensely. As the parent's tone gets more intense, the child's response also increases in intensity (e.g., this time, rather than ignoring, the child whines, cries, or says "no). To avoid the child's unpleasant behavior (i.e., whining, crying) the parent again tells the child the toys need to be picked up later (e.g., "ok, but after dinner, you need to pick up"). Overtime, the child learns that whining, crying leads to escaping parent demands (e.g., time to stop playing, pick up your toys). Similarly, the parent is also negatively reinforced because withdrawing their demand also stops their child's aversive behavior and terminates an undesirable situation (Eddy et al., 2001). Over time, the parent may become more intense in their demands and the child will give in and comply, which reinforces the fact that if the parent becomes louder and more negative, the child will comply (McMahon & Forehand, 2003).

The combination of ineffective discipline strategies and challenging behaviors contribute to the continuation of children's maladaptive behaviors. Patterns of coercive interactions apply to both boys and girls and overtime, oppositional behaviors may generalize to multiple settings (Eddy et al., 2001). For some children entering preschool, the coercive parent-child interaction practiced at home may generalize to interactions with teachers and peers and school. If these interactions are functional (albeit maladaptive) in the school setting, externalizing behaviors may persist and/or intensify at home and school. When problem behaviors generalize to multiple settings, intervening to address these behaviors becomes more difficult and will likely require more intensive intervention and supports (McMahon & Forehand, 2003). The following section details the prevalence rates of childhood behavioral health and developmental issues.

Prevalence of Behavioral Health and Developmental Issues in Young Children

As researchers learn more about children's behavioral health, they more accurately estimate the current prevalence rates among common childhood mental health disorders. Overall estimates of prevalence can be difficult to determine because of changes in diagnostic criteria, improvements in diagnostic practices, and changes in health care policies. The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM–5; American Psychiatric Association, 2013) is the most widely used source of diagnostic criteria used by clinicians and researchers to classify mental health conditions. Approximately 13%-20% of children between the ages of 3 and 17 living in the United States experience at least one kind of behavioral health disorder within a given year (Perou et al., 2013). Among children aged 3-17, the most common behavioral health disorders are attention-deficit/hyperactivity disorder (ADHD; 6.8%), behavioral or conduct problems (3.5%), anxiety (3.0%), depression (2.1%), and Autism Spectrum Disorders (1.1%; Perou et al., 2013). Behavioral health conditions are often co-morbid, so an estimated 40% of children with one behavioral health condition have at least one other behavioral health disorder (Perou et al., 2013).

The most common groups of behavioral health problems among preschoolers are ADHD and disruptive behavior disorders including Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). Approximately 8% of all preschoolers exhibit severe behavioral problems that would meet the criteria for a psychiatric diagnosis (Gilliam et al., 2006). Another common group of disorders among children ages 2 to 6 are anxiety disorders, with 10% of children meeting the criteria for at least one anxiety disorder (Gleason et al., 2016).

Developmental Disabilities are a special category of health issues that involve impairments in physical, learning, language, or behavior. This category of health problems can

include Attention-Deficit/Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), blindness, cerebral palsy (CP), hearing loss, learning disability (LD), intellectual disability (ID), seizures, and speech disorders (Zablotsky et al., 2019). Depending on the source, the category of developmental disabilities can also include fetal alcohol syndrome disorder, fragile X syndrome, muscular dystrophy, and Tourette syndrome (Centers for Disease Control and Prevention, 2019). According to a 2019 report from the Centers for Disease Control and Prevention (CDC), the prevalence of any developmental disability is 17.8% for children ages 3-17, which is approximately 1 in 6 children.

From 2009 to 2017, there was a 9.5% increase in the overall prevalence of developmental disabilities in children between the ages of 3 to 17 (Zablotsky et al., 2019). The disorders with the greatest increase in prevalence included: ADHD (12.6% increase), ASD (122.3% increase), and ID (25.8% increase; Zablotsky et al., 2019). Increases in prevalence rates are related to actual changes in prevalence, changes in how disorders are defined and diagnosed, improvements in diagnostic methods, public perceptions of mental health conditions, and increased access to medical resources and/or more information regarding specific diagnoses (Perou et al., 2013).

Diagnostic vs. IDEA Eligibility Categories

It is important to make the distinction between diagnostic criteria used for behavioral health diagnoses in medical settings, as identified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) and the diagnostic criteria used in educational settings (i.e., Individuals with Disabilities Education Act; IDEA; 2004). While pediatricians, psychologists, and psychiatrists use DSM-5 diagnostic criteria when diagnosing and working with children in medical settings, educational professionals use criteria

set forth by the Individuals with Disabilities Education Act. The Individuals with Disabilities

Education Act ensures that students with disabilities are entitled to a free and appropriate public

education (FAPE) that meets their unique needs. Before IDEA was enacted, students with special

needs were denied access to appropriate education, were segregated away from the general

education setting, or their needs were not being met (Lipkin & Okamoto, 2015). According to

IDEA, students (ages 3-21) are eligible to receive special education services within the preschool

or kindergarten through twelfth grade setting if they meet one of the 13 eligibility categories.

Developmental Delay is one of the IDEA eligibility categories; however, a child is only eligible

for services related to this category if they are between the ages of three through nine (this age

range may be more restrictive based on state legislation) and experience delays in one or more of

the following areas: physical development, cognitive development, communication development,

social or emotional development or adaptive development (Individuals with Disabilities

Education Act, 20 U.S.C. §1400 (2004)). Children with developmental delay may be at an

increased risk for preschool expulsion if their needs are not fully understood by preschool staff.

The following section describes the issue of preschool expulsion.

Preschool Expulsion

Expulsion is defined as completely and permanently removing a child from an

educational system (Gilliam & Shahar, 2006). In a final sample of 3,898 state-funded preschool

classrooms throughout the United States, 9.50% of preschool teachers reported expelling at least

one child in the past 12 months. From these responses, the weighted national rate of preschool

expulsions was 6.67 per 1,000 preschoolers enrolled. National expulsion rates for K-12 students

were also collected during this study, which resulted in 2.09 expulsions per 1,000 students

enrolled. When comparing these national rates, preschool expulsion occurs at a rate three times higher than expulsion in kindergarten through twelfth grade (Gilliam, 2005).

Preschool children may be expelled more often than school-aged children because the laws that govern the operations of the public-school system do not extend to preschools (which are most commonly privately funded), so there are fewer consequences for permanently removing a child from a preschool setting. When faced with serious behavior problems, K-12 schools may avoid expulsion because of compulsory school attendance laws and requirements to provide free appropriate public education (FAPE) and removing a student from the educational environment for an extended amount of time may result in the parents seeking legal actions against the school (Gilliam & Shahar, 2006). Therefore, because preschools are not held to FAPE and the same requirements as public schools, it is easier to permanently remove a student from preschool without the same repercussions.

Privately Funded Preschool

As mentioned above, preschool in the United States is not publicly funded like kindergarten through twelfth grade. This means that for most families, preschool is private (i.e., families pay out of pocket) and for many families an expense they cannot afford. The cost of center-based childcare programs can range from $5,000 to $11,000 per year (Whitehurst, 2018). For a family with two children under the age of 6; the cost doubles (i.e., $10,000 to $22,000) and may persuade a dual-income family to a single-income to avoid the cost of childcare. The estimated annual childcare national average is between $9,100 and $9,600, (Child Care Aware® of America, 2019), however multiple factors contribute to the range of cost including the type of child care program, region of the country, parent income, and age of the child being enrolled. Across the US, only 34% of 4-year-olds were enrolled in state preschool programs during the

2018-2019 school year (Friedman-Krauss et. al., 2020). High-quality preschool programs play a vital role in the development of children's social, emotional, and cognitive skills. Children that do not have access to high-quality programs are potentially missing out on the developmental benefits that preschool can provide.

Federally Funded Preschool

The federal government funds Head Start, which is a preschool program that provides services to low-income families. Head Start programs are offered by non-profit organizations, schools, and community agencies in all U.S states and territories (The Administration for Children and Families, 2020). Some states offer state-funded public preschool programs. For example, there are 62 state-funded preschool programs located across 44 states, including Washington D. C. Six states do not offer any state-funded preschool programs, however those states do have federally-funded Head Start programs (Friedman-Krauss et al., 2020). The 62 programs across 44 states means that there is unequal access to preschool programs. Additionally, Head Start programs require families to fall below a certain income threshold, thereby pushing a majority of families to attend for-profit or privately-owned preschool programs.

For-profit or privately-owned preschools have higher rates of suspension and expulsion than preschools housed within a state-funded school system or Head Start programs (Gilliam, 2005). Only 11.11% of teachers working in public schools or Head Start programs reported expelling at least one student in the past 12 months compared to 50% of teachers in private childcare programs and 39.62% of teachers in nonprofit organizations (Gilliam & Shahar, 2006).

Expulsion Risk Factors: Race, Sex, and Developmental Delays

Preschool expulsion disproportionately affects different demographic groups. African American preschoolers were twice as likely to be expelled than their white peers (Gilliam, 2005). Furthermore, boys were expelled at a rate 4.5 times higher than girls (Gilliam, 2005). Federal data indicate that male students from minority populations, English Language Learners, and students with disabilities are disproportionately expelled, even though these are the students that would benefit most from being enrolled in a high-quality preschool program (Horowitz, 2015). According to Stegelin (2018), unless a child is a harm to themselves or others, there is no reason to permanently remove a child from the preschool setting. There are very few research studies on preschool expulsion that focus on the actual behaviors that lead to expulsion. However, preschool educators report that when parents and teachers cannot determine the cause for a child's difficult behavior, the behaviors tend to escalate until a child is ultimately expelled (Martin et al., 2018). The rate of preschool expulsion may be high because early educators are not provided the tools and training to adequately address the social, emotional, and behavioral needs of young children. The next section will discuss early educator training.

Degree Requirements for Preschool Teachers: Bachelor's vs. Associates

Across the 62 state-funded preschool programs, 45% specify that the lead teacher in the school needs to have at least a Bachelor of Arts degree. Of the 62 state-funded preschool programs, 37% specify that the Bachelor's degree needs to be in a subject related to education or child development (Friedman-Krauss et. al., 2020). Of the state programs that specified the education level of their teachers, 22 programs reported that 100% of their preschool teachers had at least a bachelor's degree or higher (Friedman-Krauss et. al., 2020). Teachers that have a Bachelor's degree related to child development have an adequate amount of training devoted to

learning about how children grow, which typically translates to a high-quality classroom that

supports multiple aspects of development (Friedman-Krauss et. al., 2020).

A Child Development Associate (CDA) degree is a widely recognized credential for early

childhood educators. The Council for Professional Recognition, which provides the policies and

procedures for assessment and certification of CDA degree programs, specifies eight subject

areas that candidates must be taught. The first subject area is about planning a safe, healthy

learning environment. This subject involves learning about first aid, nutrition, and play

equipment that fit the developmental needs of young children. The subject areas two and three

involve supporting children's development in the areas of physical, intellectual, social, and

emotional needs. One subject area specifically focuses on behavior, including assessing and

observing behavior. Another subject relates to understanding the underlying principles of child

development and learning. The final subject areas related to maintaining effective program

operation and professionalism (Council for Professional Recognition, 2011). While these

requirements are necessary for a successful program, colleges will differ on the courses and

content taught in relation to these subject areas. For example, some programs may have a greater

emphasis on the logistics and operations of a preschool and being a classroom teacher but have

less of a focus on child development. Since most preschool children are expelled because of their

challenging behavior, the next section will focus on teacher training related to behavior.

Preschool Teacher Training Related to Behavior

Accreditation for CDA programs must include one subject area that focuses on observing

and recording children's behavior. According to the Council for Professional Recognition, this

subject teaches prospective teachers how to assess children's behavior, plan curriculum and

individualize teaching to the student's needs, intervention strategies, and individual education

plans. This subject area is designed to align with the National Association for the Education of

Young Children's (NAEYC) standards for early childhood professional preparation programs.

Students should understand behavior documentation, observation, and assessment (NAEYC,

2011). While both organizations require some sort of behavior observation training, neither

requires training in *behavior management*. Evidence-based strategies such as giving praise,

attention, or appropriate use of time-out are likely not taught in these programs. Different

associate programs may include classes on behavior management, but they are not required for

official accreditation. Additionally, a lack of appropriate behavior management techniques may

lead to inefficient discipline practices that are not developmentally appropriate (Longstreth et al.,

2013). Learning about typical social emotional development does not translate to how to manage

behavior. Most child development textbooks focus on patterns of typical development and do not

have sufficient information about children with developmental delay or children who are at-risk

for future behavior problems. The lack of training in behavior management becomes an issue

once teachers are in the classroom and are not prepared to properly handle challenging

behaviors.

Licensed early childhood programs differ in the types of behavior guidelines used to

discipline children. Forty-nine states specify the types of discipline that programs are *not* allowed

to use, but do not provide information on effective strategies (Longstreth et al., 2013). The

National Association for the Education of Young Children recommends that early childhood

programs use developmentally appropriate strategies that emphasize teaching prosocial skills

(Longstreth et al., 2013). Teaching prosocial skills is a preventative technique that allows

children to handle situations in appropriate ways so that the child does not respond to situations

with challenging behaviors. The focus of these programs is teaching the children how to behave,

however there is no education for the teachers on proactive strategies they can use to encourage positive behaviors in the classroom. Higher rates of problem behaviors are more likely to occur in low-quality childcare programs that utilize poor behavior management strategies and do not meet the social needs of young children (Longstreth et al., 2013). The next section describes evidence-based, preventative practices for problem behaviors.

Evidence-based, Preventative Practices for Preschool

The importance of early intervention cannot be stressed enough. As researchers learn more about mental health and behavior problems in children, more attention is paid to the factors that alleviate these problems (Forness et al., 2000). Prevention and early intervention are proactive methods that aim to start addressing difficulties as soon as they appear or stop problems from occurring in the first place.

Overview of the Response to Intervention Framework

The Response to Intervention (RtI) or Multi-tiered Systems of Support (MTSS) frameworks are typically used in K-12 educational settings. These models aim to provide extra supports to children who are struggling with academic or behavioral challenges before the child is referred to special education (Bayat et al. 2010). These models use data and ongoing assessment to monitor student progress towards their goals (Bayat et al. 2010). A common structure for prevention models is a tiered pyramid, where most student needs are addressed in the lower, larger, universal tier (i.e., Tier I; approximately 80%). Students with more challenging needs are addressed in the upper tiers (i.e., Tier II and Tier III; approximately 15% and 5%, respectively; Bayat et al. 2010). At the Tier I level, students are screened at least three times a year to identify students who may be at-risk. Students receive evidence-based, high-quality, whole group instruction and are regularly assessed to ensure they are progressing (Bradley et al.,

2007). At the Tier II level, students who are identified at-risk, receive small group, evidence-based intervention in addition to quality, evidence-based instruction from Tier I. Student progress at Tier II is closely monitored and if improvement is not made, more individualized intervention may be recommended (i.e., Tier III; Bayat et al., 2010). At Tier III, the student receives individualized, evidence-based intervention at a more intensive level (e.g., more time/days a week; Bayat et al., 2010). While RtI is primarily used in K-12 settings, researchers have identified the benefits of using a similar model, the Pyramid Model, in the preschool setting. Using a preventative model in preschool has the potential to prevent future academic failure in at-risk children and provide early intervention for preschoolers who may be at risk for special education (Bayat et al., 2010).

Teaching Pyramid Model

The Teaching Pyramid (Fox et al., 2003) provides a framework within an early childhood setting that addresses the social and emotional needs of all young children within a classroom (McCabe & Frede, 2007). Like RtI, the foundation of the Teaching Pyramid (Tier I) is intended to provide support that meets the needs of most students. This level focuses on creating positive relationships with preschool students, their families, and their teachers. The second tier (Tier II) was also developed as a universal support for all preschool students. Tier II focuses on creating a supportive and predictable environment. This includes curriculum that fosters all areas of child development, use of developmentally and culturally appropriate teaching approaches, positive and explicit guidelines that teach classroom rules and expectations, and schedules designed to maximize child engagement and learning (Fox et al., 2009). The third tier (Tier III) includes secondary prevention that directly teaches social and emotional strategies (e.g., emotional awareness, especially with anger and impulsivity in young children, and friendship skills).

Social-emotional lessons are individualized to meet the needs of the students that require additional teaching (Fox et al., 2009). The final tier (Tier IV) is intensive individualized intervention for severe or persistent behavior problems. This final tier provides both home and school support by including the family so the evidence-based strategies taught and used at school can be applied in multiple settings (Fox et al., 2009).

  Tier II: Effective Behavior Management Strategies. As mentioned above, Tier II of the Pyramid Model focuses on evidence-based, preventative practices that promote prosocial behavior. Using effective behavior management strategies prevents problem behaviors from occurring and reduces existing problem behaviors. Two effective strategies with strong research support include precorrective statements and behavior-specific praise (BSP; Smith et al., 2011). A precorrective statement is a statement given by a teacher that tells the child what to do to engage in appropriate behavior. An important feature of a precorrective statement is that the teacher provides the statement *before* the child engages in problem behavior. In a study of PBIS in an early childhood setting, increases in teachers' use of precorrective statements and praise were functionally related to decreases in problem behavior (Stormont et al., 2006). It can be hypothesized that using precorrections at the beginning of a lesson helped orient the students to the behavior expectations in that setting, which lead to reductions in problem behavior (Stormont et al., 2006).

  Behavior-specific praise is when a teacher uses a verbal statement acknowledging approval of a student's behavior that specifies the behavior that meets approval (Smith et al., 2011). Behavior-specific praise differs from a general praise statement because BSP specifies the behavior that is receiving approval. An example of general praise would be "great job" versus an example of BSP "I like how hard you are working on that puzzle" (Smith et al., 2011). In a study

examining the effects of BSP on students at risk for behavior disorders, students' compliance and engagement increased as the number of teachers' BSP statements increased (Fullerton et al., 2009). Teachers who were trained to increase their use of BSP were able to increase their BSP rate in the classroom during large group instruction in addition to using the statements with specific children (Smith et al., 2011). In addition to increased rates of praise, increasing students' opportunities to respond (OTR) correctly to academic questions and tasks positively affects students' academic and social behaviors (Partin et al., 2010). Previous studies have noted how promoting correct student responding is a method to increase appropriate engagement in classroom tasks and decreases inappropriate behaviors (Partin et al., 2010).

Precorrective statements, BSP, and OTR can be used for all students, and when teachers increased these evidence-based strategies, overall rates of problem behaviors in the classroom decrease (Smith et al., 2011). Additional research has shown that when teachers receive training on strategies such as positive attention, praise, proactive prevention, and time out, they use fewer criticisms and increased their use of BSP (Snyder et al., 2011).

Tier III: Social Skills Curriculum. Tier III of the Pyramid Model includes directly teaching social and emotional strategies. One way this is done is through a social skills curriculum. Many prevention programs focus on teaching prosocial skills and fostering positive relationships between children and their teachers. The goal of these programs is to teach appropriate behaviors so children will use these skills to react to situations in positive ways instead of displaying inappropriate behavior. Teaching children social skills reduces problem behaviors that may arise because children learn appropriate ways to manage their behavior when they become upset.

There are several research-based preschool social skills curricula that can be implemented to improve the social skills of all students. For example, Promoting Alternative Thinking Strategies (PATHS) curriculum teaches the skills necessary to reduce behavior and emotional problems and enhance the social-emotional competence of children from preschool up to sixth grade (Kuche & Greenberg, 1994). The PATHS curriculum focuses on increasing children's ability to communicate their emotions, awareness of physiological cues associated with emotional states, self-control, and problem-solving skills (Kelly et al., 2004). A study using the PATHS curriculum in a whole class setting found improvements in skills related to understanding and managing emotions, generalized to other setting in the school such as cooperation on conflict resolution on the playground (Kelly et al., 2004). Another popular social skills curriculum in preschool is Self Determination Intervention, which uses stories and songs to teach direction following, sharing, and problem solving with preschool children (Serna et al., 1999). A study researching the effects of implementing self-determination intervention in a Head Start classroom showed improvements in adaptive behavior, social interaction, and attention (Serna et al., 2000). The rationale for a self-determination approach is that children learn how to evaluate their performance and generalize the skills to multiple settings (Forness et al., 2000). It is important that programs are comprehensive and embed social skills curricula within the larger, general curriculum. It is also important for the program to focus on language skills, executive functioning, emotional awareness, and social skills, as these skills improve social behavior and decreased aggression (McCabe & Frede, 2007). The following section reviews studies related to early educator knowledge.

Review of the Literature Assessing Early Educator Knowledge

There are a few studies that have examined the various aspects of an early educator's job. For example, Yang and Rusli (2012) examined teacher training in effective strategies for preschool children with disabilities in inclusive classrooms. Inclusive classrooms are important in supporting and improving the language development, social and academic skills of children with moderate to severe disabilities (Yang & Rusli, 2012). This study focused specifically on Peer Mediated Instruction and Intervention (PMII), which is a strategy where typically developing peers are taught skills to help meet the academic and social needs of children with disabilities. Teachers were asked to rank the usefulness of certain peer-mediated strategies as well as the extent that they use the practices in their classroom. Of the 13 strategies, early educators indicated that 12 were useful or very useful. Although early educators indicated that most strategies (i.e., 12 of 13) were useful, eight of the 13 strategies were not observed frequently in the classroom (Yang & Rusli, 2012). The gap between research and practice of using PMII should be addressed in teacher preparation programs to equip new teachers in inclusive strategies that can improve the academic and social needs of children with disabilities.

Another study examined early educators' self-reported use of proactive (i.e., precorrection, BSP) and reactive (i.e., redirections, reprimands) versus their observed use of these strategies (Kim & Stormont, 2015). Results indicated that although early educators reported to use more precorrection and BSP than redirections or reprimands, they were observed to use more redirection than precorrection (Kim & Stormont, 2015). Teachers in this study seemed aware of which evidence-based strategies should be used to reduce challenging student behavior, which may explain why they overreported their use of proactive strategies (Kim & Stormont, 2015). These results underscore the idea that even when educators know what

evidence-based strategies they *should use*, this does not necessarily translate into their day-to-day practice.

A study by Garrahy et al., (2005) interviewed physical education teachers on their classroom management strategies to determine where their knowledge originated from and what influenced their management styles. Most teachers credited their management strategies to trial and error. Very few participants said their undergraduate classes taught them how to properly manage student behavior. Participants reported their preparatory programs either did not address management or there were discrepancies between what was taught and what they observed in their practicum experiences (Garrahy et al., 2005). Similar findings have demonstrated that what teachers are taught (a) might not be helpful, (b) might not be evidence-based, or (c) training methods are not helpful. Floress and colleagues (2021) examined middle school teachers' actual versus perceived use of praise and reprimands. The authors argued that teaching is complex and therefore it is challenging to teach and effectively manage student behavior unless explicitly taught to do so. Teachers are more likely to sustain their long-term use of evidence-based strategies when training includes overlearning, performance feedback, and self-monitoring (Floress et al., 2021).

Additionally, the participating teachers from Garrahy et al., (2005) discussed the in-school and out-of-school influences on children's behavior during their individual interviews with the researchers. The teachers observed a connection between difficulties at home and increased aggression and defiance in students. In-school changes that influenced their management strategies included changes in discipline practices, many cited the removal of corporal punishment for more humanistic approaches. The teachers described the necessity of

consistent expectations and routines and the importance of acknowledging good behavior when they see it (Garrahy et al., 2005).

Tillery and colleagues (2010) used qualitative methods to investigate general education teachers' perceptions on behavior management and intervention strategies. The researchers wanted to understand what strategies teachers used to manage student behavior and how teachers conceptualized behavior. Interview questions included "What are some things that cause the development of negative behavior at school" and "How would you explain response to intervention (RTI)?" (Tillery, et al., 2010). Based on the results, the authors concluded that teachers focused on managing individual students rather than utilizing group management strategies and teachers were not familiar with RtI or positive intervention behavior and supports (PBIS), even though their schools had provided professional development on both topics. Furthermore, the participants reported very little behavior management course work, and coursework related to behavior management was typically embedded in a single special education class. For individual strategies, teachers recognized the importance of immediate feedback in behavior development and viewed themselves as role models that have influence on student behavior (Tillery, et al., 2010).

Summary of the Literature and Current Study

The overarching goal of the current study is to investigate early childhood educators' knowledge of behavior management and working with students with developmental delay. A lack of understanding of typical preschool problem behaviors and a lack of training on how to address challenging behavior may lead to increased rates of preschool expulsion. When preschool children are expelled, there are long-term implications for social-emotional development and academic risk. Based on previous studies which have assessed teachers'

knowledge in certain areas, there appears to be gaps in what teachers are learning in their preparatory programs and what practices early educators are using in practice. One way to improve the quality of preschool programs is to ensure early educators are highly qualified and properly equipped with the necessary skills to manage challenging behaviors and effectively include students at-risk for developmental delay in a way that fosters their development.

This study aims to survey undergraduate students who are eligible for the early childhood endorsement to determine whether they are prepared to identify and support children at-risk for behavior problems and other developmental delays. A second study aim is to compare undergraduate survey results (i.e., knowledge of identifying and supporting children at-risk for behavior problems and developmental delays) to survey results of early childhood educators currently working within a preschool setting. The following research questions are posed: (a) Can pre-service and in-service teachers distinguish preschool student problem behaviors that are most commonly observed in a preschool classroom; (b) Can pre-service and in-service teachers identify preventative practices for preschool students displaying behavior concerns/at-risk for behavior problems; (c) Under what circumstances do pre-service and in-service teachers think expulsion from preschool is appropriate? (d) Are there differences between pre-service educator's knowledge of prevention, behavior management, and developmental delay compared to in-service early educators currently employed in a preschool setting?

Method

Participants

Participants were recruited using three different methods. First, a flyer was created for the Eastern Illinois University School Psychology Program's Facebook page. The flyer invited both students in the process of obtaining their early childhood endorsement (pre-service teachers) and

currently employed preschool teachers (in-service) to participate. Second, program

administrators for early childhood education programs were contacted via email and asked to

send the survey link to their current students. A total of 33 training programs across the Midwest

were invited to participate. Third, program directors of preschools were contacted via email and

asked to send the survey to their teaching staff. A total of 125 preschool programs in Illinois

were contacted. As an incentive for completing the survey, participants could enter their email in

a drawing for a chance to win one of five $10 Amazon gift cards.

Data were collected from 32 students currently enrolled in an early childhood education

program and eligible for the early childhood endorsement and from 75 early childhood educators

currently employed in a preschool setting. Due to technical difficulties in survey administration,

not all participants were shown every question on the survey. All the respondents (N= 107)

completed the first section related to research question one, 80 participants (comprised of 24 pre-

services and 56 in-service teachers) completed the first two sections of the survey related to

research questions one and two (74.7% of total participants), and 58 participants (comprised of

15 pre-service teachers and 43 in-service) completed the full survey (54.2% of the total).

Most of the participants, both pre-service and in-service, were White and female. Among

the in-service teachers, the majority had either one to five years of experience or twenty or more

years of experience. For the pre-service teachers, most had been in college three or more years

(65.0%). Refer to Table 1 for additional demographic information.

Table 1.

Participant Demographics

Demographic Characteristics	Pre-Service $n = 32$		In-Service $n = 75$	
	N	*%*	*N*	*%*
Sex				
Female	31	96.8	75	100
Male	1	3.1	0	0
Racial Background				
White	25	78.1	65	86.6
Black/African American	3	9.3	4	5.3
Asian	1	3.1	3	4.0
Two or More Races	1	3.1	1	1.3
Other	2	6.2	2	2.6
Highest Degree Obtained				
High School Diploma or Equivalent	3	9.3	1	1.3
Some College, No Degree	18	56.2	12	16.0
Associate's Degree	6	18.7	6	8.0
Bachelor's Degree	4	12.5	32	42.6
Master's Degree	1	3.1	24	32.0
Years of Experience, In-Services Teachers Only				
1-5	-	-	29	38.6
6-10	-	-	13	17.3
11-15	-	-	6	8.0

Table 1 Continued

Demographic Characteristics	Pre-Service *n* = 32		In-Service *n* = 75	
	N	%	*N*	%
Years of Experience, In-Services Teachers Only				
16-20	-	-	7	9.3
20+	-	-	20	26.6
Years in School, Pre-Service Teachers Only				
1	6	18.7	-	-
2	5	15.6	-	-
3	11	34.3	-	-
4	4	12.5	-	-
More than 4	6	18.7	-	-

Materials/Instruments

Participants were asked to complete two survey items, a demographics questionnaire and the Early Childhood Educators' Knowledge of Preschool Behaviors survey created for this study by the primary investigator (PI). As mentioned above 58 participants (15 pre-service and 43 in-service) completed these items fully.

Demographics Questionnaire

The demographic questionnaire (see Appendix A) included questions regarding age, sex, gender identity, racial background, highest educational degree obtained, and subject of degree obtained. Participants currently enrolled in college indicated how many years of college they

have completed, and in-service teachers indicated their years of experience in early childhood education.

Early Childhood Educators' Knowledge of Preschool Behavior Survey

The Early Childhood Educators' Knowledge of Preschool Behaviors survey (see Appendix B) aims to assess four areas: (a) early childhood educators' knowledge of typical problem behaviors in preschool-aged children (including the etiology of behavior problems in young children), preventative models for addressing challenging behaviors, preschool expulsion, and content of early educator prep courses. The survey consisted of a combination of quantitative and qualitative responses. Four questions related to common problem behaviors in preschool children, six questions related to preventative practices of behavior management, two questions related to preschool expulsion, and three questions related to early childhood educator prep courses.

Common problem behaviors in preschool children. Four survey questions intended to assess knowledge of common problem behaviors in preschool children. The first two questions list common behavior problems exhibited by preschool-age children and asked the participant to rank on a scale of 1-5 how common each behavior is and how many times each behavior would be observed within a 30-minute period. The third question was an open-ended question on factors that cause problem behaviors at school. The fourth question was a multiple-choice question that asked why certain problem behaviors occur.

Preventative practices. Six survey questions intended to assess knowledge of preventative practices for behavior management. The first question asked participants whether they were familiar with the terms "response to intervention (RtI), multi-tiered system of support (MTSS), positive behavior interventions and supports (PBIS), and/or the Teaching Pyramid."

The second question asked participants to explain RtI, MTSS, PBIS, and/or the Teaching Pyramid in their own words. The third question asked the participants to rank on a scale of 1-5 how likely they were to use a selection of universal preventative practices in their classroom. The fourth questions asked the participants to write examples of how they would incorporate the previously endorsed practices in their classroom. The fifth question asked the participants to rank on a scale of 1-5 how likely they were to use a selection of evidence-based practices for behavior management. The sixth questions asked the participants to write examples of how they would incorporate the previously endorsed practices in their classroom.

   Preschool expulsion. Two survey questions were included to assess knowledge on preschool expulsion. The first question asked whether the participant believed there are circumstances when a preschool student should be expelled with either a "yes" or "no" response. If the participant responded "yes," he/she/they were asked to describe circumstances for why a preschooler should be expelled.

   Early childhood educator prep courses. Three survey questions intended to assess the content of early childhood educator prep courses. All three questions asked on a scale of 1-5 how often the following topics were discussed in the participant's degree program: (a) preventative practices for behavior problems, (b) typical problem behaviors vs. students at-risk for behavior problems, and (c) developmental delay. On all questions, a score of 1 indicated that the topics were never covered in any educator prep courses and a score of 5 indicated that the topic was very frequently discussed in educator prep courses.

Procedures

   After securing IRB approval, recruiting participants occurred in the following ways: (a) after consulting with the Associate Dean of the College of Education at EIU, it was estimated

that approximately 90 EIU education majors are eligible to earn the early childhood

endorsement. With assistance from the teacher educator program, emails were sent to early

childhood education majors to invite them to participate and included the survey link; (b) an

additional 32 programs across the Midwest were contacted and the students enrolled in early

childhood education programs were emailed and invited to participate; (c) administrators of 125

preschool programs in the state of Illinois were contacted and encouraged to send the study link

to their teaching staff; (d) a post on EIU's School Psychology Program Facebook page was

created inviting currently employed preschool teachers and students obtaining their early

childhood endorsement to participate in the study. Participants interested in the study were able

to click on the link for the study, which allowed them to electronically consent to participate. The

participants were then prompted to electronically complete the demographics survey and the

Early Childhood Educators' Knowledge of Preschool Behaviors survey via Qualtrics software.

Analytic Plan

Research Question One

To answer the first research question, can pre-service and in-service teachers distinguish

preschool student problem behaviors that are most commonly observed in the classroom setting,

the Early Childhood Educators' Knowledge of Preschool Behaviors survey includes questions on

the frequency of problem behaviors (ranked 1-5, 1 = never, 5 = always), a qualitative question on

the etiology of problem behaviors, and an additional quantitative question based on a

hypothetical scenario of problem behavior that could commonly occur within a preschool setting.

Participant answers were recorded into an excel file and separated by pre-service and in-service

teachers and descriptive statistics were calculated. To determine whether teachers can identify

commonly occurring (i.e., typical) problem behaviors within the preschool population; each

participant's top three ranked problem behaviors were compared to the three most observed problem behaviors (i.e., talking out of order, being out of area, and inappropriate behavior; Floress et al., 2018). The percentage of teachers who correctly ranked the most observed problem behaviors as a 4 or a 5 were reported.

The open-ended etiology question was analyzed by qualitatively examining themes in teachers' responses. The final question, that similarly examines teachers' understanding of the etiology of preschool students' problem behavior, was analyzed by reporting the percentage of teachers who selected each answer (i.e., developmental, environmental, or a combination of both).

Research Question Two

To answer the second research question, can pre-service teachers identify preventative practices for preschool students displaying behavior concerns/at-risk for behavior problems, the Early Childhood Educators' Knowledge of Preschool Behaviors survey included two questions ranking the likelihood (1 = definitely not, 5 = definitely) of using preventative practices in the preschool classroom and two qualitative responses providing examples of such practices. One question asked whether participants are familiar with the terms "response to intervention (RtI), multi-tiered systems of support (MTSS), positive behavior interventions and supports (PBIS) and/or the teaching pyramid." The second question asked participants to define the previously mentioned terms in their own words. Participant answers were recorded into an excel file and separated by pre-service and in-service teachers. Responses for the likelihood questions were reported in percentages and the qualitative questions were analyzed by examining themes in teachers' responses.

Research Question Three

To answer the third research question, under what circumstances do pre-service teachers think expulsion from preschool is appropriate, the Early Childhood Educators' Knowledge of Preschool Behaviors survey asked whether the participant thought there was a circumstance in which a preschool student should be expelled from preschool and if so, to provide a specific situation/example. Participant answers were recorded into an excel file and separated by pre-service and in-service teachers. According to Stegelin (2018), unless a child is a harm to themselves or others, there is no reason to permanently remove a child from the preschool setting. If a participant selected "yes" to preschool expulsion, their written response was analyzed to see if the reason is related to harmful behaviors as well as the frequency and intensity of problem behaviors. Descriptive statistics were calculated.

Research Question Four

To answer the fourth research question, are there differences between pre-service educator's knowledge of prevention, behavior management, and developmental delay compared to early educators currently employed in a preschool setting, the Early Childhood Educators' Knowledge of Preschool Behaviors survey contained three questions on topics taught in early childhood educator prep programs. Participant answers were recorded into an excel file and separated by pre-service and in-service teachers and descriptive statistics were calculated using t-tests to determine any statistically significant differences.

Results

Research Question One

Most Observed Problem Behaviors

According to observational data collected by Floress et al. (2018), the three most observed problem behaviors across special education, at-risk, and general education preschool classrooms were *talking out of order*, *being out of area*, and *inappropriate behavior*. Of the 107 total respondents, 46 (42.9%) respondents rated *talking out of order* as a 4 or 5; 16 (14.9%) rated *being out of area* a 4 or 5; and 23 (21.5%) rated *inappropriate behavior* as a 4 or a 5. None of the pre-service teachers rated *talking out of order, being out of area, or inappropriate behavior* higher than a 4. Except for *out of area*, a higher percentage of in-service teachers endorsed *talking out of order* and *inappropriate behavior* compared to pre-service teachers. Table 2 summarizes pre-service and in-service teachers' ratings for each of the top three behaviors.

Table 2

Behavior Ranking Breakdown, Pre-Service, In-Service, and Total

Behavior	Response Ranking	Pre-Service $n = 32$		In-Service $n = 75$		Total $n = 107$	
Inappropriate Behavior		N	%	N	%	N	%
	1	0	0	2	2.6	2	1.8
	2	7	21.8	8	10.6	15	14.0
	3	19	59.3	48	64.0	67	62.6
	4	6	18.7	12	16.0	18	16.8
	5	0	0	5	6.6	5	4.6

Table 2 Continued

Behavior	Response Raking	Pre-Service n = 32		In-Service n = 75		Total n = 107	
Talking Out of Order		N	%	N	%	N	%
	1	0	0	0	0	0	0
	2	3	9.3	10	13.3	13	12.1
	3	19	59.3	29	38.6	48	44.8
	4	10	31.2	25	33.3	35	32.7
	5	0	0	11	14.6	11	10.2
Being Out of Area							
	1	6	18.7	12	16.0	18	16.8
	2	12	37.5	30	40.0	42	39.2
	3	9	28.1	22	29.3	31	28.9
	4	5	15.6	7	9.3	12	11.2
	5	0	0	4	5.3	4	3.7

Problem Behavior Etiology

The participants were asked an open-ended question; "What are some things that cause the development of negative behavior at school? If you have a child with behavior problems in your preschool classroom, why might those behavior problems be occurring?" Answers from the pre-service and in-service teachers were sorted based on whether they indicated only external factors, only internal factors, or a combination of external and internal factors. External factors consisted of environmental factors that existed outside of the child, such as traumatic events and interactions with adults and peers. Internal factors exist only within the child, such as the child's level of development and physiological state (hungry, tired, etc.).

An equal percentage of pre-service teachers indicated behavior problems were caused by 'only external factors' (45.8%) and a 'combination of internal and external factors' (45.8%). A small percentage (4.0%) of pre-service teachers cited 'only internal factors.' A similar pattern emerged among in-service teachers, with 53.4% indicating behavior problems were caused by 'only external factors' while 43.1% reported 'both internal and external causes.' A minimal percentage (3.4%) cited 'only internal factors.'

All participants. Pre-service and in-service teachers noted several common causes for behavior problems. The top five most commonly cited causes were home life (54.4% of total responses), which included parenting, discipline, sibling interactions, and changes at home, gaining/ seeking attention from teachers and/or peers (29.1%), trauma (18.9%), a diagnosis of a mental or developmental disorder (15.1%), and physiological factors including being hungry and/or tired (13.9%). Other common causes include general developmental delay (12.6% of total responses), not knowing behavior expectations or having unclear expectations (11.39%), trying to gain an object (10.1%), behaviors as a form of communication and/or now knowing how to properly communicate needs (8.8%), being overstimulated and/or not knowing how to regulate themselves (7.5%), lack of teacher training in classroom and behavior management (7.5%), changes in routine (7.5%), and avoiding nonpreferred/difficult activities (6.3%).

Pre-service vs. in-service. Three of the top five reported causes for behavior problems were the same between pre-service and in-service groups: Home life (69.5% of pre-service, 48.2% in-service), gaining attention (34.7% pre-service, 26.7% in-service), and a diagnosis (21.7% pre-service, 16.7% in-service). There were two causes in each group that did not rank in the top five for the other group. Among the pre-service participants, general developmental delay (17.3%) and form of communication (17.3%) rounded out the top five. Among the in-service

participants, trauma (including stress) was noted in 19.6% of responses and physiological factors were included in 17.8% of responses. Table 3 summarizes the top five causes for each group and across all participants. There were several responses that only one or two participants noted, including the current pandemic, the child's personality, exposure to social media, the internet, and television, not enough outside time built into the schedule, and too much focus on academics in the preschool setting.

Table 3

Top Five Causes of Problem Behaviors by Pre-Service, In-Service, and Total

Cause (External or Internal)	Pre-Service n = 23		In-Service n = 56		Total n = 79	
	N	%	N	%	N	%
Home (E)	16	69.5	27	48.2	43	54.4
Seeking Attention (E)	8	34.7	15	26.9	23	29.1
Diagnosed Disorder (I)	5	21.7	9	16.0	12	15.1
Developmental Delay (I)	4	17.3	-	-	-	-
Form of Communication (E)	4	17.3	-	-	-	-
Trauma (E)	-	-	11	19.6	15	18.9
Physiological Need (I)	-	-	10	17.8	11	13.9

To determine the participants' understanding of behavior problem etiology, participants answered the question "Imagine a child in your preschool class is non-compliant (i.e., is slow to follow directions when switching activities, refuses to pick up toys when asked, refuses to participate in large group activities when asked). Why might these behavior problems be occurring?" The first response (A) said that problem behaviors are typical at the preschool age and most students age out of the behaviors; the second response (B) said that problem behaviors arise out of parent-child interactions at home; the third response (C) was a combination of A and

B; and the fourth response option (D) was "other" and allowed the participant to fill in their own response. Most respondents (68.6% of in-service and 87.5% of pre-service) selected the third response (C) which noted that problem behaviors are both typical and a response to parent-child interactions.

Research Question Two

Terminology: RtI, MTSS, Teaching Pyramid

  Familiarity with terms. Pre-service ($n = 15$) and in-service teachers ($n = 43$) were asked whether they were familiar with the terms: Response to Intervention (RtI), Multi-Tiered System of Support (MTSS), and the Teaching Pyramid. Teachers were also asked to define these terms in their own words. Among the three terms, both pre-service and in-service participants knew the least about the Teaching Pyramid and were more familiar with RtI and MTSS. Table 5 summarizes the full results.

Table 4

Teachers' Familiarity with Terms

Term(s)	Pre-Service Teachers ($n=15$)		In-Service Teachers ($n=43$)	
	Number of Responses	% Participant Responses	Number of Responses	% Participant Responses
RtI, MTSS, and Teaching Pyramid	3	20.0	26	60.4
Only RtI and MTSS	5	33.3	7	16.2
Only Teaching Pyramid	-	-	2	4.6
None of the Terms	7	46.6	8	18.6

Defining terms. When the respondents were asked to define each term, several themes emerged from their responses. In multiple responses, the participants included one statement that was intended to describe all three terms and did not highlight the differences. Most of the responses only described RtI and/or MTSS and the participants were more familiar with these terms than the Teaching Pyramid. If a participant was describing the Teaching Pyramid, they often described it incorrectly. For example, one in-service teacher described the teaching pyramid as "how the child is adapting in their academics." The participants were more accurate in describing RtI and MTSS. For example, 70.0% of all respondents noted that RtI and MTSS involved supporting the needs of students with interventions and 52.5% of all respondents noted that RtI and MTSS follow a systematic framework with varied levels or tiers of support. The participants were more likely to say that RtI and MTSS are for behavior concerns (45.0%) rather than academic concerns (22.5%). Only respondents who were in-service teachers noted that the whole class receives interventions within the bottom tier of the framework (15.63%) and only one in-service teacher noted that decisions based on where students are positioned in the framework comes from data collection and progress monitoring.

Preventative Practices

Pre-service. Pre-service ($n = 15$) and in-service ($n = 43$) participants were asked to rate the likelihood (1 = definitely not, 5 = definitely) of using certain behavior management, preventative practices in their classroom. The listed practices included building positive relationships with students, building positive relationships with families, giving positive attention to prosocial behavior, teaching routines and expectations, adjusting environment to encourage student engagement, teaching social and emotional strategies, and providing individualized interventions. Only one in-service participant indicated they would probably not or definitely not

(two or one rating) use one strategy, otherwise most participants indicated that they would probably (4 rating) or definitely (5 rating) use all the strategies. Table 6 summarize the pre-service and in-service teachers' endorsement of each practice.

Table 5

Likelihood of Using Preventative Practices in the Classroom

Practice	Rating	Pre-service n = 15		In-Service n = 43	
		Number of Responses	% Participant Responses	Number of Responses	% Participant Responses
Build Positive Relationships w/ Students					
	3	0	0	1	2.3
	4	0	0	1	2.3
	5	15	100	41	95.3
Build Positive Relationships w/ Families					
	2	0	0	1	2.3
	3	0	0	1	2.3
	4	2	13.3	0	0
	5	13	86.6	41	95.3
Give Positive Attention to Prosocial Behaviors					
	4	0	0	2	4.6
	5	15	100	41	95.3
Teach Routines and Expectations					
	4	0	0	1	2.3
	5	15	100	42	97.6

Table 5 Continued

Practice	Rating	Pre-service n = 15		In-Service n = 43	
		Number of Responses	% Participant Responses	Number of Responses	% Participant Responses
Adjust Environment to Encourage Engagement					
	4	0	0	3	6.9
	5	15	100	40	93.0
Teach Social Emotional Strategies					
	5	15	100	43	100
Provide Individualized Interventions					
	3	0	0	1	2.3
	4	1	6.6	3	6.9
	5	14	93.3	39	90.6

In-service. The in-service teachers had slightly more variation in their responses compared to pre-service participants. In-service teachers indicated they would probably or definitely use the following strategies: Give positive attention to prosocial behaviors, teach routines and expectations, adjust the environment to encourage student engagement, and teach social emotional strategies. Two respondents indicated they would possibly and probably not (three and two rating) build positive relationships with families, which were the lowest ratings. Other practices that in-service teachers indicated they would possibly use (three rating) were providing individualized interventions (2.3%) and building positive relationships with students (2.3%). Teaching social emotional strategies was the only practice every in-service teacher indicated they would definitely use (five rating).

When the pre-service and in-service participants were asked to give examples of how they would incorporate preventative practices in their classroom, there were a variety of examples given. There were seven main themes that described each example. The most commonly referenced practice was keeping an open line of communication with parents. Among total respondents (pre-service and in-service teachers), 41.0% of all participants said that they would strive to communicate both positive and negative comments to parents on a regular basis. Some participants also noted that their preschool has parent-teacher conferences as another method of communication. The second most common response was the use of visual schedules and/or visual reminders of behavior expectations (32.1% total responses). This section also included modeling and role-playing appropriate behaviors. For building relationships with students, the participants reported that they would encourage the students to communicate with them and they try to learn as much as they can about the students (30.3% total responses). Examples given for teaching SEL strategies included teaching students in the moment when a difficult situation occurs as well as teaching coping strategies (28.5% total responses). The participants also mentioned the importance of giving positive feedback and praise as well as being aware of praising more than reprimanding (23.2% total responses). The participants noted that they include a variety of activities in their classrooms as well as differentiating activities to meet different levels of need (17.8% of respondents). The final most common category was encouraging family involvement in and outside of the classroom (12.5% total responses). An additional 9.5% of teachers mentioned the specific curriculum that they use to incorporate SEL lessons throughout the day.

Evidence-based Practices

Additionally, the pre-service and in-service participants were asked to rate the likelihood (1 = definitely not, 5 = definitely) of using certain evidence-based practices for behavior management in their classrooms. Figures 1- 4 summarize the percentages of pre-service and in-service participant responses. Opportunities to Respond (OTR) and BSP (BSP) were rated the highest. Most respondents (91.3% and 86.2%, respectively) indicated they would definitely use OTR and BSP. Using pre-corrective statements was the only practice per-service (6.6%) and in-service (6.9%) participants indicated they would probably not and definitely not use (two and one rating). Participants (6.6% of pre-service and 2.3% in-service) also indicated they would probably not use general praise (two rating). Opportunities to Respond was the only practice teachers indicated they would probably or definitely use (four or five rating).

The participants had more difficulty giving examples for how these practices are incorporated into the classroom, compared to preventative practices. Almost a third (27.7%) of respondents gave a specific quote to illustrate their use of BSP. For example, "I like how you are working together and sharing materials" would be a correct BSP statement.

Most teachers did not provide an adequate example for any of the practices. For instance, one respondent said, "I praise and acknowledge students on a regular basis." While it is good practice to provide consistent praise, this response did not demonstrate that the participate understood what the preventative practices are or how they are used with young students. The participants were able to give many examples of OTRs (e.g., including picking random students to respond, call-and-response lessons, open-ended questions, and giving choices).

Research Question Three

Preschool Expulsion

Of the 58 total participants (15 pre-service, 43 in-service) included in the analysis, most (66.6% pre-service and 55.8% in-service) noted that there is no reason for a child to be expelled. For participants who indicated it would be appropriate to expel a preschool student, there were several common responses indicating why. The most common reason for expulsion among pre-service and in-service teachers included the presence of severe, violent, and extremely harmful behaviors (55.1% total responses; 83.3% pre-service, 47.8% in-service). The other most common response included 'behaviors that are a danger to themselves, other students, and staff' (65.5% total responses; 66.6% pre-service, 65.2% in-service). Another commonly reported reason for expulsion was whether the behaviors were continuous, even after multiple interventions had been tried (48.2% total; 16.6% pre-service, 56.5% in-service). There were two responses that only appeared within the in-service teacher responses (i.e., parents' behavior could result in a students' expulsion [13%] and the student should not be permanently removed from school, but the school should find an alternative placement to better support the child's needs [39.1%]).

Research Question Four

Educator Prep Courses

The participants were asked to rank the frequency in which specific topics were taught in their educator prep courses. The three topics were (a) preventative practices for behavior problems, (b) typical problem behaviors vs. students at-risk, and (c) developmental delay. Among the pre-service responses, over 50% of pre-service teachers indicated they had rated every topic above an often (four) or always (five).

To determine whether there was a difference between pre-service participants and in-service participants ratings of how often preventative practices for behavior problems were discussed in their educator prep courses, a t-test for independent means was conducted. Results show that for preventative practices, pre-service participants did not have a significantly different frequency score ($M = 3.53$, $SD = 0.99$) than in-service teachers ($M = 3.20$, $SD = 0.94$), $t(56) = 1.13$, $p = 0.262$ (two-tailed), $d = 0.34$ (small effect).

To determine whether there was a difference between pre-service participants and in-service participants ratings of how often typical problem behaviors vs. students at-risk were discussed in their educator prep courses, a t-test for independent means was conducted. Results show that for typical problem behaviors vs. students at-risk, there was not a statistically significant difference between pre-service ($M = 3.40$, $SD = 0.98$) and in-service teachers ($M = 3.18$, $SD = 0.95$), $t(56) = 0.74$ $p = 0.463$ (two-tailed), $d = 0.23$ (small effect).

To determine whether there was a difference between pre-service participants and in-service participants ratings of how often developmental delay was discussed in their educator prep courses, a t-test for independent means was conducted. Results show that for developmental delay, there was no significant difference between pre-service ($M = 3.6$, $SD = 0.98$) and in-service teachers ($M = 3.67$, $SD = 0.86$), $t(56) = -0.27$, $p = 0.783$ (two-tailed), $d = 0.079$ (very small effect).

Discussion

The current study surveyed pre-service and in-service early childhood educators to determine if they have the knowledge to be able to identify and support children at-risk for behavior problems and developmental delays. Knowledge was assessed using a survey with four sections covering topics including problem behaviors, evidence-based behavior management

strategies, preschool expulsion, and educator prep courses. Results were examined in total and comparisons were made between pre-service and in-service teachers' responses. Overall, there were many similarities between the pre-service and in-service responses. For example, three out of the top five causes of behavior were the same for pre-service and in-service. Results of this study provided information on pre-service and in-service teachers' perceptions of problem behaviors and behavior management, which is important considering the impact of the preschool setting on a child's development.

Preschool Students' Behavior Problems

Based on participants' responses, in-service teachers were more likely to identify the top three behavior problems, identified by Floress and colleagues (2018) via direct observation, among preschool students. These results are not surprising as in-service teachers have more experience working in classrooms with preschool students and are more likely to have experience observing these behaviors daily.

Pre-service and in-service teachers similarly reported that preschool students' behavior problems are largely influenced by internal and external factors. This is a promising finding, in that research also supports young children's behavior problems are related to both internal and external factors (Smith et al., 2011). For instance, internal predispositions can combine with external triggers that result in problem behaviors. Tucker-Drob and Harden (2013) noted that the effects of childcare on a child's externalizing behaviors depend on the quality of the childcare program as well as the individual characteristics and predispositions of the children themselves. These findings suggest that most participants in this study viewed early childhood behavior problems in a way that is consistent with current research. When teachers accurately

conceptualize the etiology of young children's problem behaviors, they are more likely to prevent and positively intervene in young children's' development.

Participants also provided causes for problem behaviors that aligned with research. For example, Tillery et al. (2010) noted that teachers are likely to attribute young children's problem behaviors to a disorder or syndrome and in this study, teachers (both pre-service and in-service) identified "diagnoses" among the top five causes for preschool students' behavior concerns. Most participants attributed behaviors to external factors or a combination of internal and external factors instead of exclusively internal factors. This finding is also consistent with previous research indicating teachers perceive the environment as having a greater impact on behavior concerns compared to internal factors (Tillery et al., 2010).

Teachers' Preventative Practices

In this study, in-service teachers were more familiar with systems of support terms (i.e., RtI, MTSS, and the Teaching Pyramid) compared to pre-service teachers. It is possible that the pre-service participants had not yet learned about these terms in their classes; however, more than half (65.0%) of pre-service teachers were in their third (or more) year of college. It is also possible the early childhood curriculum does not emphasize or expose early childhood teachers to systems of support terms (like RtI, MTSS, and the Teaching Pyramid). Response to Intervention and MTSS are primarily used in the K-12 setting; however, RtI has been expanding into the early childhood setting, specifically for addressing behavior problems (Bayat, et al., 2010). Furthermore, it is likely that pre-service teachers sampled in this study would be eligible for their K-12 teaching endorsement and therefore should be exposed to system of support terms. Finally, the teaching pyramid is specific to the early childhood population, however it seemed as though the pre-service and in-service teachers knew the least about this framework. This finding

is surprising given that the teaching pyramid was designed for interventions within a preschool setting. It is possible that the teaching pyramid is not as well know (even among faculty teaching early childhood courses) compared to other frameworks, such as RtI and MTSS.

When the participants (50% of pre-service, 72.7% in-service) described the systems of support terms, they included many important components. The pre-service and in-service teachers noted that they are systematic frameworks that provide different levels of supports depending on student needs. However, there was only one in-service teacher who noted the use of *data* in the RtI and MTSS processes. This was an unexpected finding because data-based decision making is one of the most important aspects of RtI and MTSS (Bayat, et al., 2010). The only way to definitively determine whether a student has been making progress in an intervention is to collect and analyze data.

When asked about evidence-based practices, precorrections and general praise were endorsed the least in comparison to BSP and OTR. The pre-service teachers were less likely to endorse pre-corrections compared to the in-service teachers. One possible reason for this is pre-service teachers, depending on how many education courses they have taken, may not know what pre-corrective statements are or how they would be used in the classroom. In terms of general praise, it is possible participants know that BSP is believed to be a superior form of praise, and therefore rated general praise lower than BSP. However, even if this is a reason for the low general praise ratings, it is likely pre-service and in-service teachers use (or would use) more general praise than BSP, as direct observation research supports this (Floress et al., 2017).

One of the more interesting findings from the current study was that both pre-service and in-service participants had difficulties providing specific examples of evidence-based practices. Rather than providing specific examples, participants tended to provide general statements. For

example, "praising the positive behaviors" and "always speak positively and praise". This could suggest that the participants are familiar with the terms but are unclear of how the practices translate into their daily routines.

Preschool Expulsion

Most of the participants (66.6% pre-service and 55.8% in-service) indicated there was no reason for a preschool student to be expelled. This answer aligns with research indicating preschool students should not be expelled except in extreme circumstances (Stegelin, 2018). Of the participants who said students should be expelled, most noted the only reason would be for extreme behaviors, such as harming themselves or others. It should be noted that in-service teachers were not asked whether they had ever expelled a preschool student. Gilliam (2005) found 40% of preschool teachers reported expelling at least one student in a year and 25% expelled two or more students (Gilliam, 2005). It is possible that in-service teachers' perceptions of preschool expulsion may be influenced by their past experience with expulsion and future research should examine teachers' reported practice along with their perceptions.

There were several responses (related to preschool expulsion) that noted that if a preschool student was showing extreme problem behaviors, an alternate placement should be considered instead of completely removing the student from school. Providing an alternative school setting for a student attending school (in grades K-12) is not uncommon. However, these alternative placements are not readily available at the preschool level. Furthermore, if a child is not identified for early intervention services (i.e., identified at-risk or with a special education eligibility), they would not be eligible for an alternative preschool placement. Students with problem behaviors, but not eligible for early intervention are more likely to be expelled, enroll in a new preschool, and be at increased risk for expulsion and/or school failure in kindergarten

(Stegelin, 2018). Preschool expulsion has been found to have long-term implications for social and emotional development, so multiple expulsions would most likely have an increasingly detrimental effect (Stegelin, 2018). Overall, the best solution would be to keep the student in the program and provide the necessary supports and interventions.

Educator Training

Pre-service and in-service teachers rated the frequency they covered topics (i.e., preventative practices, at-risk vs typical development, and developmental delay) in their undergraduate training. Results suggested no differences in the frequency of training in-service and pre-service teachers received. These results may suggest little change in educator prep courses over the years. In other words, the content taught to current pre-service teachers may not be different from content (or frequency of content) previously taught to in-service teachers. As more research comes out on preventative practices for behavior management, one could assume that educator prep courses would discuss these topics more often. This finding is surprising given that over a quarter of the in-service participants had over 20 years of experience in the field, suggesting that they took their educator prep courses at least 20 years ago. In those 20 years, more knowledge has been gained on child development, developmental delay, and behavior management, so one would expect that there would be some differences in the frequency in which these topics are taught.

Implications

This study highlights certain areas of educator prep courses that could be improved upon. For example, a small percentage of the pre-service participants knew about the teaching pyramid, it is possible that this topic has not been covered in their classes. The teaching pyramid is an important framework of intervention for preschool settings and should be taught in early

childhood educator prep courses. Certain gaps in the knowledge base of behavior management and intervention strategies can be detrimental to individual students displaying problem behaviors and the classroom environment as a whole. For example, a lack of appropriate behavior management techniques may lead to inefficient discipline practices that are not developmentally appropriate (Longstreth et al., 2013). Early childhood educators should be fully equipped to handle challenging students in order to keep the student in school and expose them to the benefits that preschool brings.

Limitations and Future Research

One major limitation of this study was the technical difficulties with the survey that resulted in incomplete responses. There was already a small sample size with 107 participants, but the incomplete responses resulted in an even smaller pool of results. Having a larger sample size and a greater number of complete surveys would have added valuable information on the early educators' experiences. Additionally, the small sample size may have resulted in the lack of statistically significant differences between the two groups. Furthermore, the sample consisted of mostly White females and there was little diversity in the overall demographics.

There are several areas that could be explored through more research, especially regarding educator prep courses. One aspect of educator prep courses that was not explored in this study was the field experiences offered in the prep programs. The accessibility of field opportunities may depend on the resources available to the college and the community. Another aspect that could be explored further is the difference in expulsion rates among different types of preschools, such as comparing state-funded to privately funded programs. Finally, comparisons among pre-service, early career, and late career teachers could be explored to determine

differences among these three groups in their knowledge of behavior management and intervention.

Conclusion

The purpose of this study was to determine if pre-service teachers were prepared to identify and support children at-risk for problem behaviors. Preschool plays an important role in a child's social development and prepares them for the expectations of kindergarten. It is typical for preschool age children to develop problem behaviors, which means that the preschool environment is an important setting for identifying and intervening with problem behaviors.

Early childhood educators should be prepared to encounter problem behaviors on a daily basis. Due to problem behaviors being typical at this stage of development, it's imperative that early childhood educators be trained on preventative and evidence-based behavior management practices. Proactive behavior management strategies can help reduce problem behaviors and teach prosocial behaviors. Early childhood educators should also know how to differentiate between developmentally typical problem behaviors and behaviors that are more atypical. Early identification of atypical behaviors is essential for preventing more problem behaviors from occurring later in childhood. There seems to be room to grow with incorporating more instruction of behavior management in early childhood educator courses. When preschool teachers know more about behavior management, there are fewer overall problem behaviors and less risk for preschool expulsion.

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Appendix A

Demographics Questionnaire

1. Please indicate your age   _____ Age

2. Please indicate your biological sex

_____ Male   _____ Female   _____ (Open Ended/Blank Space)

3. Please indicate your gender identity

_____ Male
_____ Female
_____ Nonbinary
_____ Transgender
_____ (Open Ended/Blank Space)

4. Please indicate your racial background

_____ American Indian/Alaskan Native
_____ Asian
_____ Black or African American
_____ Native Hawaiian or Other Pacific Islander
_____ White
_____ Two or more races (please specify)
_____ (Open Ended/Blank Space)

5. Please indicate your highest level of education

_____ less than high school
_____ high school diploma or equivalent
_____ some college, no degree
_____ postsecondary non-degree award
_____ Associate's degree
_____ Bachelor's degree
_____ Master's degree
_____ Specialist degree
_____ Doctoral or professional degree
_____ (Open Ended/Blank Space)

6. (for pre-service participants only) Please indicate your major

_____ Degree (Open Ended)

7. (for pre-service participants only) How many years have you been in college?

_____ Months/Years (Open Ended)

8. For currently employed early childhood educators, indicate your years of experience in

education.

_____ Months/Years (Open Ended)

9. What state do you work/attend school in?

_____

Appendix B

Early Childhood Educators' Knowledge of Preschool Behaviors

Directions: Please read each question thoroughly. If you are currently an undergraduate student who will be eligible for an early educator endorsement, please read each question as if you were currently employed in a preschool setting (as an early educator).

[PROBLEM BEHAVIORS: Q1-Q4 will be used to answer the first research question]

Q1. In a typical preschool classroom, how common are the following behaviors?

1 = Never 2 = rarely 3 = sometimes 4 = often 5 = always

- Whining
- Crying
- Yelling
- Destructive Behavior (child damages or destroys an object or threatens to damage an object)
- Aggressive Behavior (fighting, kicking, slapping, hitting, grabbing an object roughly from another person, or threatening to do any of the preceding actions)
- Negativism (verbal or nonverbal expressions of a negative attitude)
- Self-stimulation (head banging, thumb sucking)
- Demanding attention (inappropriate verbal or nonverbal requests for attention from teacher or other students)
- Inappropriate behavior (behaviors annoying/disruptive to the teacher and other students)
- Talking out of order (talking when class has been instructed to be silent unless called on)
- Being out of area (child leaves area without permission)
- Cheating
- Noncompliance (child makes no movement toward obeying a teacher command during five seconds following the command)

Q2. If you observed a preschool classroom for 30 minutes, how many times would you observe each of the following behaviors across all students in the classroom:

1 = 1-5 times, 2 = 5-10 times, 3 = 10-15 times, 4 = 15-20 times, 5 = over 20 times

- Whining
- Crying
- Yelling
- Destructive Behavior (child damages or destroys an object or threatens to damage an object)
- Aggressive Behavior (fighting, kicking, slapping, hitting, grabbing an object roughly from another person, or threatening to do any of the preceding actions)
- Negativism (verbal or nonverbal expressions of a negative attitude)
- Self-stimulation (head banging, thumb sucking)
- Demanding attention (inappropriate verbal or nonverbal requests for attention from teacher or other students)
- Inappropriate behavior (behaviors annoying/disruptive to the teacher and other students)
- Talking out of order (talking when class has been instructed to be silent unless called on)
- Being out of area (child leaves area without permission)
- Cheating
- Noncompliance (child makes no movement toward obeying a teacher command during five seconds following the command)

Q3. What are some things that cause the development of negative behavior at school? If you have a child with behavior problems in your preschool classroom, why might those behavior problems be occurring? Please briefly write your response.

Q4. Imagine a child in your preschool class is non-compliant (i.e., is slow to follow directions when switching activities, refuses to pick up toys when asked, refuses to participate in large group activities when asked). Why might these behavior problems be occurring?

A. Behavior problems are typical in preschool and should decline without intervention as children near kindergarten.

B. Behavior problems are due to parent-child interactions that develop at home and carry over to the preschool setting.

C. A combination of A. and B.

D. None of the above (Open Ended)

[PREVENTATIVE PRACTICES: Q5-Q10 will be used to answer the second research question]

Q5. Are you familiar with any of these four terms a) Response to Intervention (RtI), b) Multi-Tiered System of Support (MTSS), positive behavior interventions and supports (PBIS) and/or c) Teaching Pyramid?

Q6. How would you explain Response to Intervention (RtI), Multi-Tiered System of Supports (MTSS), positive behavior interventions and supports (PBIS) and/or Teaching Pyramid?

Q7. Rate the likelihood of using the following practices in your preschool classroom:

1 = definitely not 2 = probably not 3 = possibly 4 = probably 5 = definitely

- Building positive relationships with students
- Building positive relationships with families
- Give positive attention to prosocial behavior
- Teach routines and expectations
- Adjust environment to encourage student engagement
- Teach social and emotional strategies
- Provide individualized interventions

Q8. Provide examples of how you would incorporate the previously stated practices in your

preschool classroom. If you selected more than three, provide examples for at least three of the

selected practices.

Q9. Rate the likelihood of using the following practices in your preschool classroom:

1 = definitely not 2 = probably not 3 = possibly 4 = probably 5 = definitely

- Provide general praise
- Provide behavior specific praise
- Use pre-corrective statements
- Provide opportunities to respond.

 Q10. Provide examples of how you would incorporate the previously stated practices in your

preschool classroom.

[PRESCHOOL EXPULSION: Q11-Q12 will be used to answer the third research question]

Q11. Do you think there is a circumstance in which a preschool student should be expelled from

preschool?

_____ YES   _____ NO

Q12. If yes, for what reason should a preschooler be expelled?

[EDUCATOR PREP: Q13-Q15 will be included in the description of the sample/demographics]

Q13. In your educator prep courses, how often did you learn about preventative practices for

behavior problems?

1 = Never 2 = rarely 3 = sometimes 4 = often 5 = always

Q14. In your educator prep courses, how often did you discuss typical problem behaviors vs.

students at-risk for problem behaviors?

1 = Never 2 = rarely 3 = sometimes 4 = often 5 = always

Q15. In your educator prep courses, how often did you learn about developmental delay?

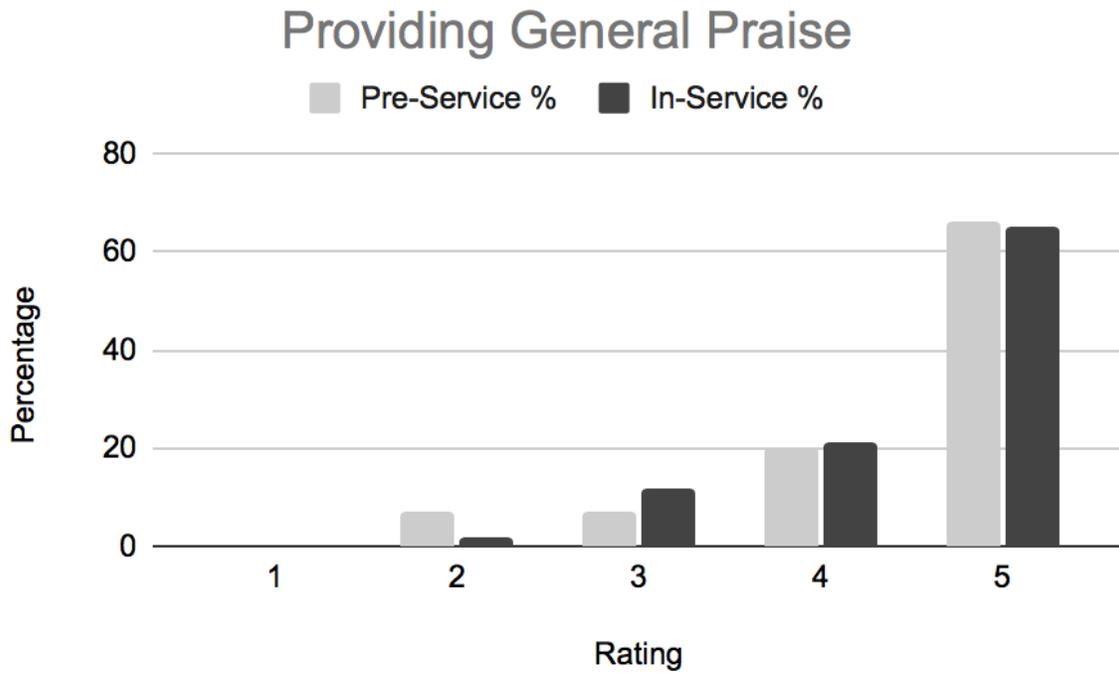1 = Never 2 = rarely 3 = sometimes 4 = often 5 = always
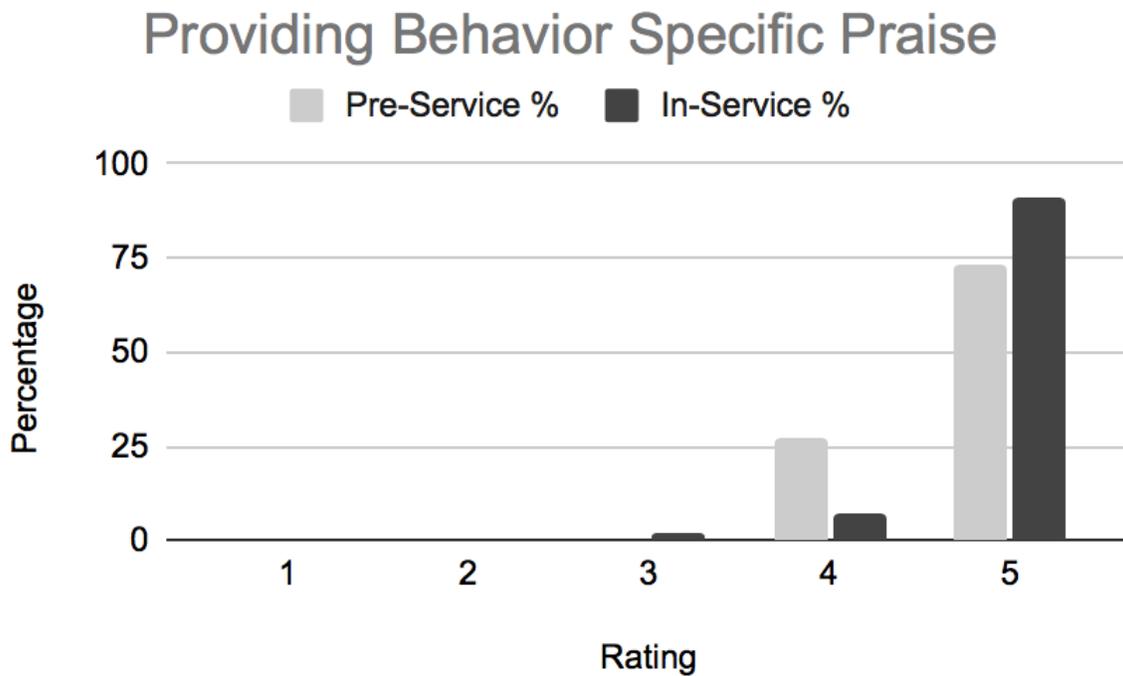
Figure 1. Teachers' Likelihood of using General Praise

Figure 2. Teachers' Likelihood of using Behavior Specific Praise
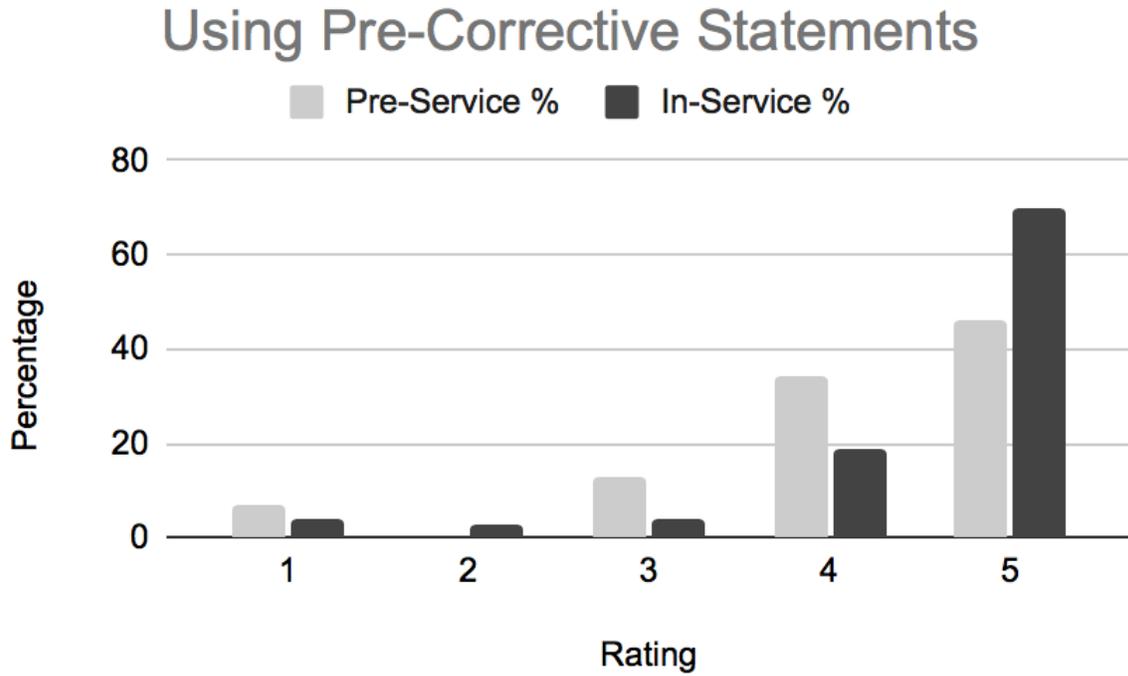
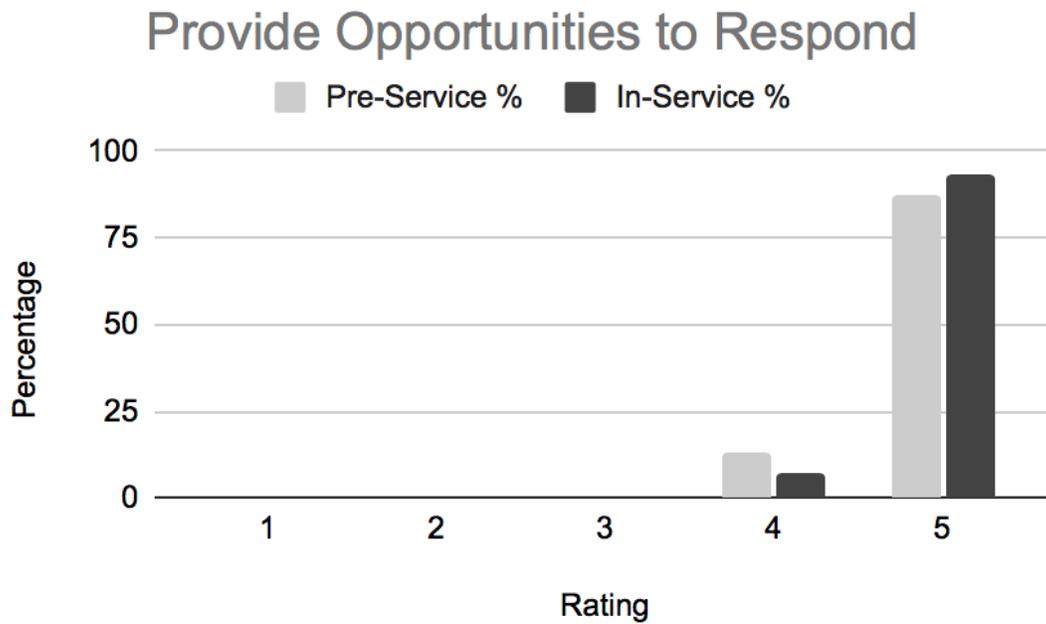*Figure 3. Teachers' Likelihood of using Pre-Corrective Statements*

Figure 4. Teachers' Likelihood of using Opportunities to Respond