A SURVEY OF PRESCHOOL SPECIAL EDUCATION PROFESSIONALS AND THEIR USE OF POSITIVE BEHAVIOR INTERVENTIONS & SUPPORTS IN EARLY CHILDHOOD SETTINGS

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ABSTRACT

This study sought to describe the current implementation of behavioral strategies across Tiers 1, 2 and 3 of the preschool Positive Behavior Interventions & Supports (PBIS) model by preschool special education professionals in the state of Pennsylvania (PA). Both federal and state mandates have urged and required the use of PBIS in early childhood settings to alleviate issues of challenging behavior, while simultaneously reducing suspension and expulsion at the early childhood level. As such, the current study attempted to outline the level of preparation and training received by preschool special education professionals, across all disciplines, in the area of PBIS by higher education entities, as well as through their preschool special education employers. Furthermore, the study looked to analyze the reported implementation of PBIS strategies across tiers by the special education professionals within early childhood settings across regions of PA. Approximately 780 preschool special education professionals were surveyed and a total of 248 responded, resulting in a 31.8% response rate. A descriptive survey approach was utilized and univariate analyses, as well as one-way ANOVA and correlational analyses were conducted. Results showed the current state of PBIS implementation in PA through preschool special education professionals remains variable, inconsistent and possibly under-supported by employers and higher education entities. A large percentage of the overall population, 62%, reported having taken 0 credits in PBIS-related content at the higher education level. Approximately 65% reported two or fewer trainings offered by their employer in the past two years, however, 70% of the respondents reported being offered coaching in PBIS. Behavior Support Specialists, Special Education Teachers and Occupational Therapists are among the top three defined professional roles that consistently report implementing strategies with higher frequencies than other defined disciplines. Tier 1 strategies are implemented at higher

frequencies than Tier 2 strategies and Tier 2 strategies are implemented with higher frequencies than Tier 3 strategies. Specific, targeted areas of global PBIS requirements can be increased to possibly result in an overall increase in the fidelity of PBIS strategy implementation and a decrease in reported suspensions and expulsions, these include the use of preschool special education professionals on early childhood-based PBIS leadership teams and an increase in the frequency of data collection and analysis. There are also a number of reported barriers, including capacity of early childhood program staff and parental and familial involvement that reportedly inhibit preschool special education professionals from successfully and consistently implementing PBIS in early childhood settings.

DEDICATION

I dedicate this project to my daughters, Harlee and Sadie. I love you like the sun, girls, and I hope you achieve all you desire in this life. Thank you, from the bottom of my heart, for making me a mother and a better person.

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CHAPTER 1

INTRODUCTION

According to the National Center for Educational Statistics (2018), in 2016, 42% of 3-year-olds, 66% of four-year-olds and 86% of all five-year-olds in the U.S. were enrolled in preschool programs. These data exclude programs that are not designed to provide education services, such as daycares. Of all children enrolled in preschool programs, 54% attended full-day programs and the remainder were in enrolled in partial or half-day programs (Institute for Education Sciences; IES, 2018). The U.S. is behind other countries in preschool enrollment, such as the United Kingdom, Israel or France, which enroll 100% of their three and four-year-old children in preschool programs, but still ranks in the top thirty-five countries in relation to preschool enrollment (IES). An alarming facet of this, however, is that of those children enrolled in preschool programs, approximately one-third engage in persistent patterns of maladaptive or challenging behavior, as reported by the *Technical Assistance Center on Social Emotional Intervention for Young Children* (TACSEI) (National Center for Pyramid Model Innovations, 2011). The problem of challenging behavior can be so pervasive that preschool-aged students have been found to be suspended or expelled, due to behavioral challenges, at 13 times the national K-12 rate (Gilliam & Shahar, 2006). This is cause for concern, as the presence of maladaptive behavior and suspensions/expulsions at a young age often results in aversive, long-term effects, including disengagement in the educational process, additional expulsions, increased drop-out rates and increased experience with the juvenile justice system (Rausch & Skiba, 2004).

To date, the issue of behavioral concerns and suspension/expulsion in preschool or early childhood settings has received attention at both federal and state levels. In 2014, the US

Department of Education issued a policy statement outlining current suspension and expulsion practices in preschool settings and called the field of education to action (US Department of Health & Human Services, 2014). The group sought to not only raise awareness in early childhood education settings but to advocate for the use of data collection and progress monitoring to proactively support children with behavioral challenges, as well as promote the use of evidence-based interventions, as outlined in the current literature. Similarly, in 2014, then U.S. Secretary of Education, Arne Duncan, released a joint statement and guidance package published in collaboration with the U.S. Department of Justice, focusing on appropriate discipline, behavior support and behavioral equity for children of all ages, from early childhood through high school graduation (US Department of Education, 2015). Duncan advocated for a decrease in the removal of students from classrooms due to behavior, as well as a simultaneous use of proactive, supportive measures to increase prosocial behavior in children of all ages and cultures.

Since then, multiple state agencies have also compounded federal efforts to alleviate maladaptive behavior in preschool settings and promote the use of empirically-validated behavioral practices, including the use of positive behavior supports, while simultaneously mandating a decrease in suspension and expulsion practices (US Department of Education, 2016). In Pennsylvania, the Office of Child Development and Early Learning (OCDEL) released their own policy statement in June of 2017 in response to the federal suspension and expulsion policy. This formal announcement supported the federal policy, offered guidance for early childhood program funded by OCDEL and mandated a reduction in suspension and expulsion rates across the state of Pennsylvania.

According to the Centers for Disease Control and Prevention (2018), one in seven children ages two through eight, have a mental, behavioral or developmental disorder. Of these children, boys are more likely to be affected, as well as non-Hispanic white children and children whose families live at less than 100% below the federal poverty line. Furthermore, it has been reported that roughly 8% of all preschoolers (children aged 3–5 years) exhibit behavioral problems severe enough to warrant a psychiatric diagnosis (Keenan & Wakschlag, 2004). The National Research Council and Institute of Medicine (2009) estimate that 14 to 20% of children and adolescents have serious diagnosable emotional or behavioral health disorders resulting in substantial to extreme impairment. This sharp increase in the attention to behavioral concerns in U.S. early childhood education programs also corresponds with an increase in pre-school special education referrals and the overall number of children receiving pre-school special education services. For example, in the 2014-2015 school year, the US Department of Education (2018) reported that approximately 754,000 children across the United States received pre-school special education services, covered under Part B of the federal special education law, the Individuals with Disabilities Education Act (IDEA). In the 2015-2016 school year, this number jumped to approximately 764,000 children, an increase of approximately 10,000 children in just one year.

In Pennsylvania (PA), the state of focus for this dissertation study, preschool special education rates (ages 3-5) have also risen steadily over the past several years. According to the US Department of Education (2018), the 2014-2015 school year yielded approximately 32,700 children receiving pre-school special education services across all disability categories. This number rose to slightly over 33,000 the following school year (US Department of Education). In addition to the IDEA, the federal regulation outlining the delivery of special education to eligible

students, the state of PA developed and compiled PA Chapter 14, most recently reauthorized in June of 2008, to work alongside of and in addition to the IDEA. In its most recent reauthorization, Chapter 14 requires a number of additional mandates, including changes to personnel requirements for paraprofessional, interpreters and personal care assistants, screening as part of child find efforts, a slight shift in timelines from school days to calendar days and criteria for the determination of specific learning disabilities, amongst others (Commonwealth of Pennsylvania, 2008). Specifically in relation to preschool special education (ages 3-5) services, Chapter 14 now requires that special education teams utilize similar evaluation and re-evaluation timelines as school-age programs (60 calendar days), as well as outlines changes in caseload limits for educational providers and changes in placement options for young children with disabilities. This potentially suggests that special education providers no longer have an obligation to fund typical preschool settings.

In PA, the state-wide responsible parties for the coordination of pre-school special education services for children ages 3-5 are the Bureau of Early Intervention & Family Services (BEIS) and OCDEL, which are jointly overseen by the Department of Human Services and the Department of Education. In addition to their work in pre-school special education, OCDEL works with a wide array of statewide entities to ensure the quality of early childhood programs and to support families of young children (Pennsylvania Department of Human Services, 2018). These groups, then, contract their preschool special education services through agencies referred to in PA as Intermediate Units (IUs) or through private contracts, which are issued to school districts or private organizations.

The Pennsylvania General Assembly established 29 IUs in PA in 1971 and strategically chose to coordinate them by county. These organizations seek to provide regionalized

educational services to PA school districts, charter, non-public and private schools (PAIU, 2018). Given this, the IUs are the main organizations directly responsible for the evaluation of young children with suspected disability, as well as bear the responsibility for the coordination of preschool special education services for eligible children, as outlined in IDEA and PA Chapter 14 (Pennsylvania Department of Human Services, 2018). In addition to working directly with IUs for the dissemination of preschool special education services in PA, the BEIS & OCDEL also hold a small number of private contracts, both with school districts and private/non-profit organizations, to coordinate and implement these special education services. An example of this is their private contract with an organization entitled *Elwyn*, a nonprofit organization which oversees preschool special education services in the city of Philadelphia.

Preschool special education services for children in the state of PA are designed to support development in one or more of the following developmental domains: physical development, cognitive development, communication, social or emotional development and adaptive skills. Children are deemed eligible for pre-school special education services when they display a 25% delay in any one of the aforementioned developmental areas or they have been identified as having a disability covered under the IDEA and they demonstrate a need for special education services (PA Department of Education, 2018). Behavior is a theme woven throughout and amongst all of these domains, as the ability to positively interact with one's environment is crucial to ongoing developmental progress and success (Friedman-Krauss, Raver, Morris & Jones, 2014). Services and support may include therapeutic intervention from special education teachers, speech and language pathologists, occupational therapists, behavior support specialists, physical therapists, personal care assistants, hearing or vision specialists, etc. Programs and educational plans are completely individualized and tailored to meet the needs of individual

students, based on their initial evaluation or re-evaluation, as well as the ongoing monitoring of progress towards their Individualized Education Plan (IEP) goals (PA Department of Human Services, 2018).

It has been well established in the literature that behavioral challenges, and subsequent, ineffective behavioral support and/or the use of suspension and expulsion to rectify behavioral concerns can lead to long-term aversive effects for children (Miller, Smith-Bonahue & Kemple, 2017). Some of these long-term effects can include increased drop-out rates in the later grades, long-term aversive academic or cognitive deficits and higher risks of being labeled with an emotional disorder (Allen & Steed, 2016). Other negative outcomes include increased social challenges with peers, including peer rejection, negative familial interactions and increased encounters with the juvenile justice system. Finally, long-term, these children also face higher risks of unemployment, divorce, substance abuse, psychiatric illness and early death (Coie & Dodge, 1998; Kazdin, 1985; Carter & Van Norman, 2010).

Compounding the issue, early childhood educators often cite behavioral challenges as the number one cause for job-related stress and a significant barrier to remaining in the field. In fact, early childhood teacher turnover rates have been estimated at one-third to one-half annually (Jeon & Wells, 2018). Evidence also suggests that early childhood education teachers often feel unprepared and unable to handle the wide array of behavioral concerns they encounter in the classroom (Miller, Smith-Bonahue & Kemple, 2017). Furthermore, Friedman-Krauss, Raver, Morris, and Jones (2014) found that high levels of child behavior problems reported in classrooms were directly related to higher levels of teacher-related stress. These higher-levels of teacher-related stress were also then potentially related to more negative teacher-student interactions, suggesting a perpetuation of a negative classroom environment.

Despite the widespread focus and concern on behavioral challenges in early childhood classroom settings, a potentially correlated increase in preschool special education services, aversive student effects and directly associated higher levels of teacher stress and turnover, there are behavioral solutions as outlined in the current literature in the form of prevention and intervention models, specifically referred to as Positive Behavior Interventions & Supports (PBIS) (Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Powell, Dunlap & Fox, 2006). PBS models have been empirically validated and established as an evidence-based method for increasing the use of pro-social behavior in classrooms across a wide array of age groups and demographics (Carter & Van Norman, 2010; Duda, Dunlap, Fox, Lentini, & Clarke, 2004). PBS provides a framework for tiered prevention and intervention to support social-emotional development and prevent problematic, challenging behavior (Carter & Van Norman, 2010). Its positive effects in early childhood classrooms have also been more recently demonstrated in the literature (Carter & Van Norman, 2010; Hemmeter, Fox, Jack & Broyles, 2007; Fox & Hemmeter, 2009). However, it is currently unclear how frequently the use of evidence-based methods are being utilized with early childhood students, even by more trained, special education staff members.

Therefore, given the established need to reduce suspension and expulsion in early childhood classrooms while simultaneously reducing problem and challenging behavior and given the existence of a solidified, evidence-based framework for behavior support through the PBS model, the current study was designed to identify current behavioral practices being implemented in the state of Pennsylvania by trained, preschool special education staff members with students that display maladaptive behavior in early childhood settings to determine whether they align with PBS as outlined in the current literature. A focus was placed on the state of Pennsylvania due to the state's avid support of PBIS strategy infusion in early childhood

programs. In fact, the BEIS in PA, alongside OCDEL, have deemed PBIS implementation across preschool settings, as well as a shift in special education models to a coaching model, specifically in relation to PBIS, their targeted initiatives and areas of focus for the current and upcoming years. For that reason, an emphasis of this study was placed on the specific strategies and interventions outlined within each of the three tiers of intervention and prevention. This information will lead to implications for higher education institutions and preschool special education employment organizations, as well as local policy-makers. The research questions for this specific study, then, are as follows:

1. What formal training do preschool special education professionals in Pennsylvania receive through their higher education entities in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

2. What formal training do preschool special education professionals in Pennsylvania receive through their employment organizations in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

3. How do preschool special education professionals in Pennsylvania employ evidence-based Tier 1 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

4. How do preschool special education professionals in Pennsylvania employ evidence-based Tier 2 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

5. How do preschool special education professionals in Pennsylvania employ evidence-based Tier 3 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

CHAPTER 2

LITERATURE REVIEW

Special Education Regulations and Law

Situated beyond the ethical implications of providing high quality instruction and support to students with special needs, including children experiencing behavioral challenges, lies the federal and state mandates that also now require it. The Individuals with Disabilities Education Act (IDEA), which was most recently reauthorized in 2004, is a federal law that mandates a number of service provisions for children with disabilities. IDEA works alongside individual state mandates to govern how special education services are developed and delivered to children with special needs, birth through age 21 (US Department of Education, 2016). Children from birth through age two are covered under Part C of IDEA, while children ages three through 21 are covered under Part B of the law (US Department of Education, 2016).

The IDEA also works to align with other educational mandates and protects children with disabilities while promoting high quality instruction, services and evaluation procedures. The IDEA includes a wide array of mandates and sanctions, including the implementation of early intervention services, access to multi-disciplinary evaluations, the use of Individualized Education Plans and stringent assessment and progress monitoring procedures, amongst others (US Department of Education, 2016). The IDEA provides services to children across 13 disability categories, including autism, deaf-blindness, intellectual disability, traumatic brain injury, specific learning disability, emotional disturbance, etc. (US Department of Education, 2016).

One might argue that at the heart of the IDEA are the concepts of Free Appropriate Public Education (FAPE) and Least Restrictive Environment (LRE). Loosely defined, FAPE is

identified as a special education and related services program that is provided to a child at no additional cost to the family, meets set standards, includes education in an appropriate school setting and is provided in conjunction with the child's Individualized Education Plan (US Department of Education, 2016). While a definition of FAPE is offered via IDEA, it is not operationally defined within the language of the law itself and, therefore, is open to subjectivity and individualization.

Also at the core of IDEA is the notion of the provision of education in the Least Restrictive Environment, or LRE. This portion of the law requires that, to the maximum extent appropriate, children with disabilities should be educated alongside their typically developing peers in the general education setting. More restrictive placements can only be considered after a child's team has determined that the general education setting will not allow for the child to make adequate yearly progress, even with the addition of supplementary aids and services (US Department of Education, 2016). FAPE and LRE play a significant role in the placement of young children with disabilities and teams should first consider the natural, early childhood education setting prior to considering more restrictive environments for instruction.

Yet another crucial component of the IDEA, especially in light of the recent federal and state policy statements surrounding behavior, suspension and expulsion, is the emphasis on the use of Positive Behavior Intervention and Supports (PBIS) as a means of both proactively and reactively responding to behavioral needs and challenges in today's classrooms. Specifically, the IDEA requires that school-based teams consider the use of Positive Behavior Interventions and Supports for students whose behavior may impede their individual learning or the learning of others (20 U.S.C. §1414(d)(3)(B)(i)). Furthermore, the law requires that special education teams utilize Functional Behavior Assessments (FBAs) for any child who does not have a prescribed

behavior intervention plan and is removed from their current school placement for more than ten days, which includes suspension and expulsion, or for any child whose behavior is determined to be a direct manifestation of their disability (20 U.S.C. §1415(k)(1)(F)(i)) (US Department of Education, 2016).

The history behind this promotion of the use of PBIS began with Mills vs Board of Education of the District of Columbia (1972) in which a class action law suit was brought against the District of Columbia School Board by seven parents who claimed their children were discriminated against and not offered an appropriate public-school education. This case pushed the US District Court to establish an order to ensure that all children with disabilities receive an adequate, publicly support education and that children cannot be excluded from their school setting, including for issues related to behavior, without proper due process (Button, Hittinger & Applequist, 2013). Several years after the conclusion of Mills vs the Board of Education came the Education for All Handicapped Children Act of 1975, which would eventually become the IDEA of 2004 that we rely on today.

A slightly later case, Honig vs Doe (1988), further refined the rights of children with disabilities in relation to suspension, expulsion and the overall discipline of children with special needs in public schools. Honig vs Doe involved two students classified as emotionally disturbed within the San Francisco school district in California. The main identified infractions of the school district included expulsion of one of the students with a disability due to a behavioral incident and a reduction in the education of the second for similar reasons. This case set precedent that placed restrictions on schools in relation to the disciplinary removal and disciplinary procedures, in general, for students with disabilities. Some of these restrictions include the ability to suspend children with special needs for up to ten school days, considered a

short-term suspension following a behavioral incident; however, long-term suspensions (longer than ten school days) are not permitted. Furthermore, a child with a disability cannot be expelled from his or her educational placement without manifestation determination, a process that relies on the expertise of the child's IEP team to determine whether or not the behavioral incident was a direct result of the child's disability. If the behavior was, in fact, a direct result or manifestation of the child's disability, the child cannot be expelled. If the behavior cannot be attributed to the child's disability in any way, the child many be expelled but the school entity remains responsible for the education of that child and alternate options must be identified (Yell, 1989).

Beyond the legal foundations for the use of PBIS in school systems lies the significant body of research that supports the efficacy of the use of positive approaches to discipline. In fact, the IDEA specifically identifies PBIS as a research or evidence-based means to prevent the exclusion of children with special needs from public schools while simultaneously improving educational results and long-term outcomes for children (20 U.S.C. § 1401(c)(5)(F) (US Department of Education, 2016).

Parallel to this concept lies another highly relevant and highly controversial component of the IDEA, the provision of high-quality instruction and use of evidence-based practices (EBP). More specifically, the law requires that schools apply "scientifically based findings to facilitate systemic changes related to the provision of services to children with disabilities, in policy, procedure, practice and the training and use of personnel (US Department of Education, 2016)." Essentially, this means that school districts and IUs (in PA) are mandated to utilize research-based policies, procedures and practices to further the success of their students with disabilities. This includes strategies, curricula and instructional techniques that have been proven effective via current research in the field of special education. In recent years, much emphasis

and attention has been placed on developing, testing, studying and implementing evidence-based practices in clinical, community and classroom settings and tremendous progress has been made. In fact, a number of research organizations have been established solely to assist in the identification of evidence-based practices for young children being educated in early childhood education environments.

Specifically within the state of PA, Chapter 14 PA regulations work alongside federal mandates and the IDEA to offer additional protections and support for children with disabilities. In relation to behavior, Chapter 14 specifically outlines the use of positive behavior supports and approaches as the foundation of behavior change programs in schools. PA Chapter 14 mandates that children receive behavioral treatment that is non-aversive, non-demeaning and free from restraint. PA Chapter 14 also mandates the use of functional assessments of behavior to determine root cause and then the use of the least restrictive, proactive, positive approaches possible to alleviate such behavior (Commonwealth of Pennsylvania, 2008). Chapter 14 does not offer additional mandates in regard to the implementation of evidence-based practices for children with disabilities, beyond what is outlined in the IDEA.

Evidence-Based Practice

The notion of the implementation of "evidence-based practice" is one that began in the field of medicine. It has since seeped into the fields of psychology and most recently, education. Sackett et al. (2000) define the concept of evidence-based practice, in regard to medicine, as an integration of strong research evidence, context and patient values and clinical expertise. The American Psychological Association (2005) released their statement in regard to EBP to align with Sackett et al.'s statement. They went a bit farther to also define the purpose of EBP as a

phenomenon designed to enhance public health by promoting effective services and practices (American Psychological Association, 2005). Both of these definitions, offered by the fields of medicine and psychology, describe evidence-based practice as a decision-making process. Not only is a clinician required to utilize current research within this decision-making process, but the inclusion of clinical expertise and patient values are also necessary components (American Psychological Association, 2005).

Within the field of education, there exists a multitude of definitions of evidence-based practice. These definitions vary in basic conceptualization, appropriate or acceptable research methodologies, levels of evidence required, etc. Numerous organizations, research teams and educational initiatives have worked to define and outline evidence-based practices within the field of education. Some of these include the What Works Clearinghouse (WWC), Council for Exceptional Children (CEC) and the National Academy of Sciences (NAS) (Odom et al., 2005). Odom et al. (2005) argue that conflicting definitions exist in education due to variability of participants and the complexities of the classroom setting. In addition to a wide array of students from numerous cultures and backgrounds, children have different learning styles and abilities, as well as disabilities. Furthermore, the very nature of educational context makes for a challenging setting to conduct controlled research studies (Odom et al., 2005).

Despite the innate challenges of identifying evidence-based practices within the field of education, practitioners and researchers alike are charged with completing this very task. Much work has been done in the area of evidence-based practice and behavior and a number of empirically validated interventions have been outlined in the current literature. Some of these interventions include the use of function-based interventions, a wide array of antecedent and consequence interventions, the use of reinforcement schedules, the use of schedules and

functional routines, visual supports, modeling, naturalistic teaching strategies, social skills

instructional packages, etc. (National Autism Center, 2015). These strategies are all embedded,

amongst other evidence-based strategies, in a PBIS implementation package. Interestingly, these

validated interventions also each have roots in the science of Applied Behavior Analysis (ABA).

Applied Behavior Analysis is a science much discussed within the field of education and,

particularly, within the realm of the application of positive behavior interventions and supports.

Essentially, ABA is the science of human behavior or the systematic application of scientific

principles designed to change socially significant behavior to a meaningful degree. ABA

provides insight or understanding into why individuals engage in particular behaviors and allows

for the development of environmental manipulations or interventions to increase or decrease

socially significant behaviors (Ryan, Hughes, Katsiyannis, McDaniel, & Sprinkle, 2011).

Recently, the science of ABA is being utilized in school or education settings to teach a wide

array of cognitive and social skills, as well as to assist in the alleviation of maladaptive behavior

and in the promotion of positive behavior.

Slocum et al. (2014) looked to define evidence-based practice within the realm of

Applied Behavior Analysis. Much like Sackett et al. (2000) and the American Psychological

Association Statement (2005), Slocum et al. (2014) describe evidence-based practice as a

decision-making process and a reference of one's professional behavior. Rather than simply

provide or regurgitate a list of validated treatments, this perspective promotes a well-rounded,

clinically insightful process of applying the best available evidence to one's clinical knowledge

and then individualizing a treatment protocol for specific clients or students. This perspective on

evidence-based practice is also evident in the three-tiered system of PBIS, which emphasizes a

pyramid approach to teaching appropriate behavior and simultaneously reducing challenging

behavior through generalized or universal evidence-based practices, as well as more targeted, individualized, contextual and student-specific interventions (Kincaid & Horner, 2017).

<center>Positive Behavior Interventions and Supports (PBIS)</center>

PBIS, or Positive Behavior Interventions and Supports, is a model well established in the literature across age groups that has shown effectiveness in both the prevention and treatment of maladaptive behavior in children (Fox & Hemmeter, 2009). PBIS is a three-tiered, pyramid model that increases in the intensity of support provided and is built on the very concepts of universal access and prevention, as well as individualized, targeted intervention where needed. Rather than analyze PBIS as a curriculum, a program of mandated strategies, or a series of phases, PBIS is best defined as a continuum of supports for students, ranging from the most general and universal to the most specific and intensive (Scott, Alter, Rosenberg, & Borgmeier, 2010).

Uniquely, PBIS is also a model that relies on a wide variety of selected, established, evidence-based practices and the stringent use of data and progress monitoring to ensure growth and progress (Hemmeter, Fox, Jack & Broyles, 2007). A solid PBIS classroom model, particularly at the early childhood level, focuses on providing students with a safe environment that offers predictable routines, clear expectations, structure and positive reinforcement for engaging in a wide array of positive, prosocial behavior (Carter & Van Norman, 2010). School-wide PBIS models have been utilized across the nation, in thousands of school districts at both the early childhood and K-12 levels, and has shown decreases in suspensions and expulsions, decreases in behavioral challenges and subsequent increases in academic achievement (Allen & Steed, 2016; Greflund, McIntosh, Mercer, & May, 2014). Perhaps one of the most important

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elements to an effective PBIS model is that the model also works to shape and mold teacher behavior and the actual learning environment, in addition to supporting students (Jolstead, Caldarella, Hansen, Korth, Williams & Kamps, 2017).

Theoretically, PBIS has roots in the science of applied behavior analysis and assumes that, despite a wide array of ecological, biological and learning factors, the behavior of human beings can be changed or altered based on the environment. More specifically, PBIS is situated in behavioral theory and contends that behavior is malleable and can be altered or positively affected by shifting the contingencies within an environment. This underpinning theory, then, suggests that the adults in children's lives have the ability to foster, shape and produce more positive, prosocial behavior in children by applying empirically-validated interventions in a supportive, systematic way (Sailor, Dunlap, Sugai & Horner, 2009).

It is important to note that there has been a level of disagreement in the field of ABA as to whether or not PBIS aligns with the core features of the science as originally outlined by Baer, Wolf and Risley (1968). To many researchers, however, including Critchfield (2015), this argument is moot and provides a level of scrutiny that does not positively contribute to the dissemination of behavior analysis in practical, everyday situations. PBIS is a model that attempts to provide both prevention and remediation of maladaptive behavior in the naturalistic environment and thus, in short, attempts to offer society-wide positive change that the science of ABA imagines.

Another important facet of PBIS is the notion that interventions are delivered in a naturalistic way, mostly meaning they are delivered in natural settings with and by natural caregivers. PBIS strategies are, therefore, significantly more successful when they are implemented across the settings, caregivers, educators, activities, etc. that a child would typically

encounter (Sailor, Dunlap, Sugai & Horner, 2009). This approach emphasizes the need for familial support and involvement to ensure carryover from the school or classroom environment to home and community settings. This concept is consistent not only with the practice of preschool special education and early childhood support systems, particularly in PA, but also with current research that emphasizes interventions that are designed to support parents' capacity to provide positive, nurturing and learning-rich environments for their children (Barton, Steed, Strain, Dunlap, Powell & Payne, 2014).

The early childhood or preschool PBIS model resembles the typical K-12 model in a number of ways but is also malleable where necessary to meet the unique needs of early childhood education environments. Steed, Noh and Heo (2014) contend that the organizational structure of preschool, early childhood education environments differ slightly from traditional, K-12 organizational models, and thus, an effective preschool PBIS framework will do the same. In addition, there is an intent focus on the direct teaching of social emotional skills during this critical infant, toddler and preschool period of development. Preschool PBIS frameworks aim to encourage a positive, prosocial climate by fostering program-wide positive relationships through an emphasis on social emotional curricula and content. Tier 1 interventions typically include this promotion of a positive learning environment and positive relationships amongst students, educators and families. Tier 2 includes the direct, targeted teaching of social-emotional content to children who may need additional supports. Finally, Tier 3 includes more intensive, individualized, function-based interventions and supports children with more chronic, severe behavioral challenges (Steed, Noh & Heo, 2014). Additional noteworthy facets of a preschool or early childhood specific PBIS framework include administrative support and buy-in, familial and

community support as aforementioned, staff training and data-based decision-making (Benedict, Horner & Squires, 2007).

Tier 1 Interventions and Supports

Within a preschool or early childhood PBIS model, Tier 1 is considered a universal tier of support and aims to provide access to evidence-based interventions to all children enrolled in the program. These evidence-based, Tier 1 interventions are also considered the least restrictive and the most cost-effective (Stanton-Chapman, Walker, Voorhees & Snell, 2016). Efforts are centered on developing positive relationships amongst students, as well as amongst staff, and designing and executing supportive learning environments and a proactive approach to preventing challenging or maladaptive behavior (Carter, Van Norman & Tredwell, 2011). Specific Tier 1 interventions can include the implementation of a physical classroom design that is purposeful and allows for age-appropriate movement but also promotes a sense of structure and order, the use of developmentally appropriate schedules, the implementation of routines and the direct and explicit teaching of program-wide rules, as well as classroom-specific rules and expectations. The use of positive reinforcement systems is also emphasized in effective preschool PBIS models, specifically the implementation and use of behavior-specific praise statements for children engaging in appropriate, prosocial and expected behavior (Stanton-Chapman et al., 2016).

Interdependent group contingencies are often also utilized within Tier 1 of a preschool PBIS model. An interdependent group contingency refers to a reinforcement system in which the reinforcement of all members of a group depends upon the performance of the individual students within the group (Jolstead et al., 2017). More specifically, the group as a cohesive unit

is reinforced if each individual member of the group meets a pre-established goal or expectation. This approach allows for the promotion of teamwork and comradery amongst students, is an efficient system for educators to use as it is often classroom-wide and allows educators to shape individual student behavior without singling out students for their deficits. Group contingencies are also effective tools in teaching students to monitor and regulate their own behavior, in relation to the group, and often brings a sense of awareness and responsibility to children.

Other significant attributes of Tier 1 include the building and promotion of positive relationships with families and the community at-large and the implementation of program-wide and classroom-specific organization and preparation systems for staff. Organization and preparation systems work to promote the notion of accountability for staff, a crucial component of an effective PBIS model, and predictability for children. Finally, pre-taught and established transition routines, as well as pre-correction, the use of positively stated proactive reminders of expectations prior to engaging in a particular task or activity, are utilized as universal, global strategies implemented as part of Tier 1 intervention and supports (Steed, Pomerleau, Muscott, & Rohde, 2013).

Numerous research studies have illustrated the positive effects and outcomes related to the implementation of Tier 1 interventions (Farkas, Simonsen, Migdole, Donovan, Clemens & Cicchese, 2012). However, other independent studies and literature reviews showed that Tier 1 interventions are not often delivered or implemented with high levels of fidelity (Mitchell, Stormont & Gage, 2011). This concept of fidelity of implementation is crucial, as it provides a framework for the positive outcomes reported and associated with the implementation of Tier 1 and PBIS-rooted interventions as a whole. While conducted with older elementary to middle school-aged students, Farkas et al. (2012) found that, in relation to Tier 1 interventions delivered

in an alternative setting, fidelity of delivery was high, student outcomes were positive and social validity of staff members employing the program was also positive. This suggests an innate connection amongst fidelity, social validity and positive student outcomes within a Tier 1 level of support.

It has been noted in the literature that approximately 80% of children will respond favorably to Tier 1 interventions, if implemented with fidelity. This leaves an approximate 20% of children who will not adequately respond to the universal, Tier 1 interventions and will require another layer of support (Scott, Alter, Rosenberg, & Borgmeier, 2010). Diagnostic procedures, particularly the use of data collection and the ongoing and consistent monitoring of said data, will be utilized to target students that require increased levels of support. Utilizing 20% as a generalized average of the number of students that will, indeed, necessitate an increased, more intensive level of intervention also provides teachers and administrators with proactive knowledge and can allow them to make predictions prior to students engaging in failure (Scott, Alter, Rosenberg, & Borgmeier, 2010).

Tier 2 Interventions and Supports

Tier 2, the second level of support in the PBIS pyramid model, focuses on the direct, explicit teaching of a wide variety of social, emotional and behavioral skills. Students targeted in Tier 2 have not successfully benefitted from Tier 1 supports and may be struggling with a skill deficit related to the development of prosocial or emotional skills or a performance deficit related to overt behavior. Students that require Tier 2 support usually make up 10-15% of the overall student population and are considered to be "at risk". The overall purpose of Tier 2 interventions is to alleviate skill deficits and reduce current behavioral challenges to avoid the student

requiring intensive, individualized, Tier 3 interventions at a later time (Mitchell, Stormont & Gage, 2011). It should also be noted that while Tier 1 supports may not have been enough to support the positive development and growth of students then enrolled in a Tier 2 level of support, they still receive access to Tier 1 interventions, simply in combination with the more intensive services offered within Tier 2 (Bruhn, Lane, & Hirsch, 2014; McDaniel, Bruhn & Mitchell, 2015).

A crucial element of Tier 2 is the use of small group instruction to offer targeted teaching and learning opportunities. Children enrolled in Tier 2 are often grouped by the skill deficit being displayed and a team-approach to support is often utilized by school-based employees (McDaniel, Bruhn & Mitchell, 2015; Mitchell, Stormont & Gage, 2011). Hallmark Tier 2 interventions include the use of direct, social skills instructional groups and check-in/check-out procedures. The use of established social skills curricula is often utilized for students requiring Tier 2 levels of support. Also utilized, at the early childhood level, are theme-based activities and shared storybook readings, typically surrounding a social-emotional theme purposefully chosen. Social-emotional skills often targeted are problem solving, self-regulation, emotional literacy, anger and impulse control, maintaining interactions, initiations and friendship skills (McDaniel, Bruhn & Mitchell, 2015; Stanton-Chapman, et al., 2016). Academic support or instructional groups are also often implemented with students enrolled in a Tier 2 level of support, as academic skill deficits are often linked to behavioral challenges in school settings (Mitchell, Stormont & Gage, 2011). An extensive review of the literature to determine which Tier 2 interventions were most frequently being utilized in schools found that social skills groups, academic support groups and the check-in/check-out procedure were utilized by nearly half of the reviewed studies and their efficacy was promising (Mitchell, Stormont & Gage, 2011).

Progress or response to intervention is monitored more closely and, often, more frequently in Tier 2 than in Tier 1 (McDaniel, Bruhn & Mitchell, 2015). The frequency of data collection, however, continues to depend on the severity of the issues or challenges a particular student presents. If the data happen to reveal that a child is continuing to struggle, and a lack of progress is evident, then interventions are individualized and tailored to meet that child's needs, rather than immediately progressing the child to Tier 3 (McDaniel, Bruhn & Mitchell, 2015). A child is ultimately transitioned to Tier 3 interventions and support when they display a complete lack of responsiveness to Tier 2 interventions, as outlined in the data collection, and their behavior is so chronic and severe that they have difficulty functioning in the early childhood educational environment altogether (Steed, Noh & Heo, 2014).

Tier 3 Interventions and Supports

The final layer of tiered support within the PBIS framework is the tertiary level or Tier 3. Tier 3 consistently offers individualized, tailored interventions to children and, on average, is implemented with approximately 1- 5% of the overall early childhood student population (OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports, 2017). Due to the fact that Tier 3 provides intensive, individualized support, many of the children receiving or requiring access to this level of support may be diagnosed with a developmental delay or another related disorder, including an Emotional or Behavioral Disorder (EBD) (Blood & Neel, 2007). If that is the case, at the preschool early childhood level, special education staff will be charged with working alongside the general education staff to support these students in making progress across the applicable developmental domains. This does not mean that children enrolled in Tier 1 or Tier 2 levels of support do not also present with developmental delays or alternate diagnoses, as that can very well be the case. The need for intervention is often simply amplified at Tier 3

due to the many concerns connected to this intensity or unique topography of overt, maladaptive behavior.

At the core of Tier 3 is the use of individualized Functional Behavior Assessments (FBAs) and the subsequent creation of individualized Positive Behavior Support Plans (PBSPs) that align with the function of behavior gleaned from the assessment. The use of function-based assessments and interventions to address challenging or maladaptive behavior in school settings are well established in the literature (Chandler, Dahlquist, Repp & Feltz, 1999; Neilsen & McEvoy, 2004). In fact, while the use of FBAs has received a tremendous amount of attention in the school setting recently, they first emerged in behavioral literature back in the 1970s (Neilsen & McEvoy, 2004). The use of FBAs to subsequently create PBSPs that address the actual function of a child's behavior has been found to be more efficient and effective than support plans that offer positive strategies but do not directly address function (McLaren & Nelson, 2009).

FBAs are a form of both direct and indirect assessment that include interviews with appropriate stakeholders, often targeting parents, teachers and any necessary related service providers, rating scales, direct observation and/or the use of data collection and analysis to form a hypothesis regarding the function, or underlying reason or purpose for, the challenging behavior. In addition to identifying the function of the behavior, the FBA process allows a child's clinical team to identify the specific antecedent and environmental conditions in which the child engages in the established behavior(s) of concern, as well as the conditions in which the child is successful. Finally, an FBA highlights the current consequences maintaining the child's behavior and, after careful analysis, offers insight into how to manipulate those consequences to change or decrease the undesirable behavior. The most often identified functions of behavior

include access to attention, tangibles or sensory input or to avoid or escape attention, tasks or sensory stimulation. It is also highly possible that behavior serves multiple functions simultaneously (Neilsen & McEvoy, 2004).

Once a single hypothesis or multiple hypotheses surrounding function, as well as the necessary environmental conditions, are established through the FBA process, a child's team is able to develop a PBSP to proactively support the child. The PBSP will include a number of necessary elements designed to prevent challenging behavior from occurring, often referred to as antecedent conditions or manipulations, as well as replacement behaviors targeted for direct teaching and a wide array of consequences to address the child's engagement in both the replacement behavior(s), as well as the challenging behavior. Specifically, within an early childhood context, emphasis is often placed on developing the communication and self-regulatory skills necessary to effectively express individual wants and needs, as well as the social skills necessary to positively engage with peers and educators (Cho Blair, Fox & Lentini, 2010).

Other Necessary Elements: School Leadership Teams, Data Collection and Monitoring &
Programmatic Resources

In addition to the utilization of the evidence-based practices outlined in Tiers 1, 2 and 3, an effective PBIS model requires that the school, or host environment, also be adequately prepared to support students from a structural or foundational level. This means that the school is equipped with up-to-date policies and procedures and the means to implement and sustain them (Hemmeter et al., 2007). A PBIS model also requires that a school-wide leadership team is established, long-term staff commitment is solidified, concrete, quantitative and qualitative data are collected and utilized to guide implementation, high fidelity of implementation is adhered to

and ongoing progress monitoring is utilized to accurately and adequately monitor program-wide and individual student success (Hemmeter et al., 2007).

The school-wide leadership team is a crucial and necessary element to any program that desires to adhere to and be successful in the utilization of a PBIS model. The school-wide leadership team develops and guides the PBIS process from inception through implementation and works to support the model from a student, parent or familial and staff perspective. The school-wide leadership team is often made up of administrators, lead and assistant teachers and a behavioral expert. The team may also include university partners, state-wide organization representatives, parents and special education staff, if applicable (Carter, Van Norman & Tredwell, 2011). State or regionalized PBIS trainers and organizations are often the stakeholders responsible for training and supporting the school-wide leadership team (Kincaid & Horner, 2017). It is suggested that the school-wide leadership team meet at least once a month to review implementation progress, analyze data and determine individual student staff needs (Hemmeter et al., 2007).

The school-wide leadership is responsible for obtaining staff commitment and buy-in and ensuring that commitment throughout the process. This often means the establishment of staff motivation, initial and ongoing professional development, coaching and instructional support and the acknowledgement or reinforcement of staff that truly align themselves with and implement the model with fidelity (Carter, Van Norman & Tredwell, 2011). The school-wide leadership team is also responsible for the ongoing collaboration with families as part of the PBIS process. This type of collaboration requires attempts to garner parental feedback and input wherever possible, as well as in coaching families to implement strategies across environments (Steed et al., 2013). Ultimately, the school-wide leadership is responsible for the systematic and practice-

based issues that might present barriers for successful PBIS implementation. This might include systematic barriers such as funding, policies or personnel design, as well as practice-based issues including training, evaluation and coaching (Kincaid & Horner, 2017).

Initial and ongoing data collection and monitoring is also a necessary element to an effective PBIS model, as the evolution of PBIS and individualization at a student and/or program level is unavoidable. This is due to the notion that PBIS is not a prescribed curriculum nor a standardized program but rather, a framework for support (Scott, Alter, Rosenberg, & Borgmeier, 2010). School-wide leadership teams and individual classroom teams must implement ongoing data collection systems that guide their decision-making process regarding individual students, as well as the program as a whole. This includes overall, program-wide behavior referrals, as well as in-classroom, individual student infractions (Steed et al., 2013). This type of formative assessment information guides not only the movement of students across and amongst Tiers of support, as necessary, but also drives the development or modification of program-wide policies, procedures and expectations, the rigor and type of professional development required, parental support systems needed, etc. (Scott et al., 2010).

A commonly utilized method for behavioral data collection in early childhood programs is the Behavior Incident Report (BIR). This differs slightly from the K-12 model that relies heavily on office discipline referrals for data purposes. The BIR is unique because it captures the quantity or frequency of behavioral concerns in the classroom setting and program-wide, as well as offers insight into the identification of specific settings, activities, or times of day in which maladaptive behavior is mostly likely to occur. This can, then, be used to make predictions and to suggest modifications to expectations, or other environmental contingencies, including

reinforcement schedules, during those particular activities, times of day, settings, etc. (Hemmeter et al., 2007).

Finally, in order to truly implement a PBIS model with success, a program must be equipped with certain programmatic resources necessary to sustain their efforts. While the goal is long-term internal capacity, most programs will require initial training and professional development, as well as on-site coaching and support through a PBIS coordinator, often arranged through a city or state-wide organization, in order to start the PBIS process and assist with moving the program forward (Steed et al., 2013). In addition to this training and ongoing coaching, PBIS requires a certain level of sustainable funding, which often presents a challenge for early childhood education environments in today's political climate. Funding is required for ongoing, professional development and the additional time spent on coaching, data analysis and policy review, etc. Visibility and political support, including parental, are also key elements and resources to successful PBIS implementation. In order to sustain multi-year efforts, which include the notion of delayed benefits or results, an administrative or school-wide leadership team must be skilled in keeping the initiative visible and relevant for staff members and families (Sugai & Horner, 2006).

Barriers to Effective PBIS Implementation

While the success of the PBIS model has been amply documented in the literature, there are barriers to effective and/or sustained implementation, particularly for early childhood programs. Some of these barriers include teacher characteristics necessary for effective implementation, the issue of fidelity and generalizability, a lack of administrative and leadership support, multi-year investment and commitment, funding, etc. (Blood & Neel 2007; Cho-Blair,

Fox & Lentini, 2010; Kincaid & Horner, 2017; Steed et al., 2013; Stormont, Reinke & Herman, 2011; Sugai & Horner, 2006).

To begin, teachers, particularly those who are the primary interventionists, general education teachers, for instance, often report a lack of preparation, knowledge and training in utilizing evidence-based strategies to support children with social, emotional and behavioral needs (Stormont, Reinke & Herman, 2011). This is just a small component to a wide array of teacher characteristics necessary to implement PBIS effectively. The early childhood field is particularly unique in this way, as the requirements for educational and training levels often vary greatly by funding source (e.g., teacher certification, education level requirements). Interestingly, teachers with a graduate-level education, within the preschool field, often rate behavior supports as more important than teachers with high school diplomas. Furthermore, teachers with lower levels of education were found to have students that engaged in more severe levels of maladaptive behavior than teachers with higher level degrees (Stormont, Reinke & Herman, 2011). Research also suggests that cultural differences in educators can potentially interfere with PBIS implementation. Some cultures do not naturally utilize proactive or positive strategies when confronted with challenging behavior. One study that compared PBIS implementation across the United States and South Korean found that South Korean teachers tend to rely on reactive approaches to behavior management, despite training, and, therefore, PBIS implementation was less effective (Steed, Noh & Heo, 2014). Thus, this suggests that teacher characteristics play a vital role in the effective implementation of PBIS and the unique design of a particular early childhood program's personnel will potentially have a direct effect on student outcomes.

Parallel to individual teacher characteristics, the behavioral expertise of an early

childhood program's staff also becomes a barrier and a genuine concern in PBIS implementation.

Blood and Neel (2007) contend that research highlights that a tremendous number of FBAs

conducted by school-based staff are not clinically sound and, therefore, not likely to result in

high quality, function-based PBSPs. An even more alarming discovery by Blood and Neel was

that children enrolled in Tier 3 supports were two times less likely to have had an FBA and

corresponding PBSP, even when enrolled in a level of support that requires this type of

assessment and behavior planning. The researchers also found that even when developed, the

PBSPs lacked individuality and consisted mostly of pre-generated lists of proactive and reactive

consequences not tailored to meet individual student needs. This lack of behavioral expertise is

concerning, particularly when the aforementioned consequences of prolonged, maladaptive

behavior in young children are established in the field and can be so negatively impacting.

Additional barriers to PBIS implementation are an adherence to interventions with

fidelity, as well as the notion of generalization of acquired skills across settings, for both students

and staff. Kincaid and Horner (2017) assert that existing research outlines direct connections

between PBIS implementation fidelity and student outcomes. Florida's PBIS Project, for

instance, reports data that schools with a high-quality rating, or a high level of fidelity, had 35%

fewer discipline referrals and 46% fewer out-of-school suspensions than schools that had been

rated at a lower level of fidelity (Kincaid & Horner, 2017). There are many tools in existence

that can measure fidelity of PBIS models in schools that will give school-wide leadership teams

further insight into the degree in which PBIS is being implemented effectively within their

program, if any additional staff support systems are needed and to speak to ongoing quality

improvement. The state of Pennsylvania, in particular, recommends the Tiered Fidelity Inventory

(TFI), School-Wide Evaluation Tool (SET) or the Benchmarks of Quality (BoQ) (PA PBS, 2016) to evaluate whether PBIS is being implemented with fidelity. Overall, the number of variables necessary for implementing PBIS with fidelity, including teacher, program-wide, administrative, student and family-specific, can make PBIS implementation a daunting task. Therefore, a strategic plan that outlines priorities, creates measurable goals and includes the ongoing monitoring of improvement data will be necessary in making the implementation of the PBIS model manageable and realistic (PA PBS, 2016).

The generalization of acquired skills, for both students and staff members, is crucial to PBIS implementation but can also serve as a realistic barrier. Cho Blair, Fox and Lentini (2010) conducted a study in which they specifically analyzed the students' ability to generalize newly acquired, prosocial behavior to novel settings, as well as staff ability to generalize their PBIS implementation skills across students and settings. The results were positive and outlined the feasibility of generalization of skills learned through the PBIS process, for both students and adults. However, their findings supported the use of consistent, present and ongoing coaching, consultation, training and feedback for teachers in order to accomplish this goal. While this information is helpful and promising, it causes yet another barrier, as access to this type of intensive training, coaching and consultation is not always readily available to early childhood programs.

Finally, Steed et al. (2013) found via their study surrounding the implementation of program-wide PBIS in three rural preschools that teachers improved their use of PBIS practices across three years of the initiative. They discovered, however, that this level of success was only achievable if certain variables were in place to promote and sustain an effective use of program-wide PBIS. These variables include a multi-year commitment to the initiative, as well as

ongoing, multi-year professional development, teacher support and evaluation. In addition, they found that administrative and leadership support was an imperative component to successful PBIS implementation at these sites. Without the additional funding, coaching and consultation offered by the federal and state technical assistance centers, the success achieved would have been scantly possible.

Review of the Problem and Purpose of the Current Study

As previously discussed, an estimated 10 to 15% of preschool-aged children are reported to engage in maladaptive behavior, 21% meet the criteria for a diagnosable, behaviorally-related disorder and 9% of those students were classified as severely impacted (Powell, Dunlap & Fox, 2006). Furthermore, children who are identified as hard to manage behaviorally at ages three and four have a high probability, greater than 50%, of continuing to have behavioral difficulties into their adolescence (Campbell, 1997; Egeland et al., 1990; Shaw et al., 2003). With the aversive side effects of engaging in prolonged, maladaptive behavior in the school setting including consequences like experience with the juvenile justice system, substance use, higher drop-out rates in the later grades, long-term aversive academic or cognitive deficits, persistent social challenges, negative familial interactions, higher risks of unemployment, divorce, psychiatric illness and early death (Allen & Steed, 2016; Carter & Van Norman, 2010), it is all the more necessary that school-based teams intervene and promote prosocial behavior and positive interactions as early as possible.

One such method for proactive, behavioral intervention is the implementation of PBIS models at the early childhood level. This model is a three-tiered model of support that offers universal, small group and individualized intervention to children in preschool programs and

emphasizes positive social relationships, clear expectations, positive reinforcement and direct and explicit teaching. The existing literature supporting the PBIS model in early childhood environments is abundant and despite the many barriers associated with successful implementation, effective model adoption is possible with the right budgetary, administrative and consultative supports.

An element of understanding that is not currently outlined in the existing literature, however, is how the preschool special education system plays an active role in fostering the PBIS model in typical early childhood or preschool programs. The current literature relies heavily on implementation with typical early childhood staff and the infusion of preschool special education and the early childhood system in relation to PBIS remains unclear. As part of the federal mandate, children struggling with behavior concerns, such that it impedes their learning or the learning of others, are entitled to special education supports and services covered under Part B of the IDEA. Given that, one might inquire as to the extent in which special education experts, of a wide array of disciplines, including special education, speech and language, occupational therapy, physical therapy, behavior support, etc. are supporting early childhood staff in the implementation of strategies associated with Tiers 1, 2 and 3 of support. In addition, it is currently unclear in the literature as to the types of training that preschool special education staff receive from their current employment organizations and/or the rigor and level of training received from their higher education entities or undergraduate and graduate preparatory programs in relation to an early childhood-specific PBIS model of support.

This current study extends the existing literature in that it directly analyzed the level and types of training and support that preschool special education staff in PA receive from both their undergraduate and graduate level preparatory programs, as well as their current employment

organizations in the implementation of PBIS strategies currently validated in the existing

literature. In addition, this study analyzed the extent to which preschool special education staff in

PA are utilizing these strategies, alongside early childhood education staff, in early childhood

classrooms across the state.

CHAPTER 3

METHODS

Design

The purpose of this study was to conduct a comprehensive and systematic survey of practicing preschool (ages 3-5) special education professionals in the state of Pennsylvania to examine the level or intensity of training these individuals received from their undergraduate and graduate professional preparatory programs in the implementation of the evidence-based behavioral and instructional strategies used across Tiers 1, 2 and 3 of a preschool PBIS model. Disciplines include special education, speech & language pathology, occupational therapy, physical therapy and behavior support specialists. In addition, the survey attempted to glean the level or intensity of in-service training preschool special education professionals receive from their employment agencies or organizations, as well as the extent to which these professionals implement the strategies outlined in the literature across Tiers 1, 2 and 3 of a preschool PBIS model. In order to accomplish this goal, the descriptive approach of survey research was utilized to capture the relevant data with the intentions of offering current information as it relates to this phenomenon. Furthermore, these data were utilized to describe practical implications for the field of education, including implications for higher education entities, preschool special education employment agencies, state and local educational support organizations, early childhood programs, and related entities.

Recruitment

The Office of Child Development and Early Learning (OCDEL), alongside the Bureau of Early Intervention Services & Family Supports (BEIS) agreed to facilitate a relationship between

myself and the preschool special education supervisors throughout PA. The names and email

addresses of the supervisors from each of the IUs and privately contracted organizations, who are

responsible for the daily operations in relation to multi-disciplinary evaluations and service

delivery for children in need of preschool special education services, was provided by the BEIS

& OCDEL. Then, each supervisor was sent an email describing the proposed study and inquiring

as to whether or not they wished to participate (Appendix B). Those that were interested in

participation were then asked to share their staff email addresses for the purpose of survey

dissemination or to forward an introduction and include me in that email. It was also requested

that supervisors inform their staff, via email, that they would be sent a request for recruitment in

a voluntary study (Appendix C). The web-based survey was then sent via email to the

administrators and preschool special education staff at eight agencies responsible for early

intervention services in Pennsylvania (Appendix D). Staff members from six agencies were sent

the survey directly and two agencies forwarded the communication with me included in the

email.

Participants

As a result of recruitment efforts, surveys were electronically sent to a total of 780

preschool special education staff in the state of PA, via their employment agency email

addresses. These individuals hailed from eight regions of PA, including Philadelphia, Chester

City, Altoona Area, Erie, Montgomery County, Chester County, Tyrone and Beaver Valley. The

targeted regions include staff from urban, suburban and rural geographic locations from the

Northwest, West, Central and Southeast sections of PA.

A maximum variation purposive sampling method was utilized. The survey was sent to every possible participant across the eight agencies; this includes individuals from a wide range of disciplines, roles and backgrounds, as well as professionals with varying levels of experience and areas of expertise. Participation in the survey was entirely voluntary.

In total, there were 780 preschool special education staff in the state of PA surveyed and 248 responded, a 31.8% response rate. The following numbers of staff, outlined by discipline, responded: 61 Speech and Language Pathologists (SLPs), 60 Special Instructors or Special Education Teachers (SIs), nine General Education Teachers, 31 Occupational Therapists (OTs), 12 Physical Therapists (PTs), 0 School Psychologists, 10 Behavior Support Specialists (BSSs) and 43 "Other", which included a wide array of Service Coordinators, Administrators, Assistant Teachers and Evaluators.

Materials/Tool

The survey was hosted by Survey Monkey and was comprised of 44 multiple choice and Likert-scaled questions (Appendix A). More specifically, there were 17 multiple choice questions and 27 Likert-scaled questions. The link for the survey was sent electronically to the staff employment agency email address. Survey questions covered basic demographic information, discipline, population served, setting(s) of service delivery, undergraduate and graduate level pre-service training on PBIS, employment training on PBIS, employment support with PBIS implementation, as well as details surrounding Tier 1 strategy implementation, Tier 2 strategy implementation and Tier 3 strategy implementation. Questions surrounding the implementation of Tiers 1, 2 and 3 strategies were aligned with the current literature as it related to a preschool PBIS model. A definition of all key terms used was provided at the top of each

page in the survey. Some of these key terms included: Positive Behavior Intervention and Supports (PBIS), Tier 1, Tier 2, Tier 3, functional behavior assessment (FBA), Positive Behavior Support Plan (PBSP).

In order to validate the survey, the following steps were taken. To begin, the tool was presented to five specialists, two in the implementation of PBIS in preschool or school-age environments, one in early intervention, one in applied behavior analysis and one in statistics and survey development. Each specialist was asked to review the instrument, provide feedback on each of the questions, and provide feedback on the overall survey. This process worked to establish face validity of the tool and assisted in the elimination or revision of questions that were irrelevant and/or unclear to participants. Each of the five specialists provided expert-specific feedback, which was incorporated into the survey. The second phase of validation was the implementation of a small-scale pilot test, with an inclusion of 10 participants. Their data were not included in the study sample. Participants in the pilot were sent the recruitment email to the consent form and survey, which they were asked to complete and to provide feedback in relation to the survey technology and fluency. Results from the pilot evaluation revealed a number of minor technological issues, which prompted a number of adjustments to question settings.

<div align="center">Procedure</div>

A Survey Monkey link was sent via email to staff of eight IUs (Appendix D) and privately contracted organizations responsible for preschool special education services in the state of PA. The preschool special education supervisors agreed to provide their staff email addresses for the purpose of disseminating this survey. The supervisors were asked to inform

their staff that the survey would be sent and would be entirely voluntary. The survey was accessible for a period of two weeks and one reminder email was sent (Appendix E), an overall total of two electronic notifications. Participants had the ability to "save and complete later" but were only able to submit one final survey submission.

The statistical analyses utilized for this study was a combination of a basic, univariate analysis, which is often used to answer descriptive research questions via survey data, as well as one -way ANOVA and correlational analyses. SPSS was the statistical program utilized to conduct the statistical analyses. A one-way analysis of variance, or ANOVA, was used to gauge whether there were any statistically significant differences between the means of two or more independent groups. Tukey post hoc analyses were also conducted, where appropriate, to determine which groups, if any, were statistically different from others. Correlational analyses assisted in the exploration of a relationship among survey items. Correlation analyses do not demonstrate cause and effect but, rather, explore the strength of the statistical relationship between specific survey elements. In this study, correlational analyses were used to examine statistical relationships amongst demographic or content-related variables and the use of strategies across Tiers 1, 2, and/or 3. All data from partial survey responses were included in the analysis and the varied sample size is clearly defined in each of the tables for reference.

CHAPTER 4

RESULTS

Demographics

According to Survey Monkey data, the survey took an average of nine minutes for

participants to complete. The total sample size was 780, with 248 total respondents, a 31.8%

response rate. Of the 248 total respondents, 170 of them, or 21.7%, completed the survey in

full. The sample size in the data reported below varies across categories as not all individuals

responded to every question. Table 4.1 depicts the demographic information of the respondents.

Table 4.1
Respondent Characteristics

Characteristic:	N	% of Respondents
Position	**226**	
Special Education Teacher/Special Instructor	60	26.5%
Speech & Language Pathologist	61	27%
Occupational Therapist	31	13.7%
Physical Therapist	12	5.3%
General Education Teacher	9	4%
School Psychologist	0	0%
Behavior Support Specialist	10	4.4%
Other	43	19%
Highest Degree Held	**249**	
Associates	3	1.2%
Bachelors	38	15.2%
Masters	159	63.8%
Doctoral	8	3.2%

Table 4.1 (continued)

Other	6	2.4%
No Response	35	14%
Year Highest Degree Attained:	**202**	
2016 – 2019	46	22.7%
2012 - 2015	54	26.7%
2008 – 2011	33	16.3%
2004 – 2007	16	7.9%
2000 – 2003	12	5.9%
1996 – 1999	9	4.4%
1992 – 1995	11	5.4%
1991 and Earlier	21	10.4%
Certification:	**282**	
Level I, Early Childhood Teacher Certification	28	9.9%
Level II, Early Childhood Teacher Certification	17	6%
Level I, Special Education Teacher Certification	33	11.7%
Level II, Special Education Teacher Certification	35	12.4%
Board Certified Behavior Analyst	5	1.7%
Speech & Language	62	30.6%
Physical Therapy	12	4.2%
Occupational Therapy	31	10.9%
Other	35	12.4%
No certification	24	8.5%
Primary Work Setting:	**249**	
Early Childhood classroom	94	37.7%
Special Education classroom	54	21.6%
Home	25	10%

Table 4.1 (continued)

Other	41	16.4%
No Response	35	14%

As shown in Table 4.1, of the 226 respondents to the question of their professional position, the largest group was special education teachers and speech and language pathologists. The "Other" category mostly encompassed Preschool Supervisors or Administrators, Assistant Teachers, Service Coordinators and highly specialized roles, such as Audiologists or Teacher of the Deaf. Respondents were able to use choose as many professional roles that applied, however, of the 219 responses to this question, only thirteen respondents choose more than one option. The vast majority of the respondents held a master's degree, approximately 64% of the total sample. This was followed by 15% of the respondents who held a bachelor's degree and 3% who held a doctoral degree. Approximately 66% of the respondents attained their highest degree between 2008 and 2019, while 34% of the population obtained their degrees between 1991 and 2007.

Approximately 40% of all respondents were certified as early childhood and/or special education teachers (Level I and/or Level II PA certifications), although this does not mean they were currently serving in that role. Respondents were able to choose multiple certifications as they applied to their demographics. In addition, 31% of the respondents were certified as Speech & Language Pathologists, 11% as Occupational Therapists, 1.7% as Board Certified Behavior Analysts, 4.2% as Physical Therapists and 12.4% were certified as "other". The primary work setting was early childhood classrooms, at 37.7%, followed by special education classrooms at 21.6%, homes at 10% and "other" at 16.4%.

Table 4.2 outlines the educational classifications of the clients or preschool special education students with whom these professionals worked. Respondents were able to choose as many educational classifications as were applicable, so the sample size is much higher for this category.

Table 4.2
Client Characteristics

Characteristic:	N	% of Respondents
Educational Classification	**1098**	
Autism Spectrum Disorder	194	17.6%
Developmental Delay	188	17%
Speech and Language Impairment	164	14.9%
Other Health Impairment	116	10.5%
Visual Impairment	68	6.2%
Deafness	41	3.7%
Emotional Disturbance	58	5.3%
Multiple Disabilities	113	10.3%
Intellectual Disability	94	8.5%
Orthopedic Impairment	57	5.2%
Other	5	0.4%

Survey respondents were able to list as many classifications as were applicable, which created a total response including 1098 educational classifications. Many professionals, 17.6% and 17% respectively, worked with children with an Autism Spectrum Disorder (ASD) diagnosis and/or Developmental Delay. Children with a Speech & Language Impairment made up 10.5% of the classifications reported, followed by Multiple Disabilities, 10.3%, and Intellectual Disabilities at 8.5%.

Analyses for the Major Research Questions

Research Question # 1: What formal training do preschool special education professionals in Pennsylvania receive through their higher education entities in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

The number of credits taken in PBIS-related courses, as well as the designation of those credits and the reported efficacy of those courses is outlined in Table 4.3.

Table 4.3
Higher Education Preparation and Training in PBIS

Characteristic:	N	% of Respondents
Credits Taken	**214**	
0 credits	133	62%
1-3 credits	37	17.2%
4-6 credits	21	9.8%
7-9 credits	7	3.2%
10 or more credits	16	7.4%
Designation of Credits	**214**	
Required	39	18.2%
Elective	17	7.9%
Both	26	12.1%
N/A	132	21.7%
Efficacy	**209**	
Very effective	9	4.3%

Table 4.3 (continued)

Effective	45	21.5%
Minimally effective	24	11.5%
Not effective	2	0.9%
N/A	129	60.2%

As shown in Table 4.3, 62% of the respondents reported having taken 0 credits in PBIS content in their higher education programs. A reported 17.2% of the sample took 1-3 credits, 9.8% took 4-6 credits of PBIS content, 3.2% completed 7-9 credits and only 7.4% reported taking 10 or more credits. Of those credits, the majority were required for degree completion. Finally, in relation to reported efficacy, 25.8% of the courses were reported as *very effective* or *effective* and 12.4% were labeled as *minimally effective* or *not effective*.

Research Question # 2: What formal training do preschool special education professionals in Pennsylvania receive through their employment organizations in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

Table 4.4 offers information in relation to employment-based PBIS training and preparation. Specifically, this table summarizes the responses of the preschool special education professionals as to the number of trainings or workshops offered by their current employer within the past two years, the efficacy of those trainings or workshops and whether or not their employer offers coaching in PBIS.

Table 4.4

Employment-Based Preparation and Training

Characteristic:	N	% of Respondents
Number of Trainings Offered	**214**	
0	47	21.9%
1	42	19.6%
2	50	23.3%
3	21	9.8%
4	17	7.9%
5 or more	37	17.2%
Efficacy	**212**	
Very effective	38	17.9%
Effective	92	43.4%
Minimally Effective	31	14.6%
Not Effective	3	1.4%
N/A	48	22.6%
Coaching	**214**	
Yes	148	69.1%
No	66	30.8%

Approximately 22% of the respondents described 0 trainings or workshops offered by their employer in PBIS implementation within the past two years. Conversely, 17.2% of respondents noted five or more trainings or workshops offered. Overall, 64.8% of the population surveyed reported that their employer offered two or fewer trainings over the past two years, while 35% reported three or more offerings. Positively, 61% labeled the trainings that were

conducted as *very effective* or *effective* and 16% deemed their PBIS training experience as *minimally effective* or *not effective*. Finally, just under 70% of survey respondents reported their employer as offering coaching in PBIS implementation.

Research Question # 3: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 1 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

Research Question # 4: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 2 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

Research Question # 5: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 3 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

The results regarding research questions #3, #4 and #5 have been clustered together to provide a cohesive description of PBIS implementation across tiers. Results as they pertain to specific strategy implementation of Tiers 1, 2 and 3 were compiled in a Likert-scaled format. However, the literature also outlines a number of administrative PBIS tasks that are conducted outside of the individual Tiers of support. These include membership on a PBIS leadership team and assistance with transitioning students across Tiers of support, as needed. Table 4.5 outlines this information as collected by the respondents.

Table 4.5
Generalized PBIS Strategy Summary

Characteristic:	N	% of Respondents
Number of ECE Settings in which EI Professional is on PBIS Leadership Team	**200**	
No – 0	165	82.5%
Yes – 1	29	14.5%
Yes – 2	3	1.5%
Yes – 3	2	1%
Yes – 5 or more	1	0.5%
Frequency of Assistance with Transitioning Students Across Tiers	**200**	
Never	104	52%
Daily	29	14.5%
Weekly	25	12.5%
Monthly	15	7.5
Annually	13	6.5%
Other	14	7%

Nearly 83% of the respondents reported that they were not included on any PBIS leadership team(s), while 14.5% of the population cited being a member of one leadership team. The remaining 3% of the preschool special education professionals were part of two or more PBIS leadership teams. Furthermore, 52% cited "never" assisting with the transition of students across Tiers of support. Approximately 14.5% reported assisting with transition daily, 12.5% assist weekly, 7.5% cited assisting with this task monthly and 6.5% noted the annual assistance of transitioning students across Tiers.

Additional areas of interest surrounding PBIS and the federal and state mandates for its implementation with all children but particularly with students engaging in challenging behavior

include the use of suspension and expulsion in early childhood settings as consequences of

maladaptive behavior, as well as specific barriers to PBIS implementation in these settings. Table

4.6 outlines the suspension and expulsion data.

Table 4.6
Use of Suspension and Expulsion

Characteristic:	N	% of Respondents
Do the ECE Programs use Suspension & Expulsion as Consequences of Behavioral Issues	**200**	
Yes	43	21.5%
No	105	52.5%
Not Sure	52	26%

As shown in Table 4.6, 21.5% of early childhood settings in PA continue to utilize

suspension and expulsion as a consequence, while 52.5% of programs do not. Interestingly, 26%

of the preschool special education professionals are unsure of whether or not the programs they

provide services in continue to utilize suspension and expulsion despite federal and state position

statements against it. Table 4.7 offers the preschool special education professionals' perspective

on whether or not barriers currently exist in relation to PBIS implementation in early childhood

environments.

Table 4.7
Barriers to PBIS Implementation in ECE Settings

Characteristic:	N	% of Respondents
Are there Barriers to Effective PBIS Implementation in ECE Settings	**200**	
Yes	130	65%
No	70	35%

Data show that 65% of staff reported they do believe there are barriers to effective implementation while 35% do not. Of the 65%, the most frequently cited barriers were the capacity of the early childhood environments and their staff to consistently implement PBIS with fidelity, familial and parental support, administrative barriers, overwhelming workloads and ineffective PBIS coaches or consultants.

Data on the implementation of Tier 1, 2 and 3 strategies are presented in Table 4.8. This information was collected on a Likert-scale using the following key: 1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child).

Table 4.8
Tiers 1, 2 and 3 Strategy Implementation

	Tier 1					
	Never	Infrequently	Sometimes	Frequently	Always	Mean
Physical classroom design manipulation (n= 179)	38	34	51	35	21	**2.82**
Use of 5 or fewer stated behavioral expectations (n=179)	10	10	33	67	59	**3.87**
Direct teaching expectations (n=179)	14	7	28	75	55	**3.84**
Individual positive reinforcement systems (n=179)	10	5	31	78	55	**3.91**
Use of developmentally-appropriate schedules (n=179)	17	10	33	67	52	**3.71**
Implementation of routines (n=179	16	6	28	58	71	**3.90**
Pre-correction (n=179)	9	7	31	90	42	**3.83**

Table 4.8 (continued)

	Never	Infrequently	Sometimes	Frequently	Always	Mean
Use of behavior-specific praise statements (n=179)	7	2	10	45	115	**4.45**
Group contingencies (n=179)	44	36	61	29	9	**2.57**
Collaboration on PBIS strategies with families (n=179)	27	40	69	33	10	**2.77**
Collaboration on PBIS strategies with staff (n=179)	22	29	56	49	23	**3.12**
Analysis of Tier 1 behavior data (n=179)	57	39	48	26	9	**2.39**
MEAN ACROSS ALL TIER 1 = 3.11						
Tier 2						
	Never	Infrequently	Sometimes	Frequently	Always	Mean
Small group social emotional instruction (n=184)	49	24	59	31	21	**2.62**

Table 4.8 (continued)

	Never	Infrequently	Sometimes	Frequently	Always	Mean
Use of established social-emotional curriculum (n=175)	65	32	46	22	10	**2.31**
Theme-based social-emotional activities (n=175)	35	28	55	43	14	**2.85**
Shared social-emotional skill storybook readings (n=175)	40	33	60	34	8	**2.64**
Targeted academic instruction (n=175)	38	22	38	49	28	**3.04**
Check-in and check-out procedures (n=175)	67	25	46	26	11	**2.37**
Analysis of Tier 2 data (n=175)	70	42	39	17	7	**2.14**
MEAN ACROSS ALL TIER 2 = 2.56						
Tier 3						
	Never	Infrequently	Sometimes	Frequently	Always	Mean
Conducting of FBAs (n=170)	76	44	35	8	7	**1.98**

Table 4.8 (continued)

Use of FBA hypotheses (n=170)	65	37	31	23	14	**2.32**
Creation of individuali zed PBSPs (n=170)	85	28	34	13	10	**2.03**
Implement ation of PBSPS (n=170)	46	19	43	36	26	**2.86**
Implement ation of PBSPS-antecedents (n=170)	40	15	39	50	26	**3.04**
Implement ation of PBSPS-replacemen t behaviors (n=170)	41	15	39	50	25	**3.02**
Implement ation of PBSPS-consequenc es (n=170)	40	18	38	52	22	**2.99**
Analysis of Tier 3 data (n=168)	74	24	37	21	12	**2.28**

MEAN ACROSS ALL TIER 3 = 2.28

Table 4.8 outlines each of the strategies and the sample size, as well as the frequency of implementation by Likert-scale category, the mean produced for each strategy and the mean produced for each Tier. The most frequently implemented strategy across all three Tiers was the use of behavior-specific praise statements (Tier 1) and the most infrequently used strategy was the conducting of FBAs (Tier 3). The mean for overall Tier 1 strategy implementation is 3.11; the mean for overall Tier 2 strategy implementation comes in at 2.56; and the mean for overall Tier 3 strategy implementation is 2.28. Utilizing a mean of 3.7 and above, the most frequently implemented interventions were the use of behavior-specific praise statements, individual positive reinforcement systems, the implementation of routines, use of five or fewer behavioral expectations, direct teaching of expectations, pre-correction and the use of developmentally-appropriate schedules. Conversely, the most infrequently utilized strategies, using a mean of 2.4 and below, were the conducting of FBAs, creation of individualized PBSPs, analysis of Tier 2 data, analysis of Tier 3 data, the use of an established social-emotional curriculum, the use of FBA hypotheses and the analysis of Tier 1 data.

<div align="center">Additional Analyses</div>

Several additional analyses were conducted to extend and elaborate the results. The major purpose of these analyses was to determine if the implementation of strategies across tiers varied as a function of demographic or content-related variables. These variables included position/discipline, type of educational setting, number of college credits taken in PBIS content through higher education entities, number of trainings or workshops attended through employer, the availability of PBIS-based coaching, the inclusion of preschool special education professionals on early childhood PBIS leadership teams and, finally, the use of suspension and expulsion. To conduct these analyses, the data for each Tier were totaled and averaged. The data

were then analyzed by one-way ANOVAs or Pearson correlations. The mean for each Tier can be located in Table 4.8. The mean was then utilized to study any possible effects among the variables listed above and specific Tier 1, 2 or 3 strategy implementation by reported frequency. Due to the large number of analyses, only effect sizes that were at least medium are reported. Of the variables tested, several had no meaningful effect on the utilization of strategies. These are:

- Degree held

- Year highest degree was attained

- Certification held

- Educational classification of students served

- Barriers

Position

Table 4.9 presents the mean score for the implementation of strategies across each Tier in relation to position held.

Table 4.9 *Means by Position and Tier 1, 2, 3 Strategy Implementation*

Characteristic:	N	Mean	Rank
Tier 1			
Behavior Support Specialist	10	3.8083	1
Special Education	51	3.2418	2
Occupational Therapist	27	3.1543	3
Physical Therapist	9	3.1204	4
Speech & Language	55	2.9212	5
Other	26	2.8782	6
Tier 2			
Behavior Support Specialist	10	3.1714	1
Special Education	51	3.0364	2
Other	24	2.8750	3
Occupational Therapist	27	2.3439	4
Speech & Language	53	2.0431	5
Physical Therapist	9	1.9365	6
Tier 3			
Behavior Support Specialist	10	3.6778	1
Special Education	50	2.4756	2
Other	23	2.3382	3
Occupational Therapist	27	2.0988	4
Speech & Language	50	1.9622	5
Physical Therapist	9	1.8889	6

As outlined in Table 4.9, there was a significant difference noted for all three tiers. For Tiers 1, 2 and 3, the results were $F = 4.006$, $p = .002$ and $\eta_p^2 = .109$; $F = 9.798$, $p = .000$ and $\eta_p^2 = .231$; and $F = 7.219$, $p = .000$ and $\eta_p^2 = .181$, respectively. The effect size for Tier 1 is medium

to large, while Tiers 2 and 3 reflect large effect sizes. A positional rank is offered to provide insight into which disciplines are most or least likely to implement the strategies embedded into each Tier. For Tier 1, Behavior Support Specialists were implementing the highest frequency of strategies, followed by Special Education Teachers and then Occupational Therapists. There were similar results for Tiers 2 and 3, with "Other" achieving the third rank, followed by Occupational Therapists. Finally, Physical Therapists, Speech & Language Pathologists were the least likely to implement strategies across all three tiers.

Setting

Data on implementation of strategies by type of setting are presented in Table 4.10.

Table 4.10 *Means by Setting and Tier 1, 2, 3 Strategy Implementation*

Characteristic:	N	Mean	Rank
Tier 1			
Special Education Classroom	45	3.4389	1
Early Childhood Classroom	78	3.1656	2
Home	23	2.9891	3
Other	33	2.5934	4
Tier 2			
Special Education Classroom	43	3.0598	1
Early Childhood Classroom	77	2.5788	2
Home	23	2.1925	3
Other	32	2.1384	4
Tier 3			
Special Education Classroom	42	2.6852	1
Early Childhood Classroom	75	2.2059	2
Home	23	2.1787	3
Other	30	1.9704	4

As in the previous analyses, there were significant differences for all three tiers. For Tiers 1, 2 and 3, the results were $F = 8.778$, $p = .000$ and $\eta_p^2 = .137$; $F = 6.618$, $p = .000$ and $\eta_p^2 = .107$; and $F = 3.855$, $p = .012$ and $\eta_p^2 = .065$, respectively. The effect size for Tier 1 was large, while the effect size for Tiers 2 and 3 were medium to large. Across all three tiers, strategy implementation occurred most frequently in special education classrooms, in contrast to early childhood classrooms, homes and other educational settings.

Credits and Workshops

Correlations were computed to ascertain if there were any relationships between strategy utilization and college credits, employer-offered workshops and the rating of the efficacy of the workshops. These correlations are presented in Table 4.11.

Table 4.11
Correlations by Implementation

	College Credits	Employer Workshops	Efficacy of Workshops
Tier 1	.104	.364**	.433**
Tier 2	.165*	.270**	.393**
Tier 3	.237**	.307**	.322**

*p< .05
**p < .01

As shown in Table 4.11, the number of credits taken in higher education programs correlated with Tier 2 and Tier 3 implementation but not with Tier 1. This translates into the notion that the more credits taken in PBIS content at the higher education level, the higher the frequency of implementation of strategies within Tiers 2 and 3. However, the correlations are weak. Significance was noted across all three Tiers in relation to the number of trainings or workshops offered by preschool special education employers. The more workshops taken by staff, the more frequently strategies were used across all three Tiers of preschool PBIS. In regard to the correlations with efficacy, the significant correlations indicate that the better the respondent rated the workshop, the more they use the strategies within all three tiers. These data also denote that employer-offered workshops have stronger correlations with strategy implementation than coursework taken in PBIS at the higher education level. Furthermore, they outline an even stronger, more positive correlation with a higher reported efficacy of trainings and strategy implementation.

The mean utilization score for settings that do and do not utilize suspension and expulsion are contained in Table 4.12.

Table 4.12
Suspension and Expulsion and Tier 1, 2, 3 Strategy Implementation

		N	Mean	Std. Deviation	RANK	Statistics
Tier 1	No	90	3.3213	.55327	1	F = 8.629
	Yes	40	2.9896	.80865	2	p = .000
	Not sure	49	2.8061	.74679	3	η_p^2 = .094
Tier 2	No	89	2.8283	.94102	1	F = 9.326
	Yes	39	2.5714	1.02073	2	p = .000
	Not sure	47	2.0638	.96973	3	η_p^2 = .100
Tier 3	Yes	39	2.4274	1.05303	1	F = 4.173
	No	87	2.3934	.95217	2	p = .017
	Not sure	44	1.9217	.86584	3	η_p^2 = .048

The data in Table 4.12 show that early childhood programs that do not utilize suspension and expulsion as a consequence of challenging behavior had higher frequencies of strategy implementation across Tiers 1 and 2. Programs that do use suspension and expulsion had a higher reported implementation of Tier 3 strategies, although the difference was small. The effect size for Tiers 1 and 2 were medium to large, while the effect size for Tier 3 was medium. The means for strategy implementation for programs that do and do not utilize suspension and expulsion are also outlined in Figure 4.1 below. The graph visually displays that programs that do not utilize suspension and expulsion have higher means of strategy implementation across Tiers 1 and 2.
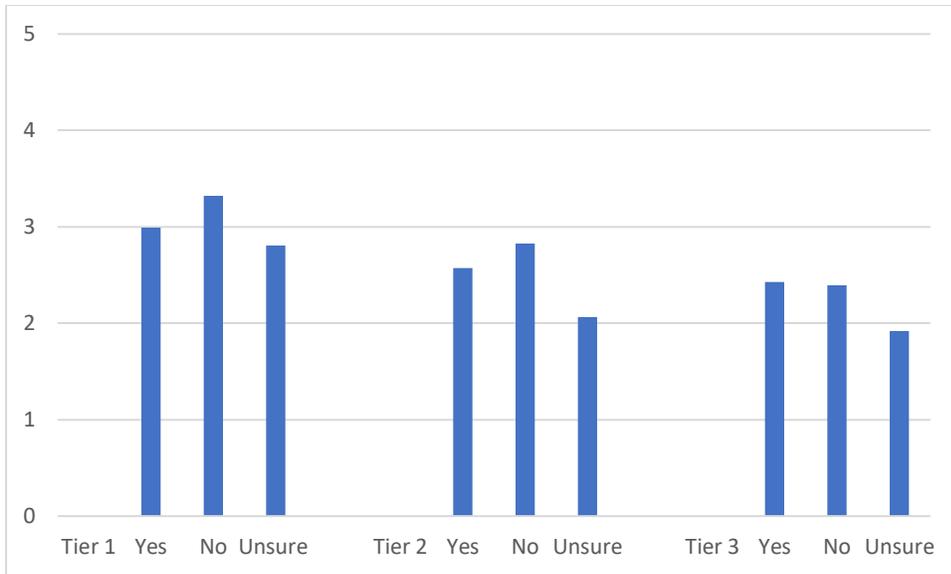
Figure 4.1. Means for strategy implementation across tiers and suspension and expulsion usage

Coaching

The means for whether coaching is or is not offered through preschool special education

employers in relation to the three tiers of implementation are presented in Table 4.13.

Table 4.13
Means for Coaching

		N	Mean	Std. Deviation	Statistics
Tier 1	Yes	125	3.2313	.70297	F = 12.816 p = .000
	No	54	2.8164	.62746	η_p^2= .071
Tier 2	Yes	122	2.7272	.99755	F = 9.511 p = .002
	No	53	2.1941	.95917	η_p^2= .054
Tier 3	Yes	119	2.4108	.94076	F = 7.556 p = .007
	No	51	1.9717	.98629	η_p^2= .043

Table 4.13 outlines significant findings in relation to the offering of PBIS coaching and

the implementation of strategies across all three Tiers. The effect size for Tier 1 was medium to

large, while the effect size for Tiers 2 and 3 were small to medium. Essentially, the respondents

that indicated they were offered coaching through their employer implemented strategies across

Tiers with higher levels of frequency. Respondents who indicated coaching was not offered,

implemented strategies less frequently.

Leadership Team(s)

The means for various levels of being part of leadership team(s) are presented in Table

4.14. Although the higher levels have small sample sizes, they are left in for descriptive

purposes.

Table 4.14
Means for Leadership Team Membership

	Part of a Leadership Team	Mean	Std. Deviation	N	Rank	Statistics
Tier 1	Yes – 3 or more	3.7917	.05893	2	1	F = 6.604 p = .011 η_p^2 = .039
	Yes – 2	3.4722	.55486	3	2	
	Yes - 1	3.4136	.62978	27	3	
	No - 0	3.0493	.68126	137	4	
Tier 2	Yes – 3 or more	3.7857	.10102	2	1	F = 12.678 p = .000 η_p^2 = .073
	Yes - 1	3.1429	.97456	27	2	
	Yes - 2	3.3333	.57735	3	3	
	No – 0	2.4067	.98334	137	4	
Tier 3	Yes – 3 ore more	3.4444	.15713	2	1	F = 2.49 p = .117 η_p^2 = .015
	Yes - 1	2.5350	.94635	27	2	
	Yes - 2	2.2963	.55925	3	3	
	No – 0	2.2109	.98106	137	4	

As shown in Table 4.14, respondents who were involved in PBIS leadership teams with

early childhood programs utilized more of the strategies than those not part of leadership teams.

This, however, is only true for Tier 1 and Tier 2. The effect size for Tier 1 was small to medium,

while Tier 2 was reported as medium to large. The effect size for Tier 3 was small.

CHAPTER 5

DISCUSSION

Overall, this study describes a number of interesting and relevant phenomena in relation to the implementation of PBIS strategies in early childhood settings by preschool special education professionals in PA. This study also has implications for the higher education programs preparing these professionals and the employers that support them. In order to cohesively structure the discussion, the implications of each research question will be discussed, followed by a thorough discussion of the additional analyses conducted. Finally, implications for the field, implications for future research and limitations will be offered.

Research Question # 1: What formal training do preschool special education professionals in Pennsylvania receive through their higher education entities in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

First, a staggering 62% of respondents report having taken 0 credits in PBIS content at the higher education level. The remaining 38% of the population varies, with 17.2% taking 1-3 credits, 9.8% taking 4-6 credits, 3.2% taking 7-9 credits and 7.4% of the population taking 10 or more credits. This is slightly higher than Oliver and Reschly's (2010) reported finding that only 27% of teacher preparation programs offered at least one full, three-credit course on classroom management, which would include PBIS-related topics. The data gleaned from this study also align with Ficarra and Quinn's (2014) study, which revealed that pre-service, higher education preparatory programs are not primary sources of the classroom management skills of educators.

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While these data may not be surprising as they pertain to professionals that graduated prior to federal and state mandates promoting PBIS usage, it highlights the need for additional PBIS coursework in current higher education programs. Regardless of discipline or professional role, the field of education advocates for the usage of PBIS strategies with all students and particularly with those with special needs. Since federal and state policies do not explicitly designate PBIS implementation to a particular profession (e.g., US Department of Education, 2016), as PBIS is a team approach, this finding highlights the need for institutes of higher education to develop some level of coursework in PBIS across professions.

Of the professionals that did complete courses involving PBIS content at the higher education level, approximately a quarter of them rated them as *very effective* or *effective.* This suggests that a quarter of the population found their coursework to be relevant to the PBIS work they are expected to engage in with children at the early childhood level. This leaves a large portion of the sample, approximately 75%, that either did not receive PBIS preparation at the higher education level and/or received poor or ineffective training. It can be assumed that federal and state mandates would deem this as unacceptable as it does not directly support the implementation of federally and locally mandated interventions for young children. It also directly negates the mention in IDEA provisions that joint training in PBIS should occur for and across all school-based employees (OSEP, 2017). This also leaves a majority of the training and preparation in PBIS for these individuals to be completed at the employer or in-service level. On-the-job training necessarily translates into inconsistent implementation of PBIS strategies in practice settings.

Additional correlational analyses, outlined in Table 4.11, show that the more credits taken in PBIS content at the higher education level, the higher the frequency of Tier 2 and Tier 3

strategy implementation; although, the correlations are fairly weak. This is logical since strategies in Tiers 2 and 3 are more targeted and might require more intensive training for implementation with fidelity. The correlations, however, compared to those associated with employer-offered workshops and trainings, are less positively correlated. This suggests that PBIS content offered at the higher education level is positively connected to PBIS implementation but not as powerfully as on-the-job training. This aligns with previous research conducted in the field that highlights on-the-job training as the primary source of behavioral intervention skills of educators (Ficarra & Quinn, 2014).

The lack of pre-service preparation offered at the higher education level does place further, increased pressure on employers to offer in-service trainings and workshops related to PBIS. While employers might be able to focus on more advanced content if educators left their pre-service preparatory programs with introductory PBIS knowledge, the data in relation to research question #1 show this is simply not the case. This is unfortunate for the employers that must compensate for lack of content offered in pre-service programs and the professionals that are not getting access to the practical content they need to be able to serve their students well. Most importantly, a lack of pre-service PBIS training can have major implications for children and the preschool special education system as a whole. Specifically, a lack of preventative behavior supports results in increased special education referrals and higher rates of suspension and expulsion, which the data in Table 4.12 supports. Aversive long-term outcomes for students, such as increased drop-out rates, increased experience with the juvenile justice system and an overall disengagement in the educational process, are also consequences (Rausch & Skiba, 2004).

Research Question # 2: What formal training do preschool special education professionals in Pennsylvania receive through their employment organizations in the three tiers of behavioral interventions outlined in current evidence-based Positive Behavior Interventions & Support (PBIS) literature?

Presently, preschool special education employers offer support to their staff primarily through trainings and/or workshops, either by internal staff or via external PBIS experts, as well as through various coaching models. This study revealed, however, that approximately 65% of PA preschool special education employers offered two or fewer PBIS-related trainings in the past two years. On a positive note, of the in-service trainings and workshops reported, 61%, were described as *very effective* or *effective*. Further correlational analyses showed that the greater the number of trainings offered by employers, the more frequently PBIS strategies were implemented across tiers. As mentioned previously, the correlations between employer-offered training and strategy implementation were more positive than those associated with pre-service training. Thus, it is hypothesized that offering increased training through special education employers will subsequently increase the implementation of PBIS strategies of their staff, across disciplines. This is consistent with previous research on this topic that suggests the better prepared educators are in the implementation of PBIS, the stronger implementation fidelity will be (Domitrovich et al., 2008).

Only 21.9% of respondents reported having been offered 0 PBIS-related trainings through their employer, which while disappointing, is much lower than the 62% of respondents having taken 0 credits in PBIS content at the higher education level. Thus, the data gleaned from this study also align with findings from Ficarra and Quinn (2014), who revealed that the majority of

knowledge that educators possess in the area of behavioral practices comes from in-service, employer-offered professional development. Only 35% of employers assessed through this survey offered three or more trainings over the past two years, suggesting that only a third of employers are making purposeful or aggressive attempts to adequately prepare staff for PBIS implementation. While the current literature does not specifically outline the frequency of training that is necessary for special educators to become fluent in PBIS intervention delivery, it does suggest that early childhood programs, in general, require years of support from coaches, and other forms of support, for PBIS implementation to be successful (Hemmeter, Fox, Jack & Broyles, 2007).

Coaching is another form of technical assistance and has been shown as an effective tool for the implementation of a wide array of educational strategies with fidelity (Kretlow & Bartholomew, 2010). Coaching includes a mentoring program that provides on-site or in-classroom modeling and support with intervention delivery (Domitrovich et al., 2008). Approximately 70% of employers in this study were reported as offering some type of PBIS coaching to their staff. Coaching was also found to be positively correlated with a higher frequency of strategy implementation. The use of PBIS coaching has increased in recent years, which may be due to regulatory educational mandates that require the use of evidence-based practices in classroom settings. Coaching offers many benefits, beyond fidelity, including collaboration and networking amongst professionals and/or co-workers through the power of naturalistic context and increased sustainability (Hershfeldt, Pell, Sechrest, Pas & Bradshaw, 2012).

While approximately 70% of respondents reported participating in PBIS coaching, 65% reported attending two or fewer trainings in PBIS over the past two years. These data potentially

suggest that coaching procedures are replacing traditional, didactic-style trainings when it comes to behavioral practices. Additional research in this area would be necessary to further investigate this possible shift in adult learning strategies.

Research Question # 3: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 1 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

Research Question # 4: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 2 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

Research Question # 5: How do preschool special education professionals in Pennsylvania employ evidence-based Tier 3 behavioral interventions, as outlined in the current PBIS literature, in early childhood classrooms?

The analysis of research questions #3, #4 and #5 were combined to offer PBIS-wide implications. Basic descriptive analyses indicate that, overall, Tier 1 strategies were implemented at higher frequencies than Tier 2 strategies and Tier 2 strategies were implemented at higher frequencies than Tier 3 strategies. This finding may be due to the fact that Tier 1 strategies are expected to support approximately 80% of the overall student population (Scott, Alter, Rosenberg, & Borgmeier, 2010), suggesting that their use should be more frequent. One might also hypothesize that, as the most basic and universal of strategies, Tier 1 techniques take the

least amount of formal training and support to implement. These data also suggest that Tier 3 strategies, the conducting of FBAs in particular, might be the least implemented due to the fact that they take the highest and most precise level of training. This is not necessarily surprising since Tier 3 strategies are designed to support the most intensive and pervasive of behavioral needs. However, if preschool special education professionals of all disciplines were better trained in more advanced techniques, including Tier 2 and Tier 3 strategies, this might reduce the most intensive of behavioral issues in early childhood programs and possibly the use of suspension and expulsion, which a reported 22% of early childhood programs continue to use.

It is also important to highlight that while Tier 1 strategies are possibly implemented more frequently due to their role as the universal level of support designed to be successful with approximately 80% of students, this does not mean that Tier 2 or 3 strategies are also not designed to be implemented daily and/or consistently. Tiers 2 and 3 support a much smaller percentage of the population, 10-15% and 5% respectively; however, these strategies must be consistently utilized, just with a smaller population of students. Thus, the current implementation of PBIS strategies in early childhood settings in PA, as delineated by these data, does not match best practices in the preschool PBIS literature in design and implementation (Scott, Alter, Rosenberg, & Borgmeier, 2010; Mitchell, Stormont & Gage, 2011).

Furthermore, through a targeted analysis of the Likert-scale utilized for the rating of frequency of implementation of strategies across tiers and utilizing the mean of implementation for each tier as a point reference, it can be surmised that, on average, Tier 1 strategies are used "sometimes" and Tiers 2 and 3 strategies are used "infrequently". According to the operationalized definitions offered in the survey, "sometimes" was at least once per month or every few sessions and "infrequently" was one-two times per year. This finding is in stark

contrast as to what is recommended in the literature in relation to an effective preschool PBIS model, which focuses on consistency (Powell, Dunlap & Fox, 2006).

Perhaps an interesting way to interpret some of these data is to also analyze the extreme cases. For instance, within Tier 1, there is a much higher percentage of respondents that "always" implement interventions, over Tiers 2 and 3. The survey operationally defined "always" as every session implemented with a child. Across Tier 1, 24% of responses reflected a frequency of "always", while 8% of responses reflected a frequency of "always" within Tier 2 and 12% within Tier 3. On the contrary, Tier 3 reflected the highest overall percentage of "never" responses. The survey operationally defined "never" as a frequency of zero and 39% of responses reflected a frequency level of "never" within Tier 3. There was an overall frequency of "never" reported for 13% of Tier 1 interventions and 29% of Tier 2 interventions. These data highlight that aside from Tier 1, it is more common to "never" implement a strategy than to "always" implement a strategy. Furthermore, within Tiers 2 and 3, the percentage of "never" responses is strikingly high. Strategy implementation at Tiers 2 and 3 are designed to support children who display behavioral challenges and a lack of progress despite the universal interventions offered at Tier 1. These data are therefore suggesting that children with a level of behavioral need outside of the universal level of support, are simply not receiving access to the interventions they need to be successful. This has the potential of contributing to the continued usage of suspension and expulsion as a consequence to maladaptive behavior, as these children are not being adequately supported. A further analysis of the specific barriers, especially the barriers as related to the implementation of Tiers 2 and 3 interventions, would be helpful. However, additional training and support through higher education programs but more importantly, through employers, as

previously outlined, may be a starting point in relation to increasing the frequency of implementation of these strategies.

Discussion of Additional Analyses

This survey suggests that behavior specialists, special education teachers and occupational therapists are consistently among the top three defined professional roles utilizing PBIS strategies. The role of "Other" also came in a third rank within Tiers 2 and 3 but this includes a wide array of administrative, evaluative and case management staff who may briefly utilize the strategies during evaluations and/or for consultative purposes but wouldn't necessarily be responsible for ongoing, consistent implementation of these strategies with students. These data align with expected norms for behavior specialists, as well as special education teachers, who have both been traditionally expected to support students behaviorally. However, the implementation of behavioral strategies amongst Occupational Therapists, who typically support preschool students by way of fine motor or sensory-related needs, is curious and unexpected.

It is possible that a team approach, meaning the collaboration between Behavior Specialists and/or Special Education Teachers and Occupational Therapists, in the field of education is assisting with a transfer of behavior-specific knowledge to this particular discipline. This could possibly be due to the multi-disciplinary approach recommended and required by educational regulations (US Department of Education, 2016). Welch and Polatajko (2016) also discuss the commonalities amongst behavioral and occupational therapy approaches while also asserting that they vary significantly. For instance, Welch and Polatajko assert that both approaches utilize strengths to build treatment, emphasize social contexts, prioritize goals similarly and value collaboration. With similar goals, it is possible that these traditionally opposite fields have begun

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a convergence that is resulting in the field of Occupational Therapy infusing more behavioral techniques into their work. A final potential hypothesis is that Occupational Therapy preparation programs have analyzed the recent trend in increasing behavioral needs of preschool-aged students and have adjusted their course content accordingly. Of course, this is only a hypothesis and would certainly require further analysis for confirmation.

Another unexpected finding of this study is that Speech and Language Pathologists were consistently implementing PBIS-based strategies less frequently than many of the defined disciplines surveyed, other than Physical Therapists, who showed the lowest implementation of Tier 2 and 3 strategies. Nonetheless, Speech and Language therapy is amongst the most frequently offered preschool special education services and is one that specifically targets social-emotional skills by way of the utilization of pragmatic or social speech (e.g., initiations, conversation skills, self-advocacy, making requests, etc.). It is a bit surprising and even more so concerning that a field this closely related to the implementation of PBIS strategies, particularly within Tier 2, is so far behind in the implementation of PBIS, an evidence-based practice as outlined in the literature (Horner, Sugai & Lewis, 2015).

Table 4.11 shows that the more credits taken in PBIS at the higher education level, the more frequently the implementation of strategies within Tiers 2 and 3 occurs. One reasonable recommendation stemming from these results is that higher education programs, particularly those for Speech and Language Pathologists, as well as Physical Therapists offer more PBIS-related content in the preparation of their students. Even more salient, though, would be a targeted training and support system for Speech and Language Pathologists and Physical Therapists through their preschool special education employers in PBIS, as on-the-job training was more positively correlated to strategy implementation than pre-service training.

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It should also be noted that the expectation is not that all disciplines be expected to master the implementation of every intervention, especially at Tier 3 when explicit expertise to conduct an FBA, for instance, is necessary. However, special education professionals across disciplines should have a working knowledge of each of the interventions outlined in the preschool PBIS model, as they are expected to implement interventions across all three tiers to support students. For instance, if a Behavior Support Specialist conducts an FBA, all members of the team should be able to utilize FBA hypotheses to implement behavior plans. Moreover, all members of the team should be able to participate in the FBA process. Thus, some level of higher education and/or on-the-job training in all three tiers is necessary. This is compounded by the design of the preschool special education system and the requirement that a child exhibit a 25% delay in at least one developmental area to be eligible for services in Pennsylvania (PA Department of Education, 2018). If a child is only eligible for Physical Therapy due to the presence of gross motor delays and a physical therapist is providing that service and that same child begins to exhibit maladaptive behavior in the classroom setting, he/she is entitled to receive access to behavioral interventions that align with best practice by the existing educational team.

In relation to PBIS strategy implementation and setting, there were significant findings across all three tiers. Special education classrooms, defined as classrooms that only serve children identified as having disabilities, had the highest frequency of strategy implementation, followed by early childhood classrooms and then homes. This is interesting as a foundational element of a preschool PBIS model is the importance of the natural setting. For children ages 3-5, the natural setting is most often the home or an early childhood program (Powell, Dunlap & Fox, 2006). For many children with more intensive needs, the special education classroom may very well be considered the least restrictive setting, however, one might argue that a special

education classroom is still not the natural setting. Even when being placed in a special education classroom, the goal should always be the fading of supports and inclusion in the typical setting as soon as the child is hypothesized to be able to make progress in that setting by their IEP team. So, while it is not surprising that a special education classroom, with staff trained specifically in special education procedures, might have a higher frequency of PBIS implementation, it is a concern.

PBIS is both a preventative and a remedial model, suggesting that implementation with all children in the natural setting is crucial to the avoidance and treatment of maladaptive behavior. Thus, perhaps the most crucial setting for PBIS implementation is the natural environment. Ficarra and Quinn (2014) reported that special education teacher knowledge of behavioral practices was higher than those not certified in special education. This indicates the need for a collaborative approach to PBIS implementation by both early childhood and preschool special education staff.

Another major finding from this study was the lack of preschool special education participation on early childhood PBIS leadership teams. Approximately 83% of respondents reported that they were not included on any PBIS leadership teams and 15% of those surveyed cited being a part of one leadership team. This equates to 98% of preschool special education staff across the state belonging to one or less PBIS leadership team. This is particularly concerning as special education staff are expected to be the experts in the implementation of many behavioral strategies. Furthermore, participation on a PBIS leadership team was positively correlated with a higher frequency of strategy implementation. Without the continued, on-site support of preschool special educators, in a leadership fashion, one might begin to question how successful we can expect early childhood programs to be. Importantly, this finding highlights that very few programs

in the State are actually implementing PBIS with fidelity to the model, which includes team-based

decision making and support.

Of equal interest, 65% of survey respondents reported experiencing barriers in the

implementation of PBIS strategies in early childhood programs. The most frequently cited

barriers were the capacity of the early childhood environments and their staff to consistently

implement PBIS with fidelity, familial and parental support, administrative barriers,

overwhelming workloads and ineffective PBIS coaches or consultants. Perhaps if an increased

number of preschool special education professionals were included on PBIS leadership teams

and could effectively transfer skills to the setting in that way, capacity would become less of a

barrier and fidelity of implementation would increase. In the same regard, the reported

challenges of parental and familial participation in PBIS is also a major concern, as the

generalization of skills across environments is crucial to true mastery of content. Preschool

special education professionals and early childhood programs should also combine their

expertise to increase parental and community-based support of PBIS in settings other than the

educational site to further student success.

Yet another crucial finding of this study is the minimal use of data collection and analysis

to individualize interventions. Approximately 52% of respondents reported they "never" assisted

with the transition of students across tiers of support, which is based on data collection and

response to interventions. Furthermore, the analysis of general Tier 1 (mean = 2.39), Tier 2

(mean = 2.14) and Tier 3 (mean = 2.28) data was amongst the strategies with the lowest reported

frequency of use across all strategies studied. The use of data collection and analysis is also

embedded in a number of federal and state mandates and is considered an empirical way to

gauge student progress. Data collection and progress monitoring is also an effective tool for

determining when a change in intervention is necessary. Through the IEP process, preschool special education professionals are required by law to collect data on individual goals and to monitor student growth through an ongoing process of data collection and analysis. Thus, the low frequency of data analysis is cause for concern and should potentially become an additional area of focus for higher education entities and employers.

<div align="center">Implications for the Field</div>

This study offers a number of implications for the field, which includes higher education entities, preschool special education employers, state agencies that oversee PBIS implementation in early childhood settings and preschool special education practitioners. The first is related to research question #1 and surrounds a need to increase PBIS content embedded within the training and preparation programs of all preschool special education disciplines. While PBIS content may hold a standard position in the preparation of behavior specialists and special educators, it can be found less in the preparation of other preschool special education professionals, including Speech and Language Pathologists and Physical Therapists. An analysis of PBIS content offered to Occupational Therapists, who came in a third-place rank in Tier 1 strategy implementation, is also a variable with the need for further review and analysis. With 65% of practitioners reporting being offered two or fewer trainings through their employer within the past two years, an increase in employer-offered PBIS training is also a major recommendation from this study. The positive correlation between employer-offered training and strategy implementation, which was significant across tiers, supports this recommendation. In fact, employer-offered training was more positively correlated with strategy implementation than

pre-service training and, therefore, should become the priority area for increased training and support.

There are also a number of recommendations or implications that emerged from this study for agencies that oversee PBIS implementation in PA. These implications could potentially improve the implementation of PBIS across settings. The first is for the advocacy or support of an increased number of preschool special educators on PBIS leadership teams. This could be accomplished through collaboration with local education agencies, as well as with early childhood programs that utilize the support of the special education system. Increased leadership of special educators in early childhood programs may increase general education staff expertise, increase the fidelity of strategy implementation, improve relationships amongst the preschool special and general education systems and provide for stronger consistency in programming for students. Along with this would be an increased effort by preschool special education and early childhood education staff in improving the use of strategies across environments by establishing stronger collaborative relationships with parents and within the community.

Finally, an increased focus on the data collection and analysis of practitioners has become a formal recommendation of this paper for the field of preschool special education in PA. The reported lack of this practice, which has been consistently verified and mandated as a crucial part of any successful educational program, is a cause for concern. The increase in data collection amongst general and special education staff will keep educators informed, prompt changes in interventions and/or instructional techniques when necessary, and prompt the transition of students across tiers, as appropriate.

Implications for Future Research

This study also highlights a number of implications for future research both in PA and across the nation, in an effort to improve the use of PBIS programming at the early childhood level and in decreasing the use of suspension and expulsion, which continues to occur at high rates in preschool settings (US Department of Health & Human Services, 2014). A closer analysis of discipline-specific variables that promote or inhibit the use of PBIS in the fields of Speech and Language Pathology, Physical Therapy and Occupational Therapy is one such area. This, coupled with an analysis of the variables within early childhood programs that promote or inhibit the use of PBIS, would assist policymakers, special education employers, early childhood administrators and practitioners in working collaboratively to improve the implementation of PBIS with fidelity and, in turn, promoting student success. Furthermore, an experimental analysis of an intervention program designed to strengthen the connection or working relationship of preschool special education professionals and early childhood programs in PBIS would also positively contribute to this phenomenon. Finally, a further and more succinct analysis of the current barriers to PBIS in early childhood settings and subsequent recommendations to alleviate those barriers so that preschool special educators can be a more permanent part of PBIS in early childhood settings would prove helpful for the field.

Limitations

As in all studies, the present study also includes a number of limitations that could possibly affect the validity or generalizability of the results. First, this study has a relatively small sample size, including only 780 preschool special education staff across PA, with a 31.8% total response rate. Thus, the results might not be generalizable to all of PA or additional states across nation.

Furthermore, the sample reflects approximately 64% of the respondents as possessing a Master's degree, which skews the sample towards more educated professionals. Due to this, implementation might be reported as more frequent or at higher rates than in actuality. Survey research methods and the subsequent analyses used in this study are, by nature, a limitation because that they do not determine cause and effect relationships and only work to describe the current state of a phenomenon, which also serves as a limitation of this study. Finally, survey data in itself are inherently flawed due to a variety of issues, including the accuracy of information associated with self-reporting.

Conclusion

In conclusion, the current state of PBIS implementation in PA through preschool special education professionals remains variable, inconsistent and possibly under-supported by employers and higher education entities. Implementation of PBIS is higher in some professions than others. Specific PBIS strategies, across tiers, are implemented inconsistently. The implementation of certain global PBIS requirements can be increased to possibly result in higher fidelity of PBIS strategy implementation and a decrease in reported suspensions and expulsions. These global requirements include the use of preschool special education professionals on early childhood-based PBIS leadership teams and an increase in the frequency of data collection and analysis. There are also a number of reported barriers, including capacity of early childhood program staff and parental and familial involvement that inhibit preschool special education professionals from successfully and consistently implementing PBIS in early childhood settings.

REFERENCES

Allen, R., & Steed, E. A. (2016). Culturally responsive pyramid model practices: program-wide positive behavior support for young children. *Topics in Early Childhood Special Education*, *36*, 165–175.

American Psychological Association. (2005). Policy statement on evidence-based practice in psychology. Washington, DC: APA Presidential Task Force on Evidence-Based Practice. Retrieved from: http://www.apa.org/practice/guidelines/evidence-based-statement.aspx.

Baer, D.M., Wolf, M.M., Risley, T.R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis,* 1, 91-97.

Barton, Steed, Strain, Dunlap, Powell & Payne. (2014). An analysis of classroom-based and parent-focused social-emotional programs for young children. *Infants and Young Children,* 27, 3-29.

Benedict, E. A., Horner, R. H. , & Squires, J. K. (2007). Assessment and implementation of positive behavior support in preschools. *Topics in Early Childhood Special Education*, 27, 174–192.

Blood, E., & Neel, R. S. (2007). From FBA to implementation: a look at what is actually being delivered. *Education & Treatment of Children,* 30, 67-80.

Bruhn, A. L., Lane, K. L., & Hirsch, S. E. (2014). A review of tier 2 interventions conducted within multitiered models of behavioral prevention. *Journal of Emotional and Behavioral Disorders*, *22*, 171–189.

Button, J., Hittinger, D. J., & Applequist, K. F. (2013). Mills versus board of education of the district of Columbia (1972). In C. R. Reynolds, K. J. Vannest, & E. Fletcher-Janzen (Eds.), *Encyclopedia of special education: a reference for the education of children, adolescents, and adults with disabilities and other exceptional individuals* (4th ed.). Hoboken, NJ: Wiley. Retrieved from: https://search.credoreference.com/content/entry/wileyse/mills_versus_board_of_education_of_the_district_of_columbia_1972/0?institutionId=1644.

Campbell, S. B. (1997). Behavior problems in preschool children: Developmental and family issues. *Advances in Clinical Child Psychology, 19,* 1-26.

Carter, D. R., & Van Norman, R.,K. (2010). Class-wide positive behavior support in preschool: Improving teacher implementation through consultation. *Early Childhood Education Journal, 38*, 279-288.

Carter, D. R., Van Norman, R.,K., & Tredwell, C. (2011). Program-wide positive behavior support in preschool: Lessons for getting started. *Early Childhood Education Journal, 38*, 349-355.

Centers for Disease Control & Prevention (CDC). (2018). Children's mental health. Retrieved from: https://www.cdc.gov/childrensmentalhealth/data.html.

Chandler, L. K., Dahlquist, C. M., & Repp, A. C. (1999). The effects of team-based functional assessment on the behavior of students in classroom settings. *Exceptional Children*, *66*, 101–121.

Cho Blair, K.-S., Fox, L., & Lentini, R. (2010). Use of positive behavior support to address the challenging behavior of young children within a community early childhood program. *Topics in Early Childhood Special Education*, *30*, 68–79.

Coie, J., & Dodge, K. A. (1998). Aggression and antisocial behavior. In William Damon (Editor in Chief) and Nancy Eisenberg (Volume Editor), Handbook of child psychology, 5th edition. Volume 3. Social, emotional and personality development. New York: Wiley.

Commonwealth of Pennsylvania. (2008). Chapter 14. Special education services and programs. Retrieved from: https://www.pacode.com/secure/data/022/chapter14/chap14toc.html.

Critchfield, T.S. (2015). Pbis may not qualify as classical applied behavior analysis. So what? *Behavior Analysis in Practice,* 8, 99-100.

Domitrovich, C. E., Bradshaw, C. P., Poduska, J., Hoagwood, K., Buckley, J., Olin, S., et al. (2008). Maximizing the implementation quality of evidence-based preventive interventions in schools: A conceptual framework. Advances in School Mental Health Promotion: Training and Practice, Research and Policy, 1, 6-28.

Duda, M. A., Dunlap, G., Fox, L., Lentini, R., & Clarke, S. (2004). An experimental evaluation of positive behavior support in a community preschool program. *Topics in Early Childhood Special Education, 24*, 143-155.

Egeland, B., Kalkoske, M., Gottesman, N., & Erickson, M. F. (1990). Preschool behavior problems: Stability and factors accounting for change. *Child Psychology & Psychiatry & Allied Disciplines, 31*, 891-909.

Farkas, M. S., Simonsen, B., Migdole, S., Donovan, M. E., Clemens, K., & Cicchese, V. (2012). Schoolwide positive behavior support in an alternative school setting: an evaluation of fidelity, outcomes, and social validity of tier 1 implementation. *Journal of Emotional and Behavioral Disorders*, *20*, 275–288.

Ficarra, L., & Quinn, K. (2014). Teachers' facility with evidence-based classroom management practices: An investigation of teachers' preparation programmes and in-service conditions. *Journal of Teacher Education for Sustainability, 16*, 71-87.

Fox, L., Dunlap, G., Hemmeter, M. L., Joseph, G. E., & Strain, P. S. (2003). The teaching pyramid: A model for supporting social competence and preventing challenging behavior in young children. Young Children, 58, 48–53.

Fox, L., & Hemmeter, M. L. (2009). A program-wide model for supporting social emotional development and addressing challenging behavior in early childhood settings. In W. Sailor, G. Dunlap, G. Sugai, & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 177-202). New York, NY: Springer.

Friedman-Krauss, A. H., Raver, C. C., Morris, P. A., & Jones, S. M. (2014). The role of classroom-level child behavior problems in predicting preschool teacher stress and classroom emotional climate. *Early Education and Development*, *25*, 530-552.

Gilliam, W. S., & Shahar, G. (2006). Preschool and child care expulsion and suspension: Rates and predictors in one state. *Infants & Young Children, 19*, 228-245.

Greflund, S., McIntosh, K., Mercer, S. H., & May, S. L. (2014). Examining disproportionality in school discipline for aboriginal students in schools implementing PBIS. *Canadian Journal of School Psychology*, 29, 213–235.

Hemmeter, M. L., Fox, L., Jack, S., & Broyles, L. (2007). A Program-Wide Model of Positive Behavior Support in Early Childhood Settings. *Journal of Early Intervention*, *29*, 337–355.

Hershfeldt, P.A., Pell, K., Sechrest, R., Pas, E.T., Bradshaw, C, P. (2010). Lessons learned coaching teachers in behavior management; the PBISplus coaching model. *Journal of Educational and Psychological Consultation*, 22, 280-299.

Horner, R.H., Sugai, G., Lewis, T. (2015). Is school-wide positive behavior support an evidence-based practice? Washington, DC: Positive Behavior Interventions & Supports: OSEP Technical Assistance Center. Retrieved from https://www.pbis.org/research.

Institute for Education Sciences (IES). (2018). Early childhood education. Retrieved from: https://ies.ed.gov/topics/earlychildhood.asp.

Jeon, L. & Wells, M.B. (2018). An organizational-level analysis of early childhood teachers' job attitudes: workplace satisfaction affects early head start and head start teacher turnover. *Child & Youth Care Forum*, 47: 563-581.

Jolstead, K. A., Caldarella, P., Hansen, B., Korth, B. B., Williams, L., & Kamps, D. (2017). Implementing positive behavior support in preschools: an exploratory study of cw-fit tier 1. *Journal of Positive Behavior Interventions*, 19,48–60.

Kazdin, A. (1985). Treatment of antisocial behavior in children and adolescents. Homewood, IL: Dorsey.

Keenan, K. & Wakschlag, L. (2004). Are oppositional defiant and conduct disorder symptoms normative behaviors in preschoolers? A comparison of referred and nonreferred children. *The American Journal of Psychiatry,* 161, 356-358.

Kincaid, D. & Horner, R. (2017). Changing systems to scale up an evidence-based educational intervention. *Evidence-Based Communication Assessment and Intervention*, 11:3-4, 99-113.

Kretlow, A. G., & Bartholomew, C. C. (2010). Using Coaching to Improve the Fidelity of Evidence-Based Practices: A Review of Studies. *Teacher Education and Special Education*, *33*, 279–299.

McDaniel, S. C., Bruhn, A. L., & Mitchell, B. S. (2015). A Tier 2 Framework for Behavior Identification and Intervention. *Beyond Behavior*, *24*, 10–17.

McLaren, E. M., & Nelson, M. C. (2009). Using functional behavior assessment to develop behavior interventions for students in head start. *Journal of Positive Behavior Interventions*, 11, 3–21.

Miller, S. Smith-Bonahue, T. & Kemple, K. (2017). Preschool teachers' responses to challenging behavior: the role of organizational climate in referrals and expulsions. *International Research in Early Childhood Education*, 8, 38-57.

Mitchell, B.S., Stormont, M., & Gage, N.A. (2011). Tier two interventions implemented within the context of a tiered prevention framework. *Behavioral Disorders,* 36, 241-261.

National Autism Center. (2015). National standards project: Phase 2. Randolph, MA.

National Center for Education Statistics. (2018). Preschool and kindergarten enrollment. Retrieved from: https://nces.ed.gov/programs/coe/indicator_cfa.asp.

National Center for Pyramid Model Innovations. (2011). Technical Assistance Center on Social Emotional Intervention for Young *Children* (TACSEI). University of South Florida, Tampa, FL. Retrieved from http://challengingbehavior.cbcs.usf.edu.

National Research Council & Institute of Medicine. (2009). Preventing mental, emotional, and behavioral disorders among young people: progress and possibilities. Washington, DC: National Academies Press (US).

Neilsen, S., & McEvoy, M. (2004). Functional behavioral assessment in early education settings. *Journal of Early Intervention, 26*, 115-131.

Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional Children, 71*, 137-148.

Oliver, R.M., & Reschly, D.J. (2010). Special education teacher preparation in classroom management: Implications for students with emotional and behavioral disorders. *Behavioral Disorders*, 35, 188-199.

OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. (2017). Positive Behavioral Interventions & Supports. Retrieved from www.pbis.org.

Pennsylvania Association of Intermediate Units (PAIU). (2018). Retrieved from:
https://www.paiu.org.

PA Department of Education. (2018). Early intervention. Retrieved from:
https://www.education.pa.gov/Early%20Learning/Early%20Intervention/Pages/default.as
px.

Pennsylvania Positive Behavior Support (PA PBS). (2016). Pennsylvania positive behavior
support. Retrieved from: https://www.papbs.org.

Pennsylvania Department of Human Services. (2018). Office of child development and early
learning. Retrieved from:
http://www.dhs.pa.gov/learnaboutdhs/dhsorganization/officeofchilddevelopmentandearly
learning/.

Powell, D., Dunlap, G., & Fox, L. (2006). Prevention and intervention for the challenging
behaviors of toddlers and preschoolers. *Infants & Young Children, 19*, 25-35.

Rausch, M. K., & Skiba, R. (2004). Unplanned outcomes: Suspensions and expulsions in
Indiana. Bloomington, IN: Indiana University, Center for Evaluation and Education
Policy. *(11) (PDF) Achievement and Enrollment Status of Suspended Students Outcomes
in a Large, Multicultural School District*. Retrieved from:
https://www.researchgate.net/publication/249682240_Achievement_and_Enrollment_Sta
tus_of_Suspended_StudentsOutcomes_in_a_Large_Multicultural_School_District.

Ryan, J.B., Hughes, E.M., Katsiyannis, A., McDaniel, M., Sprinkle, C. (2011). Research-based
educational practices for students with autism spectrum disorders. *Teaching Exceptional
Children, 43*, 56—64.

Sackett D., Strauss S., Richardson W., Rosenberg W., Haynes R. (2000). Evidence-based
medicine: how to practice and teach ebm. 2nd ed. Churchill Livingstone; Edinburgh.

Sailor, W., Dunlap, G., Sugai, G., Horner, R. (2009). Handbook of positive behavior support.
Retrieved from https://link-springer-com.libproxy.temple.edu/book/10.1007%2F978-0-
387-09632-2#toc.

Scott, T. M. & Alter, P. J. & Rosenberg, M. & Borgmeier, C. (2010). Decision-making in secondary and tertiary interventions of school-wide systems of positive behavior support. *Education and Treatment of Children*, 33, 513-535. West Virginia University Press. Retrieved December 10, 2018, from Project MUSE database.

Shaw, D. S., Gilliom, M., Ingoldsby, E. M., & Nagin, D. (2003). Trajectories leading to school-age conduct problems. *Developmental Psychology*, *39*, 189–200.

Slocum, T.A., Detrich, R., Wilczynski, S.M., Spencer, T.D., Lewis, T., Wolfe, K. (2014). The evidence-based practice of applied behavior analysis. *Behavior Analyst,* 37:41-56.

Stanton-Chapman, T. L., Walker, V. L., Voorhees, M. D., & Snell, M. E. (2016). The evaluation of a three-tier model of positive behavior interventions and supports for preschoolers in head start. *Remedial and Special Education*, *37*, 333–344.

Steed, E., Noh, J., Heo, K.H. (2014). A Cross cultural comparison of positive behavioral interventions and supports in early childhood classrooms in the united states and south korea. *Infants and Young Children,* 27, 30-42.

Steed, E. A., Pomerleau, T., Muscott, H., & Rohde, L. (2013). Program-wide positive behavioral interventions and supports in rural preschools. *Rural Special Education Quarterly*, 32, 38–46.

Stormont, M., Reinke, W., & Herman, K. (2011). Teachers' knowledge of evidence-based interventions and available school resources for children with emotional and behavioral problems. *Journal of Behavioral Education*, 20, 138-147.

Sugai, G., & Horner, R. R. (2006). A promising approach for expanding and sustaining school-wide positive behavior support. *School Psychology Review, 35*, 245-259.

U.S. Department of Education. (2015). School climate and discipline: federal efforts. Retrieved from https://www2.ed.gov/policy/gen/guid/school-discipline/fedefforts.html#policy-statement.

U.S. Department of Education. (2016). Building the legacy: IDEA 2004. Retrieved from: idea.ed.gov.

U.S. Department of Education. (2016). Office of special education and rehabilitative services blog. Retrieved from: https://sites.ed.gov/osers/tag/pbis/.

US Department of Health & Human Services. (2014). Policy statement on expulsion and suspension policies in early childhood settings. Retrieved from https://www2.ed.gov/policy/gen/guid/school-discipline/policy-statement-ece-expulsions-suspensions.pdf.

Welch, C. D., & Polatajko, H. J. (2016). Applied behavior analysis, autism, and occupational therapy: A search for understanding. *The American Journal of Occupational Therapy, 70*, 1-5.

Yell, M. L. (1989). Honig v. Doe: the suspension and expulsion of handicapped students. *Exceptional Children*, *56*, 60–69.

Instructions: Please read through each of the following questions and respond. You may save and complete at a later time if needed. Definitions are offered intermittently throughout to assist if necessary. There are five total sections. Please only complete and submit one time.

Time: This survey will take approximately 7-10 minutes to complete. Thank you for your time!

Section I: Demographic Information

Definitions:
- Positive Behavior Interventions & Supports (PBIS): Three-tiered pyramid model of student support designed to promote social-emotional development and prosocial behavior, including universal supports, targeted group supports and intensive, individualized behavioral and social-emotional interventions. PBIS is also often referred to in Pennsylvania as "Program-wide Positive Behavior Interventions & Supports" or PWPBIS.

1. What is your current position (check all that apply):
   a. Special Education Teacher/Special Instructor
   b. Speech & Language Pathologist
   c. Occupational Therapist
   d. Physical Therapist
   e. General Education Teacher
   f. School Psychologist
   g. Behavior Support Specialist
   i. Other (please describe)

2. What is the highest degree you hold (check one only):
   a. Bachelor's
   b. Master's
   c. Doctoral
   d. Other (please specify)

3. What year did you attain your highest degree? _____

4. Please indicate the certification(s) and/or license(s) you hold (check all that apply):
   a. Level I, Early Childhood Teacher Certification
   b. Level II, Early Childhood Teacher Certification
   c. Level I, Special Education Teacher Certification
   d. Level II, Special Education Teacher Certification
   e. Board Certified Behavior Analyst
   f. School Psychologist

g.   Speech & Language
h.   Physical Therapy
i.   Occupational Therapy
j.   Other (please describe/specify)

5.   How would you describe the setting(s) in which you work primarily (check one only)?
    a.   Early childhood classroom
    b.   Special education classroom
    c.   Home
    d.   Other (please describe/specify)

6.   What is/are the educational classification(s) of the children you provide services to (check all that   apply)?
    a.   Autism Spectrum Disorder (ASD)
    b.   Developmental Delay (DD)
    c.   Speech and Language Impairment
    d.   Other Health Impairment (OHI)
    e.   Visual Impairment
    f.   Deafness
    g.   Emotional Disturbance
    h.   Multiple disabilities
    i.   Intellectual disability
    j.   Orthopedic Impairment
    k.   Other (please specify)

7. What is the name of the provider/providers for which you currently work? _____
8. How many college and/or university course credits toward a degree and/or certification have you taken that focused on PBIS?
*Assume one class equals three credits.
    a. 0 credits
    b. 1-3 credits
    c. 4-6 credits
    d. 7-9 credits
    e. 10 or more credits

9. Were these credits part of courses that were required for program completion, an elective or both?
    a. Required
    b. Elective(s)
    c. Both
10. If you took at least 1 credit of a course through your college/university that focused on PBIS, how would you rate the efficacy of the course in relation to preparing you to implement PBIS?
    a.   Very effective
    b.   Effective
    c.   Minimally effective
    d.   Not effective

e. Not applicable (did not take at least one credit)

11. How many workshops and/or trainings have you attended within the past two years and at your current place of employment that focus on PBIS?
    a. 0
    b. 1
    c. 2
    d. 3
    e. 4
    f. 5 or more

12. If you attended at least one workshop or training at your current place of employment within the past two years that focused on PBIS, how would you rate the efficacy of the workshop/training in relation to preparing you to implement PBIS in schools?
    a. Very effective
    b. Effective
    c. Minimally effective
    d. Not effective
    e. Not applicable (did not take at least one workshop or training)

13. Does your current place of employment offer any type of coaching or support surrounding the implementation of PBIS strategies?
a. Yes – please specify: _____
b. No

Section II: Current use of Global PBIS Strategies
Definitions:
- Positive Behavior Interventions & Supports (PBIS): Three-tiered pyramid model of student support designed to promote social-emotional development and prosocial behavior, including universal supports, targeted group supports and intensive, individualized behavioral and social-emotional interventions. PBIS is also often referred to in Pennsylvania as "Program-wide Positive Behavior Interventions & Supports" or PWPBIS.

1. Are you part of the school-based PBIS leadership team in any of the early childhood programs in which you currently provide services? If so, how many?
    a. No – 0

    b. Yes – 1

    c. Yes – 2

    d. Yes – 3

    e. Yes – 4

f. Yes - 5 or more

2. How frequently do you assist with the transition of students across the three PBIS Tiers of support based on student-specific behavior data collected?
       a. Never
       b. Daily
       c. Weekly
       d. Monthly
       e. Annually
       f. Other, please specify: _____

3. Do any of the early childhood programs you currently work in utilize suspension & expulsion as a strategy for handling challenging behavior?
       a. Yes
       b. No
       c. Not sure

4. Are there any barriers, in your opinion, to the effective implementation of PBIS by early interventionists in early childhood programs?
a. Yes- please specify: _____
b. No

Section III: Current use of Tier 1 PBIS Strategies
Definitions:
- Positive Behavior Interventions & Supports (PBIS): Three-tiered pyramid model of student support designed to promote social-emotional development and prosocial behavior, including universal supports, targeted group supports and intensive, individualized behavioral and social-emotional interventions. PBIS is also often referred to in Pennsylvania as "Program-wide Positive Behavior Interventions & Supports" or PWPBIS.
- Tier I: Strategies provided to all students including the teaching of expectations, positive reinforcement, group contingencies, behavior-specific praise, pre-correction, etc. to all students in a program.

Please provide the frequency at which you use or implement the following strategies with your students in early childhood education programs using the scale offered below:
Physical classroom design manipulation: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Use of 5 or fewer positively stated behavioral expectations: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Direct teaching of expectations:_____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Individual positive reinforcement systems: Adding something desirable to make it more likely that a target behavior will occur again in the future. For this strategy, focus on the use of an individualized positive reinforcement system for a student: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Use of developmentally-appropriate schedules:_____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Implementation of routines:_____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Pre-correction: Proactive strategy designed to prevent predictable problem behavior from occurring and increase the likelihood of an expected behavior taking place. A prompt or reminder for the expected behavior: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Use of behavior-specific praise statements: A descriptive, positive statement intended to reinforce a specific behavior (e.g., "nice listening!"): _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Group contingencies: Reward systems in which children work together towards a group goal: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Collaboration on PBIS strategies with families: _____
1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Collaboration on PBIS strategies with program-specific early childhood staff:_____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Analysis of Tier 1 behavior data: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Section IV: Current use of Tier 2 PBIS Strategies
Definition(s):
- **Tier 2:** Small group-based strategies for students who do not respond to Tier 1, including small-group direct instruction, shared storybook readings, check-in and check-out procedures. These strategies are used in conjunction with those previously outlined in Tier 1.

Please provide the frequency at which you use or implement the following strategies with your students that require Tier 2 support in early childhood education programs using the scale offered below:
Small-group, direct social emotional instruction: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Use of established social-emotional curriculum: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Theme-based social-emotional activities (e.g., art projects, play activities, etc.): _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Shared social-emotional skill storybook readings: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Targeted academic instruction: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Check-in and check-out procedures: A small group intervention that includes increased positive adult contact, embedded social skills training, direct link to school-wide behavioral goals and expectations, frequent feedback, daily home-school communication and positive reinforcement contingent on meeting behavioral goals. _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Analysis of Tier 2 behavior data: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Section V: Current use of Tier 3 PBIS Strategies
Definition(s):
- **Tier 3:** Individualized strategies for students with significant challenging behavior, including the use of Functional Behavior Assessments (FBAs), Positive Behavior Support Plans (PBSPs), antecedent interventions, replacement behaviors, consequence interventions, and preference assessments. These strategies are used in conjunction with those previously outlined in Tiers 1 and 2.

Please provide the frequency at which you use or implement the following strategies with your students that require Tier 3 support in early childhood education programs using the following scale offered below:

Conducting of FBAs: An assessment process that identifies a specific target behavior, the purpose of the behavior, and what factors might be maintaining the behavior that is interfering with the student's educational progress. _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Use of FBA hypotheses:_____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Creation of individualized PBSPs: An individualized and detailed plan, based on the findings of an FBA, to support a student and decrease challenging behavior. PBSPs will include antecedent interventions, replacement behaviors and consequence interventions. _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Implementation of individualized PBSPs: _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Implementation of PBSPs that include antecedent interventions: Antecedent interventions are strategies utilized in a child's environment proactively, or prior to a student engaging in challenging behavior, designed to avoid the challenging behavior altogether. For instance, providing prompts or offering choices proactively. _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Implementation of PBSPs that include targeted replacement behaviors: A replacement behavior is a behavior chosen to replace an undesirable or challenging behavior. For instance, rather than hit a teacher when you cannot reach a toy you wish to play with, you can ask the teacher for the toy. _____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Implementation of PBSPs that include consequence interventions: Consequence interventions are reactive strategies utilized to minimize reinforcement for engaging in challenging behavior and increase positive reinforcement for engaging in prosocial behavior. For instance, offering a child a pre-determined reinforcing item after they follow the teacher's directions (target behavior)._____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Analysis of Tier 3 behavior data:_____

1 – Never (O times), 2 – Infrequently (1-2 times per year), 3 – Sometimes (at least once per month or every few sessions), 4 - Frequently (several times per month or almost every session), 5 - Always (every time I provide support to the child)

Hello Preschool Early Intervention Supervisors –

I hope this email finds you well! My name is Ashlee Lamson and I am the Assistant Director of Clinical Services for Elwyn SEEDS, the designated Preschool Early Intervention provider in Philadelphia, PA. I am also a PhD student at Temple University and am currently working on some exciting research that I need your assistance with!

The focus of the study is the extent of implementation of PBIS strategies in early childhood settings by preschool early interventionists in the state of Pennsylvania. We all know that the preschool PBIS model has been validated by numerous research teams and organizations, as well as remains the recommendation of a number of federal and state-level legislative bodies as an evidence-based practice for supporting all students, including those that engage in challenging behavior. However, the current literature lacks in relation to how preschool early intervention professionals of all disciplines are currently supporting early childhood environments in the implementation of these strategies. Furthermore, the extent of formal training that preschool early intervention professionals receive from higher education entities and their employment organizations in the specific strategies outlined within Tiers 1, 2 and 3 of the PBIS model also remains unclear. My study seeks to answer these very questions.

In order to accomplish this goal, I need some very basic support from each of you. I promise - this will be simple and quick! If you are interested in participation in the study, I am asking that you do one of the following as soon as possible:

1. Privately email me your staff contact information (early interventionists of all disciplines within your program)

or

2. Send/forward the introductory email drafted below to your staff and CC me (lamsona@elwyn.org) on the email

This will allow for a more efficient and accurate data analysis process, as well as allows me to take on the remainder of the work! I will send the survey once initially and will then send an additional reminder email over the period of several weeks (a total of two emails only).

As a thank you for your time, I will be conducting 3 random drawings for $50 Amazon gift cards! Also, I will be happy to share the data/findings with all of you once the analysis process is complete. This will provide you with some insight into PBIS implementation and will support with training preparation, etc. I am happy to present the data to you at a time that works best for you or I can send via email if you prefer.

Kindly let me know if you have any questions. I would be happy to work through any concerns you might have. I genuinely appreciate your support and involvement!

Best,

Ashlee Lamson, M.Ed., BCBA

Dear Preschool Supervisor,

As previously discussed, we are nearing the point of survey dissemination for the following study: "A Survey of Preschool Special Education Professionals and their use of Positive Behavior Interventions & Supports". As a courtesy, please be sure to inform your staff that they will be solicited for their participation in the survey. If they have any questions in advance, please have them reach out to myself, the student investigator, at lamsona@elwyn.org or tug36474@temple.edu.

Thank you again for your participation and support! Stay tuned for the survey link!

Best,
Ashlee M. Lamson, M.Ed., BCBA

APPENDIX D
STAFF SURVEY RECRUITMENT EMAIL

Good Morning EI Staff –

I hope this email finds you well! My name is Ashlee Lamson and I am the Assistant Clinical Director for Elwyn SEEDS, the preschool early intervention provider in Philadelphia. I am also a doctoral student at Temple University and I am seeking your help for my dissertation.

Below you will find a link to an Early Intervention PBIS survey through SurveyMonkey. I am hoping to get input from EI professionals, **of all disciplines (PT, SLP, OT, SI, Behavior Support, School Psych, etc.)**, on PBIS implementation across the state of Pennsylvania. I cannot stress how valuable your input and insight is and I would so genuinely appreciate your support!! Your insight will offer strong implications for PBIS implementation across the state in the coming years.

The survey only takes approximately 7-10 minutes to complete and I am randomly issuing 3 $50 Amazon Gift Cards for participation!

Please let me know if you have any questions or concerns and again, I appreciate your insight!

https://www.surveymonkey.com/r/CV3DVHX

Best,
Ashlee M. Lamson, M.Ed., BCBA

APPENDIX E
SURVEY COMPLETION REMINDER

Good Afternoon All – Just sending a friendly reminder to complete the survey below if you wish to provide input and have not done so already. The survey will officially close at the end of the business day on Monday, May 20, 2019.

Thank you!

Ashlee M. Lamson, M.Ed., BCBA