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Early Childhood Teacher Knowledge: Distinguishing Between Developmentally Appropriate Behavior and Maladaptive Behavior

Michela Carattini

EARLY CHILDHOOD TEACHER KNOWLEDGE: DISTINGUISHING BETWEEN DEVELOPMENTALLY APPROPRIATE BEHAVIOR AND MALADAPTIVE BEHAVIOR

By

Michela Carattini

Bachelor of Science – General Psychology
Brigham Young University-Idaho
2016

Master of Science - Educational Psychology
Capella University
2020

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Michela Carattini

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Joseph Morgan, Ph.D.
Examination Committee Chair

Heather Van Ness, Ph.D.
Examination Committee Member

Jenna Weglarz-Ward, Ph.D.
Examination Committee Member

Katherine Lee, Ph.D.
Graduate College Faculty Representative

Alyssa Crittenden, Ph.D.
Vice Provost for Graduate Education & Dean of the Graduate College

ABSTRACT

This dissertation investigates the effectiveness of a professional development program aimed at enhancing early childhood education (ECE) teachers' abilities to identify and address developmentally appropriate versus maladaptive behaviors in young children. Utilizing an explanatory sequential mixed methods design, the study involves pre- and post-intervention surveys, a post-intervention focus group, and the implementation of four asynchronous learning modules. The participants, pre-service teachers from a large urban university, were evaluated on their knowledge and application of distinguishing between behaviors in early childhood settings.

The literature review highlights the struggles ECE teachers face in identifying maladaptive behaviors and the need for targeted professional development. The professional development content was derived from Wakschlag and colleagues' work on behavior dimensions and included the use of Content Acquisition Podcasts (CAPs) as an innovative educational tool. The results indicate slight improvements in teachers' knowledge and their ability to apply this knowledge in practical settings. This study contributes to the field by providing evidence on the effectiveness of CAPs and other structured professional development frameworks in ECE. The findings suggest that improving teacher training can lead to better early interventions, thereby mitigating long-term negative outcomes associated with maladaptive behaviors in young children. The study also identifies areas for future research, including the need for ongoing support and training for ECE teachers in behavior management.

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Dedicated to my children, who have always been my rock and motivation.

Abigail Gearin

Aiden Gearin

and

Gino Gearin

I love you, my minions. Thank you for all your love and patience as I work to provide you the best quality of life I can.

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LIST OF ABBREVIATIONS

CAP	Content Acquisition Podcast
CCNES	Coping with Children's Negative Emotions Scale
E/BD	Emotional Behavior Disturbance
ECE	Early Childhood Education
IDEA	Individuals with Disabilities Education Act
IOA	Interrater Observer Agreement
NAEYC	National Association of the Education of Young Children
PD	Professional Development
SEL	Social-Emotional Learning

Chapter One: Introduction

Young children often display developmentally appropriate behaviors that can be challenging to adults to a level that may be seen as disruptive. While these behaviors, such as tantrums and assertion of autonomy can be perceived as disruptive; the difference between these behaviors and maladaptive behaviors lies in the quality of behaviors and their consistency across different situations (Wakschlag et al., 2005, 2010, 2014). The quality of behaviors is defined as "the extent to which behavior is modulated and expectable in context" (Wakschlag et al., 2007, p. 977). These differences can be observed in the intensity, duration, and frequency of behaviors. For example, persistent assertiveness despite environmental supports can indicate a significant deviation across different environmental settings. This indicates potentially maladaptive behavior as it is persistent (i.e., frequency) despite support (i.e., intensity) and occurs in multiple settings (Wakschlag et al., 2007).

Maladaptive behaviors have many of the "defining features that can occur normatively [such as] aggression, noncompliance, and tantrums" (Breitenstien et al., 2009, p. 4). Other behaviors that fall under the umbrella of maladaptive behaviors can include an array of behaviors such as inattention, hyperactivity, or excessive assertiveness (i.e., oppositionality) that may present as distracting to the classroom environment (Yoder & Williford, 2019). Maladaptive behaviors are synonymous with disruptive behavior (Conroy et al., 2004; Hemmeter et al., 2008; Yumus & Bayhan, 2016; Yoder & Williford, 2019) or challenging behavior (Dunlap et al., 2006; Quesenberry et al., 2014; Wymer et al., 2022) as termed by other authors. Young children with maladaptive behaviors have a higher chance of exhibiting other difficulties, such as with the development of interpersonal relationships and insecure attachments (Yumus & Bayhan, 2016). These behaviors tend to be persistent over time, can impede a child in learning and participating

in daily activities, and often occur across settings or contexts (Clawson, 2006; Dunlap et al., 2006; Popham et al., 2018; Yumus & Bayhan, 2016).

Behavioral challenges are common in young children, with 80% of children exhibiting disruptive behavior at some time during their developing years. However, disruptive behaviors usually decrease after age two (Conroy et al., 2004). Research among toddlers suggests that 12% to 16% of 1- and 2-year-olds display difficulty in social-emotional skills; however, only 37% of those children continue to have behavioral issues in their preschool years (Briggs-Gowen et al., 2001) often with greater severity and frequency (Yoder & Williford, 2019). These children are at-risk for difficulties in learning and social-emotional development (Yoder & Williford, 2019). There is a growing concern regarding the high incidence of extended maladaptive or problematic behaviors observed in young children (Mitchell et al., 2018). These problematic behaviors can manifest as either internalizing or externalizing issues and often hinder the child's access to educational opportunities (Clawson, 2006; Yumus & Bayhan, 2016).

Additionally, these behaviors frequently may lead to the removal of the child from early childhood programs, with preschoolers experiencing expulsion rates 3.2 times higher than their school-age counterparts (Chow et al., 2021; Gilliam, 2005). In the short term, young children - particularly African American boys - are more likely to be suspended or expelled from early childhood programs due to behaviors identified as maladaptive (Chow et al., 2021; Gilliam, 2005). These suspensions and expulsions subsequently result in the loss of: instructional time, opportunities to engage in social activities that allow them to practice social-emotional skills, and access to critical learning in early education settings (Chow et al., 2021; Egger & Angold, 2006; Yoder & Williford, 2019). Many researchers have stressed the importance of intervening with behaviors before they become a pattern, as behaviors in children are often solidified by third

grade (Dunlap et al., 2006). These maladaptive behaviors can become disruptive and interfere with the learning of the child and others, interrupt instruction, and impact the child's social-emotional and academic skills in the present and future (Egger & Angold, 2006; Yoder & Williford, 2019; Yumus & Bayhan, 2016).

Maladaptive behaviors also may have compounding negative impacts over time. These consequences may include poor academic performance and higher risk of receiving a suspension or an expulsion (Algozzine, 2017; Gilliam, 2005; Mitchell et al., 2019; Zinsser et al, 2022). There is a plethora of research suggesting that early identification of atypical, maladaptive behaviors paired with interventions that integrate appropriate supports and services can lead to an increase in academic achievement and a decrease in long term maladaptive behaviors (Aubrey & Ward, 2013; Breitenstein et al., 2009; Conroy & Brown, 2004; Dunlap et al., 2006; Popham et al., 2018; Poulou, 2015). While we know the positive effects of intervening early, there continues to be a delay in the provision of services. Teacher perception and bias, reliance on instinct, and teacher ability to operationalize behaviors have all been shown to be contributing factors (Askoy, 2020; Garner & Middleton, 2023; Yoder & Williford, 2019). Addressing these factors can improve the quality of early childhood programs, teacher-child interactions, and the classroom environment (Yoder & Williford, 2019). Educational leaders must pay careful attention to these areas to improve early identification and intervention efforts.

Teacher Perceptions of Young Children's Behaviors

When toddlers display maladaptive behavior, such as throwing themselves on the floor, shouting, and hitting, it is often typical of the child's age and stage of development (Conroy & Brown, 2004; Wakschlag et al., 2005). Teachers commonly identify behavior based on how they perceive the behavior, their life experiences, and what they learned in teacher education

programs (Conroy et al., 2004; Yoder & Williford, 2019). Behaviors that impede the learning of self or others, cause harm to self and others, and behaviors that teachers believe to be "out of control" are most often those identified as maladaptive (An & Horn, 2022; Poulou, 2015; Wakschlag et al., 2012).

Edwards (2017) discussed several themes in teacher perception-related roadblocks to early identification of maladaptive behaviors, including the following:

(1) the inability to properly pinpoint and define behaviors that need to be addressed,

(2) no consideration of teacher accountability that may be influencing behaviors, and

(3) holding assumptions about the child without revisiting or changing these assumptions of the child as the year progresses based on new observations or information gathered

The combination of these roadblocks may discourage further investigation of behaviors that may be maladaptive. In addition, teachers may be unintentionally reinforcing and maintaining inappropriate behaviors (Edwards, 2017). Thus, these behaviors may not be indicative of a behavior disorder; rather, they are a natural learned response within a problematic system (Algozzine, 2017). The classroom management and multi-tiered systems of support being enforced can influence how difficult behaviors are being seen in the classroom (Ennis et al., 2020; Marsh & Mathur, 2020).

Teachers' race, ethnicity, beliefs about behavior, stress, and self-efficacy are often connected to their perception of behaviors (Garner & Middleton, 2023; Stormont & Young-Walker, 2017; Yoder & Williford, 2019). Teachers' perception of behaviors indicates how they will identify, interact with, and manage various behaviors in the early childhood classroom. Researchers indicated that teachers who have confidence in their teaching abilities tend to

perceive behaviors as less maladaptive (Yoder & Williford, 2019). Teachers' perception of behavior also impacts the ways in which they manage and address behaviors.

For example, Wymer and his team (2022) conducted a study on preschool teachers' perceptions of maladaptive behaviors and observed a decrease in these behaviors' intensity over the school year. Despite this general improvement, White teachers perceived Black children's maladaptive behaviors as more intense compared to White children. This observation aligns with previous research by Gilliam (2016) and Neitzel (2018), which also noted that White teachers were more likely to employ exclusionary discipline methods with Black children. These findings suggest that early childhood educators' implicit biases influence their assessment of behavior and disciplinary actions. Thus, to provide effective support for student behavioral difficulties, teachers need to understand a range of behaviors, consider culture and ethnic backgrounds, and possess knowledge of evidence-based practices to address them. However, studies have shown that early childhood educators do not have sufficient knowledge to identify and provide interventions and support for behaviors (Hemmeter et al., 2008; Yumus & Bayhan, 2016).

Reliance on Established Patterns of Behavior

Teachers often struggle to identify initial signs of emotional distress and maladaptive behaviors in children; consequently, they tend to seek help or make referrals only when issues escalate to chronic or severe levels (Mitchell et al., 2019). Insufficient support and guidance for teachers may contribute to difficulty in discerning *when* one should intervene with maladaptive behaviors (Yoder & Williford, 2019). The way that teachers interpret behaviors can impact their response to those behaviors (Evans et al., 2019). Evans and colleagues (2019) found that the mental frameworks or representations that teachers have about children, themselves, and their relationships with students can influence how they interpret behaviors. For example, a teacher

who has a strong attachment and positive relationship with a student is more likely to interpret challenging behavior as a temporary disruption rather than as a significant issue. In contrast, if a teacher's mental framework is more focused on negative aspects of a relationship, they might view the same behavior as problematic and indicative of deeper issues.

In ECE classrooms, this means that the way teachers interpret behaviors can significantly impact how they handle those behaviors. Teachers who have strong, positive relationships with their students are more likely to approach difficult behaviors with empathy and understanding, seeking to support and guide the child in a positive direction (Evans et al., 2019). Conversely, if a teacher perceives the relationship with a child as conflictual, they may be more likely to respond to difficult behaviors with frustration or discipline, potentially leading to under-identification of developmental needs or delayed intervention (Evans et al., 2019). Thus, under identification and late intervention tend to be, in part, due to insufficient knowledge, stress, low confidence, and interpretation of behaviors (Mitchell et al., 2019; Niesyn, 2009; Poulou, 2015; Wakschlag et. al, 2007; Whitey, 2018).

The early childhood programs serve children at a crucial developmental stage when behavior and academic patterns of young children are still forming, making it difficult to identify challenges and address them effectively (Mitchell et al., 2019; Wakschlag et al., 2005; Wakschlag et al., 2010). This may lead to young children not receiving as much attention or support as older students with more established behavioral and academic challenges. The emotional/behavioral disorder (E/BD) eligibility criteria, for instance, states that children must demonstrate a marked negative academic and/or behavioral impact over time (IDEA, 2004). Teachers are depending on an undefined time observing patterns of maladaptive behavior which can result in a ‘wait and see’ approach to the identification and use of interventions (Breitenstein

et al., 2009). Thus, many of the predictive behaviors that ultimately lead to a recommendation for an E/BD diagnosis could be mitigated with early intervention services if teachers could identify potentially maladaptive behaviors sooner (Mitchell et al., 2019).

The "wait and see" approach may be due to difficulties in distinguishing between developmentally appropriate misbehaviors and atypical, maladaptive behaviors in young children (Dunlap et al., 2006; Wakschlag et al., 2012; Yoder & Williford, 2019). Intervening with behavioral challenges as they emerge can reduce the severity of externalizing (i.e., aggression, noncompliance) and internalizing disorders (i.e., anxiety, depression) and prevent them from both persisting and increasing in severity (Arumugam et al., 2020; Conroy & Brown, 2004; Dunlap et al., 2006; Poulou, 2015).

Teacher's Operationalization of Behaviors

Current literature has delved into the various factors that impact how teachers operationalize behaviors. Such factors include teacher perceptions and bias, teacher education and best practices, and the unclear differentiation between developmentally appropriate and maladaptive behaviors (Yoder & Williford, 2019). Identifying behaviors before they become maladaptive to the extent that intensive interventions, such as multi-tiered systems of support (e.g., tier 2 and tier 3 supports), are needed is crucial. One example of a multi-tiered system of support is the Pyramid Model, which is designed to organize evidence-based practices that can be used in early childhood classrooms to enhance social-emotional competence and to prevent and address challenging behaviors in children (Hemmeter et al., 2016). Although these systems exist and have shown to positively impact challenging behaviors, the underlying issue of operationally defining behavior, preparing teachers to understand and identify behavioral

variations (i.e., frequency of behavior), and using screening and assessment tools remains (Yumus & Bayhan, 2016).

One way researchers can support early childhood educators is through a closer examination of how teachers are operationalizing and perceiving behaviors, which some researchers have begun to do. The results of previous studies indicate that teachers were more frequently attuning to externalizing behaviors that impede instruction (Yumus & Bayhan, 2016). Researchers also have explored the variables that impact teacher perception (e.g., teacher biases, education, confidence; Oliver & Reschly, 2010; Lambeth & Smith, 2016; Siwatu & Polydore, 2010). Understanding how teachers operationalize behaviors may provide the information needed to strengthen teacher knowledge, prevent the development of maladaptive behavior patterns, and provide intervention services sooner to children who display potentially maladaptive behaviors (Breitenstein et al., 2009; Chacko et al., 2009; Martel, 2012; Wakschlag et al., 2010; Yoder & Williford, 2019).

Teacher Training: Teacher Preparation Programs and Professional Development

Many children spend much of their time in non-parental child-care settings; therefore, teachers in these settings must understand how to meet the needs of the children they serve (Cote et al., 2013). Bredekamp and colleagues (2022) noted the importance of teachers having knowledge of age-related characteristics of young children as these provide the ability to understand behavior, make predictions about what children can and cannot do, and select the best approaches and interventions that will support learning and development the most effectively. Teachers play a crucial role in how children interact with and respond to their environments; their influence is complex and depends on multiple factors, such as teacher-child attachment, teacher support, and teacher promotion of various developmental skills (Davis, 2003). Teacher

education programs seek to cultivate these skills through practice-based experiences both at the university and in their community (i.e., student teaching; Beers, 2019).

Teacher Education Programs

Early childhood teachers' beliefs, perceptions, and knowledge of child development are parts of a complex system of instruction and care in early childhood classrooms (Goble et al., 2015) and teachers' operational definitions of behavior are influenced by these variables (Yumus & Bayhan, 2016). Many teacher education programs do not adequately prepare teachers with the knowledge to identify at-risk emerging behaviors and subsequently provide intervention support early (Yumus & Bayhan, 2016; Beaudoin et al., 2018). For example, research findings indicate that many preschool teachers may lack the necessary preparation to address the social-emotional needs of children (Buettner et al., 2016; Hemmeter et al., 2008; Oliver et al., 2017). Only 20% of teachers have reported receiving training related to fostering children's social and emotional competence according to a 2012 national survey (National Survey of Early Care and Education, 2012). Moreover, faculty members from both two-year and four-year higher education programs have noted that preschool teacher readiness to handle children with challenging behavior is comparatively lower despite being well-prepared to support children's social-emotional development (Hemmeter et al., 2008). Professional development programs are essential to equip teachers with the skills needed to address these challenges effectively.

Professional Development for In-Service Teachers

In-service teachers must attend professional development (PD) training to maintain their license and continue their education (Hirsch et al., 2019). Though early childhood educators play a central role in the prevention of problem behaviors, they are generally unprepared to do so (Stormont & Young-Walker, 2017). Effective classroom management has been shown to reduce

maladaptive behaviors in young children (Hirsch et al., 2019; Hemmeter et al., 2008). However, only 46% of teachers in one study reported participating in PD centered on classroom management with 64% of these teachers reporting it to be useful (Wei et al., 2010). When identifying disruptive behaviors in the classroom, some studies indicate that teachers frequently focus on externalizing behaviors that are persistent, cause harm to the child or others, cause damage to physical property, interferes with instruction or learning, or socially isolates the child and is sustained over time (An & Horn, 2022; Snell et al., 2012; Yoder & Williford, 2019). The key is to address these behaviors as they emerge to reduce the formation of persistent, disruptive behaviors, as well as lessen the short-term and long-term negative outcomes of these behaviors (Mitchell et al., 2019).

The Model of Behavior Dimensions

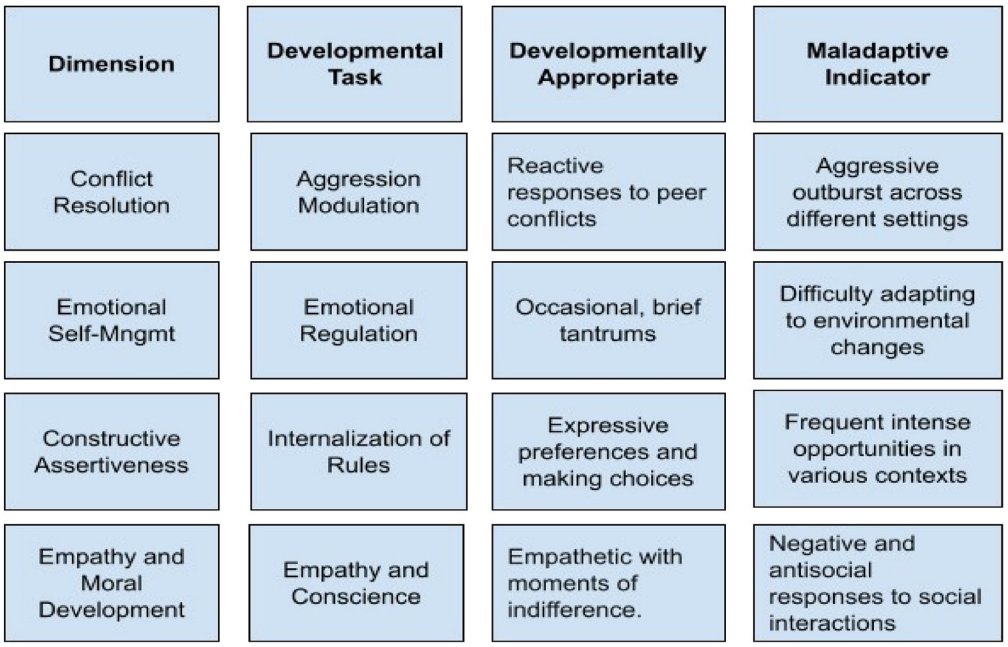
The work of Wakschlag and colleagues (i.e., 2005, 2007, 2012, 2014) helped lay the groundwork for distinguishing between developmentally appropriate and maladaptive behaviors in the clinical setting. They discussed a developmental framework in 2005 that consisted of four clinical principles of behavior and noted differences between developmentally appropriate misbehavior and maladaptive behaviors. For example, clinical principle one states that developmentally appropriate behavior is not pervasive and usually reflects assertions of autonomy whereas maladaptive behaviors are generalized across settings and/or in interpersonal relationships (Wakschlag et al., 2005). In 2012, they created a developmental model of four behavior dimensions: aggression, noncompliance, temper loss, and low concern for others. The aggression dimension is the severe exhibition of aggressive behavior in various settings. Temper loss describes displays of overt anger which can include temper tantrums and irritability. Noncompliance describes the opposition to not complying with social norms and rules. Low concerns for others describe “pervasive disregard for others’ needs and feelings” (Wakschlag et

al., 2005 p. 594). Using data on two existing early childhood samples (e.g., across preschool age, sex, ethnicity, poverty status), they found the model to be effective in identifying early, emerging maladaptive behaviors from developmentally appropriate behaviors (Wakschlag et al., 2012). These clinical principles, along with the developmental model of behavior dimensions, can be essential knowledge for early identification of potential maladaptive behavior in the classroom. Thus, the work of Wacksclag and others can be utilized in the education field and taught to early childhood educators. Having the knowledge to better differentiate between behaviors can allow teachers to implement individualized interventions quicker and empower teachers to address these behaviors.

The language used in this model, such as noncompliance, has been criticized in literature to negatively impacting student and teacher responses to their behavior (Eisenberg et al., 2006; Endsley, 2019; Smith et al., 2019). Eisenberg et al. (2006) defined prosocial voluntary behavior intended to benefit another, such as helping, sharing, comforting, defending, cooperating, and sympathizing. Additionally, this model focuses on the atypicality of behaviors based on the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM–5*; American Psychiatric Association, 2013). This shift in language is part of a more supportive and constructive approach to a child's behavior (Smith et al., 2019; see Figure 1). By focusing on prosocial behaviors, ECE teachers can foster a more positive and inclusive classroom environment that encourages all students to engage in cooperative and empathetic interactions (Eisenberg et al., 2006; Smith et al., 2019). ECE teachers must reflect on their language use and to practice rephrasing observations of a child's behavior in ways that are descriptive, non-judgmental, and focused on positive development (Wakschlag et al., 2007; Yumus & Bayhan, 2016). The key to this approach lies in observing how often (frequency), how intensely, and for how long certain behaviors occur (duration), as well as how children adjust their behavior when adults step in to

help (keeping in mind that the response from the child can be a direct result of the adult stepping in; Wakschlag et al., 2012). By examining these elements across different areas of behavior, one can tell the difference between what's typical for a child's development and what might be a sign of more maladaptive behaviors (Wakschlag et al., 2012; Wakschlag et al., 2014).

Figure 1: Adapted Figure from Wakschlag et al. (2012)



Dimension	Developmental Task	Developmentally Appropriate	Maladaptive Indicator
Conflict Resolution	Aggression Modulation	Reactive responses to peer conflicts	Aggressive outburst across different settings
Emotional Self-Mngmt	Emotional Regulation	Occasional, brief tantrums	Difficulty adapting to environmental changes
Constructive Assertiveness	Internalization of Rules	Expressive preferences and making choices	Frequent intense opportunities in various contexts
Empathy and Moral Development	Empathy and Conscience	Empathetic with moments of indifference.	Negative and antisocial responses to social interactions

Purpose of the Study

Several studies have identified the gap in teacher knowledge related to distinguishing between developmentally appropriate and atypical, maladaptive behaviors (Wakschlag et al., 2005; Wakschlag et al., 2010; Whitney, 2018; Yoder & Williford, 2019; Yumus & Bayhan, 2016), thus impacting teachers' use of these evidence-based strategies to prevent children's

challenging behaviors. Teachers' perceptions of behavior can impact how they identify, address, refer to, and understand behaviors in early childhood (Yumus & Bayhan, 2016).

There is a paucity of literature that seeks to examine a continuum of behaviors that can (a) guide educators in identifying when behaviors become maladaptive or (b) support educators in determining when the behaviors displayed may warrant further intervention (Dunlap et al., 2006; Wakschlag et al., 2005; Wakschlag et al., 2012; Yumus & Bayhan, 2016). Identifying arbitrary distinctions across ages in relation to when a behavior transitions from developmentally appropriate to problematic is essential (Dunlap et al., 2006). Therefore, the purpose of this study is to teach early childhood education teachers to better operationalize behaviors through PD modules constructed around the work of Wakschlag and others' (2005, 2012) developmental framework and behavior dimensions model. As the field moves toward a focus on prosocial behaviors, the Wakschlag model, as presented in this PD, has been adapted to not use this language. The study examined how early childhood pre-service teachers' perceptions of behavior change through their PD experience.

Research Questions

The research questions were as follows:

(1) Is there a difference between ECE knowledge and skills in identifying behavior types (e.g., developmentally appropriate misbehaviors and maladaptive) after participation in the professional development? QUANT

(2) What are ECE teacher perceptions of behavior and their own abilities to distinguish between developmentally appropriate misbehaviors and maladaptive behaviors? QUANT

(3) How do a series of case studies centered on differentiating behaviors in young children affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUANT

(4) How do opportunities to discuss nuanced differences in behavior affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUAL

Significance of the Study

Current literature indicates that there is a gap relative to supporting early educators in operationally defining developmentally appropriate and maladaptive behaviors (Egger & Angold, 2006; Studts et al., 2013; Wakschlag et al., 2005; Wakschlag et al., 2010; Yoder & Williford, 2019). Among the issues related to this gap is the need to operationally define behaviors. Several studies have provided insight into the characteristics and milestones of typical child development, as well as factors that contribute to disruptive behavior (Renk, 2008; Wakschlag et al., 2007). It can be challenging to translate these findings into clear, concrete definitions that educators can use in their daily interactions with children.

A practical set of tools and resources is needed to help teachers observe, evaluate, and classify behaviors (Brown & Englehardt, 2016; Han, 2014). Additionally, training programs should be applicable to daily practice and delivered in an active learning format (Church & Bateman, 2019). Current PD training is insufficient, with many teachers requesting PD activities that specifically focus on behavior management (Friedman-Krauss et al., 2014; Hopper et al., 2023). Providing more training in these areas will better support early educators' understanding of, and subsequently increase their effectiveness in responding to, behaviors. This, ultimately,

has the potential to enhance the quality of early childhood education. Professional development is required to enhance teachers' ability to differentiate between behaviors and identify them, particularly when they lack knowledge of tools that could help bridge this gap. The findings from this study will contribute to the field by providing data on the effectiveness of the PD that was given. This PD could be beneficial for teachers in school districts, daycares, and preschools.

Definition of Terms

Early Childhood Education (ECE): any group program, whether part- or full-day, that operates in centers, schools, or homes and serves children from birth to age eight, including those with special developmental or educational needs (Gonzalez-Mena, 2023). These programs include childcare centers, both profit and non-profit; private and public pre-K programs; Head Start initiatives; family childcare; kindergartens; primary grades; and before- and after-school programs in elementary schools (National Association for the Education of Young Children, 1993).

Maladaptive Behaviors: Describes various disruptive behaviors such as noncompliance, aggression, negative emotionality (Breitenstein et al., 2009; Wakschlag et al., 2010) hyperactivity, inattention, and oppositionality (Yoder & Williford, 2019, Chacko et al., 2009; Martel, 2012).

Developmentally Appropriate Behaviors: behaviors considered to be typical to the child's age and stage of development (Conroy & Brown, 2004; Wakschlag et al. 2005)

Clinical Threshold: a point at which the severity and number of symptoms a person experiences reach a level that is considered clinically significant and indicative of a specific mental health disorder (Costello & Shurgart, 1992).

Aggression Dimension: the severe exhibition of aggressive behavior in various settings.

Noncompliance Dimension: describes the opposition and not not complying to social norms and rules. .

Temper Loss Dimension: describes displays of overt anger which can include temper tantrums and irritability (Wakschlag et al., 2005).

Low Concern for Others Dimension: describes "pervasive disregard for others' needs and feelings" (Wakschlag et al., 2005, p. 594).

Conclusion

When children begin their early childhood years, demands in their developmental context change (Wakschlag et al., 2005). Examples include an increase in their social sphere of other children, adults, and environments as well as higher parental expectations. The merging of these processes could result in a spike in developmentally appropriate behavior disruptions (Soares et al., 2022; Wakschlag et al., 2005). Distinguishing between behaviors in early childhood settings is difficult, as teachers struggle to "catch" emerging, atypical behaviors before they become habitual (Breitenstein et al., 2009; Mitchell et al. 2019; Yumus & Bayhan, 2016). Teachers need support and knowledge in identifying differences in developmentally appropriate and atypical, disruptive behaviors in young children. Providing early intervention services sooner rather than later could mitigate problems that may exist.

Chapter Two: Review of the Literature

Introduction

Early childhood education (ECE) teachers struggle to distinguish between developmentally appropriate and maladaptive behaviors in young children (Conroy et al., 2004; Hemmeter et al., 2008; Yumus & Bayhan, 2016). Many factors play into how teachers operationalize behavior, make subsequent disciplinary decisions, and provide instruction and interventions to students. Some of these factors include the race and ethnicity of the teacher and the student, stress, and the education they have received both in their licensure program and through PD (Alter et al., 2013; Stormont & Young-Walker, 2017; Yoder & Williford, 2019). While there is training and coursework in classroom management and behavioral intervention strategies, teachers report a lack of confidence in addressing behavior and knowing when to intervene (Hooper et al., 2023). Furthermore, failure to address behaviors while children are young may result in a loss of instructional time, higher risk of suspension and expulsion, difficulties with interpersonal relationships, and early dropout (Clawson, 2006; Chow et al., 2021; Dunlap et al., 2006; Mitchell et al., 2019). The goal of this systematic review was to synthesize research related to ECE teachers' education, training, knowledge, and perceptions regarding young children with maladaptive behaviors, provide an overview of Wakschlag and other's work, and discuss the CAPs model as an effective PD framework for teaching educators how to differentiate between behaviors. Thereby, they can provide early intervention services to those displaying emerging maladaptive behavior in early childhood classrooms.

Method

To explore the current state of ECE teacher's identification of young children with suspected maladaptive behaviors, a systematic literature review was conducted in three parts. First, an electronic search of educational databases through EBSCO, including Academic Search Premier, ERIC, and PsycINFO was conducted. Search terms were created based on the guiding questions (see Table 1). Each term was explored independently; then terms were grouped and searched. The inclusion criteria were as follows: (1) participants must include early childhood education teachers or preschool teachers, (2) studies focus on behavior (i.e., perceptions of behavior, knowledge of behavior management and/or distinguishing between behaviors, addressing behavior), (3) studies that examine teacher education, behavior management program, or PD for early childhood education teachers, and (4) must be peer-reviewed articles. The initial article yield was 934. The articles were title and abstract screened to determine whether articles met the inclusion criteria. Duplicates were removed during this step, which resulted in a total of 21 articles.

Table 1: Search Terms

Topic/concept	Search terms
1) Teacher perceptions (S6)	"Perceptions" "Beliefs" "attitude*" "bias" "View" "Understanding" "judgements"
2) Teacher (S38)	"Teacher" "Educator" "Instructor" "Care center" "Head start" "Early childhood center"
2) Behaviors (S23)	"challenging behaviors" "developmentally appropriate behaviors" "Normative behaviors" "maladaptive behaviors" "disruptive behaviors" "problematic behaviors"
3) Population (S28)	"Young children" "Early childhood" "Youth" "Preschool"

Third, a search of the references from the articles identified was performed to review articles included in the references and articles 'cited by'. This search among the articles resulted in the inclusion of an additional 10 articles for consideration. All article abstracts were reviewed to ensure they related to the desired research topic of ECE teacher knowledge, perceptions, training and implementation of behavior management, and how they operationalize behaviors,

which resulted in eight additional articles that met the criteria for this review. These articles combined with the articles identified in the second step resulted in 18 articles for this review published from 2004 to 2023. Based on the overall interpretation of recorded data across all publications, three themes were included in this review: variables that impact teacher perception of behaviors, including implicit biases, teacher stress and burnout; teacher education and PD for ECE teachers (both in-service and pre-service). In addition, the work of Wakschlag and colleagues in differentiating between behaviors in young children was examined as the content of the PD as well as Kennedy's content acquisition podcast (CAP) as the framework for the PD.

Variables that Impact Teacher Perceptions of Behaviors

Early childhood education teachers play a pivotal role in shaping the developmental trajectory of young learners (Stormont & Young-Walker, 2017). How teachers perceive student behaviors can impact both their instructional and disciplinary decisions, thereby influencing the educational experiences and outcomes for children. Unfortunately, these perceptions are not always objective and can be influenced by personal biases and affected by factors such as teacher stress (Friedman-Krauss et al., 2014; Garner & Middleton, 2023). Teacher perceptions of behavior are complex, and a variety of factors influence that perception. For example, teacher demographics and their stress level play a role in how they identify and differentiate behaviors in young children (Alter et al., 2013; Stormont & Young-Walker, 2017; Yoder & Williford, 2019).

Behavioral distinctions involve teachers differentiating between typical developmental behaviors and behaviors that may indicate underlying challenges. Yoder and Williford (2019) found a nuanced relationship between teachers' perception of maladaptive behavior and their characteristics. Specifically, teacher race/ethnicity, behavioral attribution beliefs, and self-efficacy were found to be uniquely associated with their perception of preschoolers' behavior

problems. There are numerous potential negative consequences of misinterpreting student behaviors, including inappropriate disciplinary actions, overlooking developmental issues, or reinforcing stereotypes (Friedman-Krauss et al., 2014; Garner & Middleton, 2023 Stormont & Young-Walker, 2017; Yoder & Williford, 2019).

Teacher Stress and Burnout

Teacher burnout has been defined as undergoing an extreme amount of stress for a prolonged period leading to depersonalization, emotional exhaustion, and decreased sense of personal accomplishment (Burnsting et al., 2014; Friedman-Krauss et al., 2014). Key factors affecting teacher stress include the behavior of the children in their class and the teachers' own ability to manage their thoughts and emotions, known as executive function skills (Gebbie et al., 2012; Stormont & Young-Walker, 2017). When children have a lot of behavior problems, it can make the classroom feel chaotic and increase teacher stress. But teachers who are better at controlling their attention, remembering things, and managing impulses (i.e., high executive function skills; Gebbie et al., 2012) might handle these challenges better and feel less stressed. Higher levels of teachers' perceptions of child behavior problems have been associated with higher levels of teacher job stress (Friedman-Krauss et al., 2014) and this stress and burnout significantly relates to their perceptions of challenging behavior (Stormont & Young-Walker, 2017). Examining and addressing these variables, such as teacher stress, that impact ECE teachers' understanding of behavior is important to effectively train them how to differentiate behaviors during a child's early year. Stormont and Young-Walker (2017) suggested that PD tailored to the specific needs and experiences of teachers could be beneficial.

Implicit Bias and Behavior Identification

Many research studies have highlighted a general lack of awareness regarding cultural and racial differences in educational settings (Garner & Middleton, 2023; Wymer et al., 2022). Implicit bias is defined as the “unconscious and automatic attitudes or stereotypes that affect our understanding, actions, and decision-making in daily life” (Neitzel, 2018, p. 233). Several studies have highlighted the disparities in cultural backgrounds between teachers and students that can often result in misinterpretations and misunderstandings of student behavior (Garner & Middleton, 2023; Neitzel, 2018; Wymer et al., 2022). For example, Garner and Middleton (2023) examined mostly White, female preservice teachers who responded to hypothetical vignettes assessing their tolerance for Black boys' challenging behavior and perceptions of its negative outcomes. The results indicated that Black boys were perceived as more likely to exhibit challenging behaviors as well as being perceived as more likely to face greater negative academic costs for challenging behavior. A positive association was found between social justice teaching beliefs and perceptions of Black boys' challenging behavior, indicating the need for integration of anti-bias education in teacher training (Garner & Middleton, 2023).

Furthermore, implicit biases may contribute to racial disparities in disciplinary actions, such as suspensions and expulsions, in early childhood settings (Neitzel, 2018). African American children, especially boys, are disproportionately affected by these practices (O’Grady & Ostrosky, 2023). A study by Gilliam and his team (2016) revealed that implicit biases significantly influence how preschool teachers discipline children, especially in their expectations of young Black children's behavior. They found that White teachers typically expected less behaviorally from Black preschoolers, while Black teachers set higher standards for these children.

Wymer and colleagues (2022) examined teachers' ratings of disruptive behavior and found that throughout the preschool year, teachers reported an improvement in the intensity of children's disruptive behavior. However, White teachers rated Black children as having more intense disruptive behavior on average compared to their ratings of White children. Like findings from Gilliam (2016) and Neitzel (2018), White teachers reported higher rates of exclusionary discipline practices with Black children compared to White children. Thus, early educators' implicit biases may impact their distinction of behaviors and how they discipline children accordingly.

Challenges in Differentiating Between Behaviors

The subjective nature of behavior ratings, shaped by the teachers' perspectives and biases, makes it difficult to objectively assess children's behaviors (Dobbs & Arnold, 2009). For example, the study conducted by Dobbs and Arnold (2009) highlighted how preschool teachers exhibit differential treatment based on their perceptions of children's behaviors. Children who are observed to frequently misbehave and display externalizing behaviors (i.e., overt, active, and distracting behaviors) receive more commands from teachers, even outside of discipline situations. This indicates that a child's behavioral history can influence how teachers respond to them irrespective of their behavior at a particular moment (Dobbs & Arnold, 2009). Conversely, Alter and colleagues (2013) found isolation and no social interaction was identified as the least prevalent and problematic behavior among teachers, raising concerns about overlooking students who are 'internalizers'. This suggests that teachers may face challenges in accurately identifying and responding to behaviors in children displaying both externalizing and/or internalizing behaviors.

Further complicating the interpretation of children's behaviors are classroom dynamics (e.g., general level of misbehavior, student-teacher ratios) and the environment (e.g., recess, circle time). These additional factors impact teachers' perceptions and behaviors towards individual children (Aksoy, 2020; Dobbs & Arnold, 2009). The expectancy effect, where teachers' expectations influence children's outcomes, demonstrates the powerful role of teacher perceptions in shaping children's behavior. This effect underscores the importance of considering classroom dynamics, behavioral history, social-emotional development, and environmental factors that shape teacher perception and thereby influence classroom management, stress, and identification of behaviors (Dobbs & Arnold, 2009 Swit et al., 2018; Snell et al., 2012; Yoder & Willidford, 2019).

Perceptions of Prosocial and Aggressive Behaviors

Researchers have examined how ECE teachers identify and categorize behaviors they observe in the classroom (Aksoy, 2020; Arbeau & Coplan, 2007; Swit et al., 2018). For example, Aksoy (2020) identified several categories of maladaptive behaviors identified by teachers, corresponding strategies, and discipline approaches used by teachers. These categories included adjustment problems, such as interrupting others, lack of focus, difficulty in waiting turns, and not following classroom rules; limited self-control, such as fighting and shouting out; absence of prosocial behaviors, including deficiencies in sharing, cooperation, helping others, understanding and following classroom norms, and being empathetic towards peers; and deficiencies in assertiveness skills, such as remaining passive in the classroom and hesitating to participate in play. ECE teachers addressed these behaviors through positive reinforcement, active listening, isolation, positive communication, explaining rules and expectations, and encouraging children to evaluate and change their behavior (Aksoy, 2020). This study revealed the complexity of how

teachers categorize and manage maladaptive behaviors in preschool settings and the diverse range of strategies they employ.

Arbeau and Coplan (2007) found that ECE teachers tend to view the prosocial behaviors of children (e.g., sharing or being kind) as part of the child's character. They see these behaviors as stable and intentional, and likely due to the child's personality. On the other hand, teachers tended to see aggressive behaviors as influenced by external factors, like a particular situation, and consider them less intentional and more like a phase the child is going through (Arbeau & Coplan, 2007). If they believe that a child's aggressive behavior is part of their personality and unlikely to change, they might respond in ways that are not effective, like being too passive or using overly strict methods. Neither approach tends to reduce the child's aggressive behavior (Arbeau & Coplan, 2007; Swit et al., 2018).

Perceptions of Behavior as Fixed or Adaptable

Some teachers may view behaviors as fixed and unchangeable, while others see them as adaptable (Jamil et al., 2022). Additionally, there was a difference in what teachers believed attributed to the maladaptive behaviors. Some teachers were able to recognize their role in the relationship, while others attributed challenging behaviors to the child's personality or external factors (Jamil et al., 2014). Teachers often experience stress when they perceive a challenging behavior as beyond their control, and the rise in stress can negatively influence how teachers identify and manage behaviors. Efforts to cope with challenging behaviors can divert teachers' energy, making them less effective in addressing these behaviors and potentially harming their self-efficacy and well-being (Jamil et al., 2002; Quesenberry et al., 2014). Teacher stress and burnout can be reduced with more training and support in behavioral distinctions and managing behaviors (Quesenberry et al., 2014).

Teacher Strategies for Managing Different Types of Child Behaviors

Preschool teachers demonstrate an understanding of the differences between developmentally appropriate behavior and potentially problematic behaviors as well as their implications in classroom learning and relationships (Coplan et al., 2015; Dobbs & Arnold, 2009; Swit et al., 2018). Teachers report notable concerns about shy behaviors, including worries about social experiences and negative peer interactions. They believe that shy children are likely to experience academic problems due to their social withdrawal (Coplan et al., 2015). In contrast, unsociable behaviors, such as preferring solitary activities over group play and not seeking out social interactions, are generally viewed more positively by teachers. Teachers are less likely to intervene or react negatively to unsociable behaviors and expect better academic performance from unsociable children compared to shy children (Coplan et al., 2015).

However, the most negative views are reserved for aggressive behaviors. Teachers are more likely to intervene, tolerate aggressive behaviors the least, and react with negative emotions, particularly anger (Coplan et al., 2015). ECE teachers state that while aggression in the classroom can harm both the aggressor and other students socially and academically, leading them to respond with more immediate and negative interventions, they view shy behaviors as less disruptive but still concerning due to potential social and academic difficulties for the shy child (Arbeau & Coplan, 2007; Dobbs & Arnold, 2009; Coplan et al., 2015). Among many of the studies, teachers identified aggressive behaviors to be the most problematic (Arbeau & Coplan, 2007; Dobbs & Arnold, 2009; Hamre et al., 2008; Snell et al., 2012; Swit et al., 2018). Teacher reports of aggressive behaviors included, but were not limited to, bullying, relational aggression (i.e., exclusion and intimidation), physical aggression (i.e., hitting, biting, and pinching), and non-compliance (Snell et al., 2012; Swit et al., 2018).

However, Swit et al. (2018) found that teachers reported relational aggression to be more developmentally appropriate than physical aggression. Their study also found that teachers tend to recommend more passive intervention strategies for relationally aggressive behaviors (e.g., discussing solutions or encouraging prosocial play) and more direct strategies for physically aggressive behaviors (e.g., communicating rule violations and reprimands). Monitoring the situation closely and involving others like parents or the principal was also reported as a strategy they used, though they note that the same is not done for prosocial behaviors. This aligns with previous findings that teachers spend less time with children who display positive social behaviors and are more likely to either do nothing or praise these behaviors (Arbeau & Coplan, 2007; Hamre et al., 2008; Swit et al., 2018).

The Work of Wakschlag and Colleagues

During the preschool years, children are developing autonomy and undergoing substantial behavioral change (Wakschlag et al., 2005, 2010, 2012, 2014). This can present difficulties in distinguishing between developmentally appropriate and maladaptive behaviors. Behaviors, such as tantrums and aggression, can be normatively common but not frequent in young children (Wakschlag et al., 2010). The challenge, therefore, is to identify the threshold that marks the level at which the frequency, intensity, and duration of behavior moves from a normal variation to a potentially maladaptive variation (Wakschlag et al, 2010, 2014). For example, being "easily annoyed" or "often angry and resentful" can be considered developmentally appropriate, but if it's happening frequently and interferes with a child's social interactions and learning, then it can be suggestive of maladaptive behavior. Thus, it is the quality of behaviors (i.e., the degree to which behaviors are frequent, intense, and long-lasting) that can determine whether a behavior is developmentally appropriate or maladaptive.

Wakschlag et al. (2005, 2010, 2014) highlighted this difficulty in a series of articles that present and test their diagnostic tool, the *Disruptive Behavior Diagnostic Observation Schedule* (DB-DOS), to assist practitioners in identifying emerging maladaptive behaviors early. This tool allowed for a full range of maladaptive behaviors to emerge while simultaneously providing scaffolded support to assess the extent to which one can help a child modulate their response (Wakschlag et al., 2005, 2007, 2010, 2012, 2014). The DB-DOS includes tasks specifically designed to elicit behaviors pertinent to the Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnostic criteria. It integrates structured guidelines for examiner behavior, ensuring a standardized context while allowing behavior to emerge naturally, and incorporates clinical judgment to adapt to each child's unique differences (Wakschlag et al., 2005, 2007, 2010, 2012, 2014). In 2005, Wakschlag and colleagues used the DB-DOS to distinguish between behaviors in young children and found that the quality of behavior and its pervasiveness across contexts significantly distinguished clinically concerning maladaptive behavior from typical misbehavior.

Following this study, the authors discussed a developmental framework for distinguishing maladaptive behavior from developmentally appropriate misbehaviors in preschool children (Wakschlag et al., 2007). They used the DB-DOS to test whether the quality and pervasiveness of observed behaviors could distinguish between preschoolers with maladaptive behavior and those with typical misbehavior. The study also tested whether the observed pattern of concerning behavior could predict impairment beyond parental reports of behavioral frequency. They recruited a diverse group of preschoolers and categorized them into different groups: Non-Disruptive, Sub-Clinical, and Disruptive. The researchers observed these children in structured settings using the DB-DOS and coded their behavior based on interactions

with their parents and examiners. This paper underscored the importance of structured observation in identifying concerning patterns of maladaptive behavior and advancing a developmentally informed characterization of maladaptive behavior within the preschool period (Wakschlag et al., 2007).

In 2012, Wakschlag and others tested a developmentally based, multidimensional model of maladaptive behavior in preschoolers, focusing on four dimensions: Temper Loss, Noncompliance, Aggression, and Low Concern for Others. They found that their model fit the data better than the other models by looking at statistical measures. This means their model was more accurate in describing the children's behaviors. Their model was also better at predicting which children would have problems, based on ratings from parents and teachers (Wakschlag et al., 2012). They conclude their model to be more reliable and useful in understanding and identifying disruptive behaviors in preschoolers (Wakschlag et al., 2012). The different aspects of behavior they studied helped identify maladaptive behavior better than the standard DSM-IV symptoms. The study shows that understanding maladaptive behavior in children through different angles can give useful insights. The subsequent papers in 2010 and 2014 continue the exploration of the distinction between developmentally appropriate and maladaptive behaviors in preschool children. Both studies noted the significance of early detection and the necessity of developmentally informed diagnostic criteria to appropriately identify and address disruptive behavior disorders in young children. The culmination of their framework, principles of behavior, and the behavior dimensions model from their 2012 study, are the main components of the PD content for this study.

Developmental Framework

Utilizing clinical and developmental research, Wakschlag and colleagues (2007, 2010, 2012, 2014) identified three areas of socio-emotional and behavioral functioning to understand the development of maladaptive behaviors: emotional modulation, behavioral control, and social orientation. Emotional modulation involves the intensity, duration, and appropriateness of a child's response to an emotionally intense situation or stimuli. Children displaying maladaptive behaviors in emotional modulation could appear as frequent temper loss, inability to regulate emotions appropriately, excessive tantrum behavior, and difficulty adjusting emotions based on situational demands while competencies in this area might include the ability to regulate emotions, appropriately express feelings, and respond to environmental cues in a socially acceptable manner.

Behavioral control is how one regulates their behavior in response to social demands and emotional experiences (Wakschlag et al., 2005, 2007, 2010). Children displaying maladaptive behaviors in behavioral control will exhibit a tendency to respond aggressively, including hitting and biting behaviors, while competencies in this area might include the presence of behavioral coping strategies, assertiveness, and the ability to regulate behavior in response to social demands and emotional experiences. Lastly, social orientation is a "child's responsiveness to, interest in, concern for, and active engagement with his/her social environment" (Wakschlag et al., 2005 p. 191). Children displaying maladaptive behaviors in social orientation may display difficulty in forming positive relationships, lack of concern for others, and poor social engagement while competencies in this area might involve effective communication, positive interactions with peers and adults, and adaptive social engagement.

Clinical Principles of Behavior

Based on their clinical expertise with maladaptive behaviors in preschool children and developmental research literature, Wakschlag and others (2005) outlined four key principles of preschool behavior:

1. Occasional Divergence from Expected Behavior: Preschoolers may sometimes attempt to defy limits or push boundaries as they assert their independence, but this behavior is not constant like maladaptive opposition.
2. Aggression as a Form of Conflict Resolution: Preschool children may display aggression due to an attempt to resolve a conflict with another person rather than hostility, typically manageable with adult assistance.
3. Brief Emotional Outbursts: Preschool children may display negative emotions that are typically mild and short lived as opposed to the intense and prolonged outbursts usually seen in maladaptive behavior.
4. Improvable Misbehavior: Children's misbehavior often improves with adult guidance whereas maladaptive behaviors are persistent with resistance to intervention.

These principles of behavior outlined by Waschlag and colleagues (2005, 2007, 2010, 2012) provide a framework for understanding developmentally appropriate behavior versus potential maladaptive behaviors as they emphasize flexibility in behavior (i.e., a child deviating from expected behavior), differences in aggression (i.e., conflict resolution versus hostility), length and intensity of emotional outbursts, and responsiveness to guidance.

The Behavior Dimensions Model

In 2012, Wakschlag and others created a developmental model (see adapted Figure 1) of four behavior dimensions: aggression, noncompliance, temper loss and low concerns for others.

The aggression dimension is the severe exhibition of aggressive behavior in various settings. Aggression tends to appear during the first year of life as a developmentally appropriate expression of anger and remains a developmentally suitable reaction to irritation and peer disagreements throughout early childhood (Wakschlag et al., 2005). Aggression in children can sometimes be seen quite often (frequency), and it can seem hostile or even happen before there's any real threat. This is different from developmentally appropriate aggression. In typical development, aggression can be a way for very young children to express frustration or to respond to peer conflicts. This type of aggression usually decreases as children grow and develop better language and social skills. However, if by 18 months the aggression is still frequent, hostile, and proactive, it may be an early indicator of behavioral problems that could persist or worsen if not addressed (Wakschlag et al., 2012).

Teacher Education and Professional Development for ECE Teachers

Teacher education and training can shape teacher competencies and perspectives, influencing their ability to foster positive developmental outcomes in young children. A child's experiences during their early years establish the foundation for lifelong learning, behavior, and health (Wakschlag et al., 2005). Therefore, teacher education programs should provide a comprehensive understanding of child development, behavior management, and cultural competency to effectively support and guide young learners (Buettner et al., 2016). Studies have examined how teacher education influences teacher perceptions and responses to children's behaviors, noting that while some progress has been made, there is a need for further improvements to current teacher education program.

Pre-Service Training

One of the facets of teaching is managing the plethora of behaviors in the classroom. Many teacher education programs aim to teach educators strategies and techniques in devising appropriate behavioral interventions. Part of effective behavior management involves how teachers perceive their competency in addressing behaviors (Beaudoin et al., 2018). Buettner and his team (2016) examined differences in curriculum and training for early childhood educators across 173 programs in the United States. Their findings indicated significant differences in curriculum focus between associate and bachelor's degree programs, with bachelor's programs more knowledge-oriented and associate programs more practice-oriented. Most of the National Association for the Education of Young Children (NAYEC) standards and competencies were well-covered (e.g., child development and classroom management) showing improvements in family involvement and assessment training. However, areas like professionalism and social-emotional development were less emphasized. Beaudoin and associates (2018) investigated Croatian preschool teachers' self-perceived competence in managing challenging behaviors of children. They found teachers' assessment of their competence in managing challenging behavior was influenced by the level of support they received from other professionals and their prior coursework in classroom management. Those with higher levels of professional support and more pre-service coursework in this area tended to perceive themselves as more competent (Beaudoin et al., 2018).

Another study, conducted by Hemmeter and colleagues (2008), surveyed faculty members from 2- and 4-year higher education programs in nine states that prepared teachers for working with preschool children. Faculty members reported graduates to be generally well prepared in areas such as working with families, preventive practices, and supporting social-emotional development. In contrast, they reported that students were less prepared to work with

children with challenging behaviors. This finding was consistent across both 2- and 4-year programs. Moreover, programs without a special education component faced additional challenges related to inconsistencies between the practices and their program philosophy, highlighting a potential barrier to addressing these topics effectively. These studies suggest that while teacher education programs show promise in preparing teachers, there's a need for more comprehensive training, especially in distinguishing various behaviors and addressing social-emotional development to better equip teachers for real-world challenges (Buettner et al., 2016; Beaudoin, Mihić, & Lončarić, 2018; Gebbie et al., 2012; Hemmeter et al., 2008; Stormont & Young-Walker, 2017).

In-Service Teacher Training

There is a need for effective PD for ECE teachers, specifically early career teachers (Brown & Englehardt, 2016; Hemmeter et al., 2008; Yoder & Williford, 2019). Novice teachers often feel unprepared for managing behaviors in the classroom (Kennedy et al., 2011). Effective PD can improve teacher's management skills, enhance student engagement, and support teacher retention. The importance of ECE PD has been increasingly recognized among policymakers, advocates, and researchers as it has been evident of its positive effects on children's school readiness and later success in life (Brown & Englehardt, 2016). Brown and Englehardt (2016) examined ECE PD in the United States and found that effective PD involves a coherent design, relevance to classroom practices, sustained duration, collaboration among teachers, and incorporation of specific strategies for immediate application. Hammond and colleagues (2017) echoed similar findings in their report on effective teacher PD. Some of these findings included content focused on specific curriculum, active learning in application of content, providing clear examples of what best practices looks like, and including time for teacher reflection.

Effective PD is crucial for enhancing teachers' abilities to manage classroom behavior and support student development. Wei and colleagues (2010) provided a comprehensive analysis of PD offered to teachers (i.e., preschool, elementary, and secondary) in the United States, highlighting significant trends and challenges. While there was progress in PD focused on subject content, there was less availability of PD for teachers working in schools serving low-income and minority students. Furthermore, they noted a decrease in the intensity of PD across all areas except for subject content and a move toward short-term workshops. Lastly, teachers reported limited time spent on collaborative planning, even though three-quarters of the sample reported formal opportunities for collaborative planning. These trends, such as short-term workshops and decreasing PD intensity, directly impact the structure and effectiveness of PD, indicating that these types of PD do not support teacher growth in classroom management and behavior differentiation (Wei et al., 2010).

Several studies have explored how teachers perceive PD related to their reported learning needs. Overall, the literature indicates a need for training in behavior management and support, executive function skills, relationship building, and efficacy (Friedman-Krauss et al., 2014; Gebbie et al., 2012; Hooper et al., 2023). For example, in their study exploring childcare teacher perceptions on supporting social-emotional and behavioral development, Quesenberry and others (2014) found that many strategies teachers used were reactive rather than proactive; they focused on managing behavior rather than teaching new skills or preventing such behavior. The authors highlighted the need for increased PD for childcare teachers. Teachers expressed a desire for more training and resources to better understand and address children's maladaptive behavior effectively (Quesenberry et al., 2014).

Despite the availability of many PD opportunities, these may not be directly aligned with teachers' purported needs. Particularly, Hooper and colleagues (2023) explored ECE teacher perceptions of their PD experiences. Some of the themes indicated educator feelings of being ill-prepared for non-academic aspects of teaching (e.g., emotional and logistical support) and attending irrelevant PD that did not address the unique features of ECE (Hooper et al., 2023). Moreover, teachers' approach to seeking PD varied, reflecting their self-efficacy and the school climate's influence on their autonomy and responsibility in connecting to PD supports (Hooper et al., 2023). Teachers also reported that the effectiveness of PD depended on both the PD itself and the individual teacher's willingness to learn. The study highlights the importance of understanding what teachers are looking for in PD and how we structure that PD to better support their instruction, behavior management, and identification of behaviors (Hooper et al., 2023; Wei et al., 2010).

Stormont and others (2005) surveyed ECE teachers' perceptions of the importance and feasibility of behavior support strategies. The study found that early childhood professionals rated most of the behavior support items as mostly important or highly important. However, there was a significant difference between the overall importance and overall feasibility of the behavior support items, with overall importance rated higher than feasibility. This discrepancy points to potential challenges in implementing these strategies in early childhood settings. Improving the feasibility of these strategies may involve addressing system-level supports, providing additional training, and technical assistance to educators (Stormont et al., 2005).

Another study provided training and mentoring in classroom behavior management strategies to three preschool teachers and engaged them in an online community of learners' discussion group. Their results indicated that teachers with higher executive function skills

reported lower job stress, suggesting that these skills might help manage stress caused by child behavior problems (Gebbie et al., 2012). However, no evidence was found to support the hypothesis that teacher executive function skills moderate the relationship between perceptions of child behavior problems and job stress. Gebbie and associates' (2012) study showcased the importance of training and peer support in enhancing teachers' strategies and efficacy in managing challenging behaviors in preschool settings. The online community provided a platform for teachers to share experiences, gain new ideas, and feel supported in their efforts to improve classroom management (Gebbie et al., 2012).

It is important that the research literature further examines and addresses teacher perceptions and their management strategies regarding young children's behavior (Quesenberry et al., 2014). Professional development tailored to the specific needs and experiences of teachers could be beneficial, as well as supporting educators in addressing behaviors. Teacher training, both before and during service, can influence these perceptions and strategies (Hooper et al., 2023; Wei et al., 2010). While these studies provide great information, there is a need for more current studies on how teachers are perceiving behavior as challenges and trends tend to shift over time.

Kennedy's Content Acquisition Podcasts (CAP)

Kennedy's Content Acquisition Podcasts (CAP) is one evidence-based PD method that has shown to be effective in improving knowledge acquisition as well as immediate and sustained knowledge retention (Kennedy et al., 2013). The content acquisition podcast is an intervention incorporating Mayer's Cognitive Theory of Multimedia Learning (CTML) in its instructional design principles. CAPs are scripted and produced multimedia presentations that combine still images, minimal on-screen text, and audio recordings, which makes them a form of

an enhanced podcast (Kennedy et al., 2012). They can be utilized for introducing new topics and reviewing content in the context of teaching and managing behaviors in the classroom.

CAP as a Professional Development Framework

Content Acquisition Podcasts (CAPs) have been extensively researched by Kennedy and his team to determine their effectiveness in teacher education and improving classroom management skills. Across multiple studies, they found that CAPs significantly enhanced preservice teachers' knowledge of positive behavioral interventions and supports (Kennedy et al., 2012), teacher candidates' knowledge on specific educational topics (Kennedy et al., 2013), delivering core content to preservice teacher candidates (Kennedy et al., 2015), and assessing knowledge acquisition and perceived cognitive load (Kennedy et al., 2016).

In the realm of early childhood education, distinguishing between developmentally appropriate and maladaptive behaviors is critical for effective classroom management and intervention. Recent studies underscore the potential of integrating innovative educational technologies, such as Content Acquisition Podcasts (CAPs), to bolster preservice teachers' abilities in this area. For instance, Kennedy and Thomas (2012) found that preservice teachers utilizing CAPs demonstrated significantly better understanding of Positive Behavioral Interventions and Supports compared to those relying on traditional text-based methods. This highlights CAPs' effectiveness not just in enhancing knowledge acquisition but also in promoting durable learning outcomes, essential for managing diverse classroom behaviors.

Moreover, CAPs' utility extends beyond mere knowledge enhancement; they facilitate a deeper engagement with the material through case studies and interactive feedback, as shown in subsequent studies by Kennedy and colleagues (2012, 2015, 2016). These studies collectively demonstrate that CAPs, when combined with effective feedback mechanisms, significantly

prepare teachers for implementing evidence-based practices, particularly in addressing the needs of students with disabilities and managing challenging behaviors. Overall, Kennedy and his team have demonstrated the effectiveness of CAPs in teacher education. CAPs have been shown to be effective in student motivation, knowledge acquisition, and sustained knowledge retention (Kennedy et al., 2013; Kennedy & Thomas, 2012; Kennedy et al., 2016). The use of short, precise, powerpoints as a multimedia instructional tool can be efficient in delivering content that does not cause substantive cognitive load as well as be more effective in teaching content compared to more traditional text-based methods (Kennedy et al. 2015). The integration of CAPs into teacher education programs aligns well with the need for PD frameworks that not only address the identification and management of maladaptive behaviors but also enhance teacher readiness and confidence in implementing these strategies effectively. Such advancements in teacher training are imperative for early interventions in childhood education, ensuring that teachers are well-prepared to handle the complexities of classroom management and support the developmental needs of all students.

Conclusion

The reviewed literature demonstrates the significant challenges that ECE teachers face in distinguishing between developmentally appropriate and maladaptive behaviors in young children. Various factors, such as teacher training, stress, biases, and the complexities of classroom dynamics, significantly influence how teachers perceive and respond to student behaviors (Garner & Middleton, 2023 Stormont & Young-Walker, 2017; Wymer et al., 2022; Yoder & Williford, 2019)). The research highlights the importance of comprehensive teacher training in classroom management and behavior differentiation (Beaudoin et al., 2018; Buettner et al., 2016). Effective PD needs to focus on enhancing teachers' ability to accurately assess and

manage young children's behavior while considering their own biases and stressors. The potential for integrating innovative educational technologies such as Content Acquisition Podcasts (CAPs) in teacher training is substantial.

Research by Kennedy and colleagues indicates that CAPs effectively improve knowledge acquisition, motivation, and retention for preservice teachers, providing them with the skills to better manage disruptive behaviors in classrooms (Kennedy et al., 2013; Kennedy & Thomas, 2012; Kennedy et al., 2016). The evidence presented across studies supports the integration of multimedia instructional tools in teacher training. This method aligns with the broader challenges that teachers face in distinguishing between different types of behaviors in young children and in managing their own biases and stress levels. The developmentally based multidimensional model suggested by Wakschlag and colleagues (2012) further reinforces the need for nuanced and effective training for teachers to identify and manage disruptive behavior. There is a need for more research to understand how CAPs and similar tools can be tailored to address specific behavior management challenges and provide more personalized PD. Further, studies could explore how these tools can be integrated into teacher education programs to enhance the overall efficacy of ECE training. The evidence overwhelmingly supports the need for more effective and innovative PD for early childhood teachers.

Chapter Three: Methodology

Overview

Researchers have demonstrated that early educators often struggle to both identify maladaptive behaviors early and subsequently address them once identified (Mitchell et al., 2019; Soares et al., 2022; Wakschlag et al., 2012; Yumus & Bayhan, 2016). These difficulties may stem from teacher difficulties in determining when developmentally appropriate misbehaviors become maladaptive (Chow et al., 2021; Studts et al., 2013 Wakschlag et al., 2012; Wakschlag et al., 2014). Additionally, teachers have called for more PD focused on how to identify and address behavior (Chow et al., 2021; Mitchell et al., 2019; Yoder & Williford, 2019). Effective early identification and intervention strategies in young children's maladaptive behaviors hinge upon teachers possessing comprehensive knowledge and skills related to identifying behaviors. This includes the ability to discern when behaviors deviate from typical development, alongside proficiency in designing and implementing targeted behavior interventions (Aubrey & Ward, 2013; Conroy & Brown, 2004; Popham et al., 2018; Poulou, 2015). Such training could empower teachers to identify and intervene earlier, thereby reducing the chances of maladaptive behaviors becoming a recurring pattern.

Research Questions

The purpose of this study was to investigate the effectiveness of the PD on enhancing early childhood education (ECE) teachers' abilities to identify and address behaviors exhibited by young children. This study implemented an explanatory sequential mixed methods design; it employed both quantitative and qualitative research methods to provide a multifaceted understanding of the impact of the PD on participant knowledge and skills related to

differentiation between developmentally appropriate and maladaptive behaviors in young children (Creswell, 2005).

This study answered the following questions:

1. Is there a difference between ECE knowledge and skills in identifying behavior types (e.g., developmentally appropriate misbehaviors and maladaptive) after participation in the professional development? QUANT

   Hypothesis: It is predicted that early childhood education teachers will have higher levels of knowledge and skills following participation in the PD as measured by the Teacher Knowledge of Behavior: Distinguishing Between Behaviors survey.

2. What are ECE teacher perceptions of behavior and their own abilities to distinguish between developmentally appropriate misbehaviors and maladaptive behaviors? QUANT

   Hypothesis: It is predicted that ECE teachers will perceive an increase in their abilities to distinguish behaviors as measured by the Coping with Children's Negative Emotions Scale (CCNES).

3. How do a series of case studies centered on differentiating behaviors in young children affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUANT

   Hypothesis: It is predicted the opportunities to apply what was learned to a case study will influence what behavioral characteristics they will identify in the classroom.

4. How do opportunities to discuss nuanced differences in behavior affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUAL

Hypothesis: It is predicted the opportunities to to discuss nuances of behavior and how teachers differentiate behavior will influence what behavioral characteristics they will identify in the classroom.

Participants

The participants in this study were pre-service and in-service teachers in both undergraduate and graduate early childhood education (ECE) licensure programs. Participants were required to meet the following inclusionary criteria: (1) be enrolled in an early childhood education program and (2) be enrolled in a behavior management course as a component of their program. Participants were recruited from three behavior management courses offered at a large, predominantly urban university in the Southwest United States during the Spring 2024 semester. The researcher reached out to instructors of each course and asked them to integrate the PD into the course four weeks prior to the start of class as a part of their course requirements. The PD modules were embedded into course materials; as participants in the study, students were asked to give consent to analyze their data following participation in the study and to volunteer to participate in the focus group; however, all students enrolled in the courses had access to the online modules regardless of their consent to participate in the study.

Consent was provided via an online informed consent form (i.e., Qualtrics). A total of 48 students from all three behavior management sections were contacted via email that detailed an overview of the research study, including the study purpose, procedures, a request for volunteers for the focus group, and permission to analyze their data in Canvas (i.e., case study assignments). A link to the informed consent and a flyer with a summary of the study was also attached to the email. Thirty-one participants (64% of the original sample) responded and provided consent to participate in the study. To maintain anonymity, participants were identified via an anonymous

identification numbered. A series of letters and numbers were used in place of their name during the virtual focus group and in the transcription. This number was associated with a code which included the first and last initial of each participant name and the course number of their class (e.g., MC432).

Participants provided demographic information (see Table 2) and noted their prior teaching experiences as well as with what age group(s) (see Table 3). There was about a 30% overall attrition rate in the study. T*he Coping with Children's Negative Emotions Scale* (CCNES) had a 9% attrition rate (n = 28) while the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* survey had a 29% attrition rate (n = 22). Additionally, a focus group (n = 4) of volunteers was recruited one week prior to the conclusion of the intervention for the post-focus group discussion. A flyer was sent out to all participants asking for participation in the focus group with an opportunity to have their name in a raffle for a $25 gift card. A research assistant also participated in the study. This research assistant was responsible for helping the researcher with the data analysis. The research assistant was a doctoral student with prior training in statistics and research methods.

Table 2: Participant Demographics

	n	%
Race/Ethnicity		
African American	8	26
White/Caucasian	9	29
Hispanic/Latinx	10	32
Native Hawaiian or Pacific Islander	1	3
Asian	2	6
Native American	0	0
Other/Unknown	1	3
Prefer not to answer	0	0
Gender		
Male	3	10
Female	28	90
Age		
18 - 25	3	10
25 - 35	5	16
35 - 45	8	26
45 and older	15	48
Enrolled major		
Early childhood education (ECE - Masters)	19	61
Paraprofessional Pathways Program (Undergraduate)	12	39

Table 3: Teaching Experience

	n	%
Years of experience		
0 - 5 years	16	52
5 - 10 years	5	16
10 - 15 years	1	3
20 + years	6	19
No experience	3	10
Population of Children		
Infants and toddlers (ages 0 - 3)	1	4
Preschool children (ages 3 - 5)	12	43
Other (ages 5 and above)	15	54
No experience	3	10

Setting

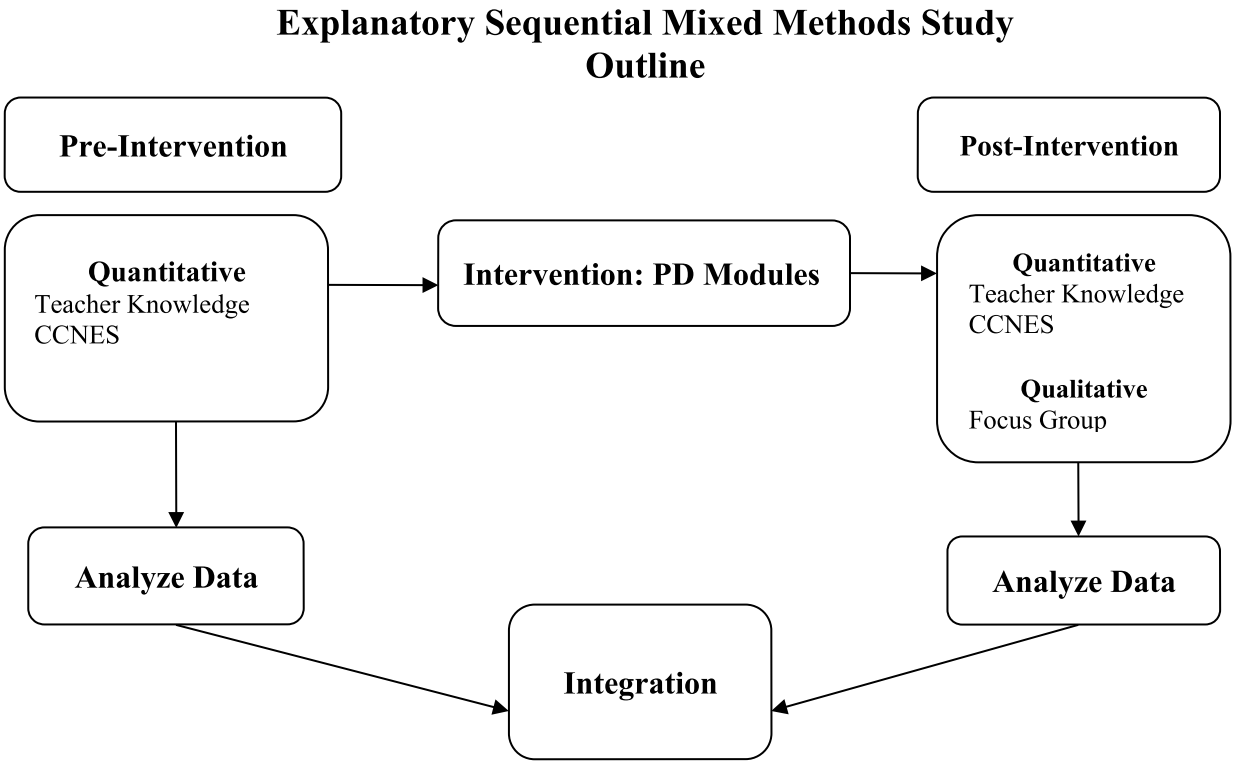
The setting for the study was a large, urban university in the Southwest United States. There is a diverse student population on campus; as of August 2023, enrollment at the university consisted of 43% male and 57% female students. The student population was 33% Hispanic, 15% Asian, 9% African American, and 25% Caucasian students. The university offered various undergraduate and graduate degree programs designed to prepare professionals for specialized work in schools, higher education, and community settings.

Research Design: Explanatory Sequential Mixed Methods

An explanatory sequential mixed methods study is a research design that combines elements of both quantitative and qualitative research methods (see Figure 2). This mixed methods study had a simple pre-/post-intervention design in which participants were taught how to discern between developmentally appropriate and maladaptive behavior through a series of

modules provided via an online PD. The quantitative measures also assessed changes in how participants defined behavior over time. The integration of the data involved the comparison of the study's findings to identify patterns, consistencies, or contradictions (Creswell & Plano Clark, 2017). Developing a synthesized narrative that combined both types of data provided a deeper understanding of the research question. In this study, the independent variable was the PD instruction and case study practice, and the dependent variables were teacher knowledge, teacher perceptions, and action (e.g., applying concepts learned in the PD to the case studies).

Figure 2: Exploratory Mixed Methods Pre-intervention/Post-intervention Design



Intervention: Professional Development

This PD, titled *Distinguishing Between Behaviors in Young Children*, was designed to support early childhood teachers' knowledge and abilities to operationally define developmentally appropriate and maladaptive behaviors in the classroom. The participants engaged in the PD modules through Canvas, an online learning format that housed their course materials, asynchronously, for a total of four weeks. Each week, participants reviewed a pre-recorded PowerPoint posted online through Canvas followed by a case study assignment. The case study assignments were designed to assess ECE teacher application of knowledge. Each module was 15 minutes in length and was audio-recorded using scripts developed by the researcher. These modules followed the CAPs framework and included a single image with minimal text (see appendix F).

The PD intervention in this study consisted of six, 15-minute Content Acquisition Podcasts (CAPs) and accompanying case studies. There was one pre- module (i.e., introduction), one module for each of the four behavior dimensions, and one post-module (i.e., conclusion). The researcher created a script for each module which was audio recorded into the PowerPoints. The script was also inserted into the notes of each PowerPoint so participants could follow along with the audio recording if necessary. It was estimated that it would take one hour each week for participants to complete the modules and case studies over a four-week period (i.e., four hours in total). The pre-module and post-module did not include a case study. The activities included watching a CAP followed by engaging in case study discussions each week. Participants did complete two CAPs (e.g., pre-module and module one) in weeks one and four. The CAPs provided foundational knowledge on distinguishing between developmentally appropriate and

maladaptive behaviors in each behavior dimension, while the case studies allowed participants to apply this knowledge in practical scenarios, fostering deeper understanding and critical thinking.

Instruction related to Dimensions of Behavior

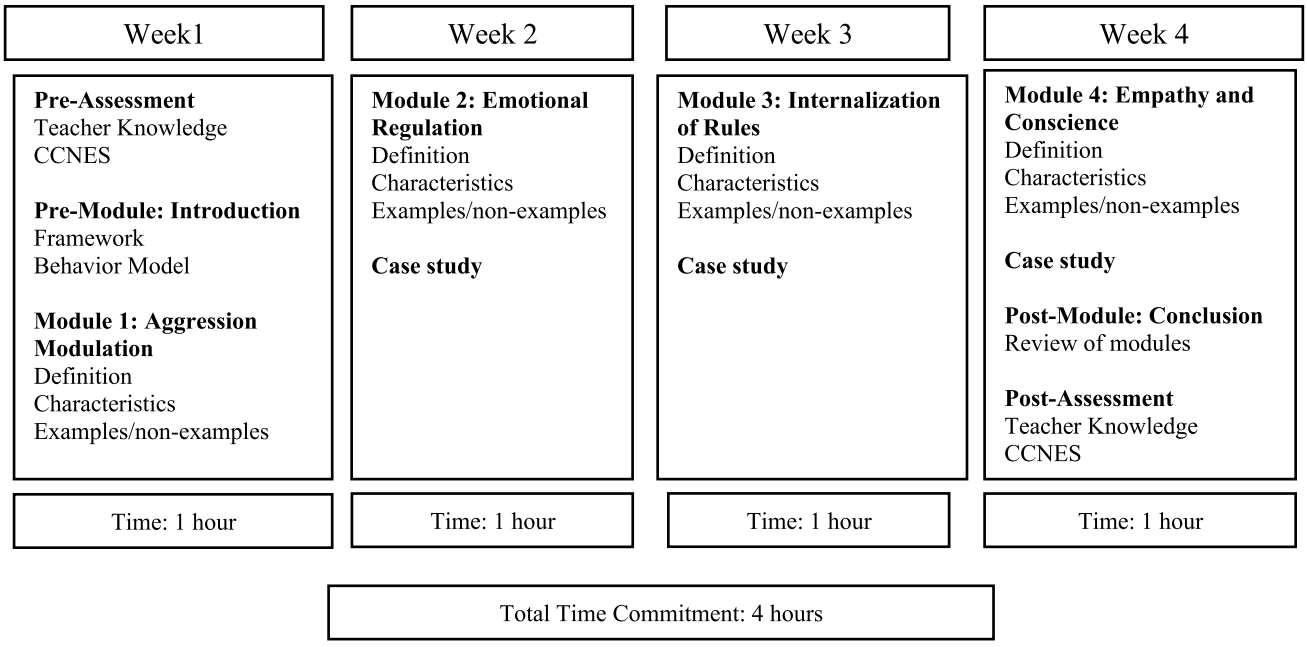
Week one's module (i.e., pre-module) was an introduction to the PD with discussion regarding the importance of distinguishing between behaviors and how maladaptive behaviors in early childhood may impact academic achievement, social-emotional development, suspension, and exclusionary discipline. The work of Wakschlag and colleagues (2005, 2007, 2010, 2012, 2014) was then introduced. The researcher provided an overview of their research on behaviors in early childhood and discussed their behavior dimensions model. Next, the adapted behavior dimensions model was introduced. The conclusion of this module discussed the importance of behavior differentiation and its impact on provision of early support and intervention to address potential patterns of maladaptive behavior.

Following the pre-module, participants went into module one, which introduces the first behavior dimension (i.e., Aggression Modulation, see Appendix F). Participants are given an operational definition of the behavior dimension, a description of developmentally and appropriate characteristics (e.g., frequency, duration, and intensity markers) with two examples and two non-examples of developmentally appropriate behaviors often seen in that dimension. Then, characteristics of maladaptive behaviors were discussed with two examples and two non-examples are discussed. Social-emotional and behavioral functioning of this dimension was also discussed, with a focus on behavioral control, emotion modulation, and social orientation, which are part of Wakschlag's developmental framework. After discussion of behavioral characteristics for each behavior type, a self-knowledge check was presented. This was a single question for participants to gauge their understanding of the module. Finally, a review of the module was

given, with key points emphasized (i.e., a checklist of what behavioral characteristics to look for within that behavior dimension).

After the conclusion of the module, participants completed the first case study on Aggression Modulation. They also had access to a handout containing a checklist (as discussed in the module, see Appendix G) and a table that delineates the behavioral characteristics for that dimension of behavior. The other modules followed a similar format, with the topics being Emotional Regulation in week two, Internalization of Rules in week three, and Empathy and Conscience in week four. Also in week four, participants completed the module as well as post-module which included a closing lecture which discussed the importance of this PD, reviewed the major concepts learned, and highlighted the emphasis on externalizing behaviors with encouragement to consider internalizing behaviors more critically. See the figure below for an outline of the PD.

Figure 3: Professional Development Modules Outline



Case Studies

Four case studies, focusing on each behavior dimension (i.e., Aggression Modulation, Emotional Regulation, Internalization of Rules, Empathy and Conscience) were provided to participants after watching a pre-recorded lecture and reading the handout on the behavior domain. Each case study was developed by the researcher and contained an introduction of the child (e.g., age, gender) and a description of behaviors displayed by the child from the parent and from the teacher. Details included a background of the child, such as age, gender, family background, and home life. The case study also detailed teacher observations (i.e., specific behaviors exhibited by the child and where the behaviors occurred) and interventions used to support the child in question. Following the description, participants responded to three open-response questions in behavior analysis (i.e., considering Jamie's age and developmental stage, how do Jamie's behaviors align with or deviate from developmentally expected norms in aggression modulation?), behavioral characteristics (i.e., identify the duration, frequency, and intensity of behaviors. What do these behavioral characteristics indicate to you?), and intervention effectiveness (i.e., evaluate the effectiveness of the current intervention strategies. What modifications or additional approaches could be considered to better address Jamie's needs?). Participants uploaded completed case studies to Canvas. See appendix H for an example of the case study.

Measures

In this study, both quantitative and qualitative measures were employed to assess the impact of the PD program on early childhood education teachers. Quantitative measures included the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors in Young Children* survey and the *Coping with Children's Negative Emotions Scale* (CCNES), which evaluated

changes in teachers' knowledge and perceptions. Qualitative measures included focus group discussions that explored teachers' perceptions and abilities to identify and address behaviors in young children.

Demographic Questionnaire

The demographic questionnaire (see Appendix B) was part of the pre-assessment phase and was developed by the researcher. The demographic questionnaire asked about participants' age, gender identity, racial background, highest attained education degree, and the field of study they were pursuing in their university training (e.g., early childhood education, early childhood special education, PPP). Additionally, participants were asked to provide information about their years of experience in early childhood education and behavior management.

Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children

The knowledge assessment (see Appendix B) was the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* and it assessed ECE teachers' understanding of differentiating between developmentally appropriate and maladaptive behaviors. The development of this survey was rooted in the extensive research of Wakschlag and colleagues (2005, 2007, 2010, 2012, 2014), whose work provided a foundational framework for understanding behavior dimensions and clinical principles of behavior. Although the survey items were not pilot tested or reviewed by external experts, they were carefully designed to reflect the key concepts and findings from Wakschlag's research. This ensured that the survey was both relevant and aligned with the theoretical underpinnings necessary to evaluate teachers' knowledge accurately.

The assessment consisted of seven multiple-choice items, one short answer question, one matching question, and eight Likert scale questions for a total of 17 items. These questions

focused on the content of the PD, such as identifying behaviors as developmentally appropriate (i.e., no risk) to maladaptive (i.e., at-risk), describing how they define behaviors, and their knowledge of preventative practices. The post-assessment had additional social validity questions (i.e., five Likert scale questions and one short response) asking participants for their perceptions of the PD for a total of 23 items. The researcher developed an answer key to ensure fidelity. See Appendix B to view the assessment. Part one (identifying behaviors) and part three (behavior strategies) of the survey were scored as correct or incorrect with an overall percentage score of the number of correct responses divided by the total number of responses.

Teacher Response to Behaviors: Coping with Children's Negative Emotions Scale

Teacher responses to children's behaviors were measured using a short form of the *Coping with Children's Negative Emotions Scal*e (CCNES; Fabes et al., 2002). The teacher version of the scale was used. The CCNES was utilized to measure teachers' perceptions and responses to children's behaviors. This tool was chosen for its relevance to the study's objectives, as it provides detailed insights into teachers' emotional and behavioral responses to challenging behaviors, which are crucial for distinguishing between developmentally appropriate and maladaptive behaviors. The reliability and validity of the CCNES in capturing these dimensions make it an excellent measure for evaluating the impact of PD on teachers' perceptions and practices. Its validity and reliability in measuring perceptions and reactions to negative emotions make it a robust tool for evaluating the effectiveness of training programs aimed at enhancing behavioral management skills.

This assessment was administered during week one and week four of the PD. The scale had 12 vignettes that described behaviors of anger, physical aggression, sadness, and frustration. Participants rated each possible response to behaviors on a seven-point Likert scale (1 = *very*

unlikely, 7 = *very likely*). For example, teachers were provided with a vignette that read "If my student is doing some difficult work and becomes nervous and upset because I can't stay beside him/her, I would.." and rated their likelihood of using the six possible types of reactions running from punitive (i.e., "tell the student that if he/she doesn't stop that he/she won't be allowed to have free time that day) to emotion-focused (i.e., "encourage my student to talk about his/her nervous feelings).

CCNES Subscales. The *Coping with Children's Negative Emotions Scale* (CCNES; Fabes et al., 2002) includes six subscales as follows:

- Problem-Focused Reactions (PFR) measures the extent to which respondents help the child solve the problem that caused the distress. Higher scores on this subscale are associated with positive outcomes, as problem-focused coping is considered supportive and beneficial for children's emotional development.
- Emotion-Focused Reactions (EFR) measures the extent to which respondents use strategies that help the child feel better, such as comforting or distracting the child. Higher scores are desirable as emotion-focused coping provides emotional support and comfort, contributing positively to children's emotional regulation.
- Expressive Encouragement (EE) measures the degree to which respondents encourage the child to express their emotions openly. Higher scores indicate a greater likelihood of encouraging emotional expression, which is beneficial for children's emotional competence and social development.
- Minimization Reactions (MR) measures the extent to which respondents devalue or discount the child's emotional responses. Lower scores are preferable, as minimizing children's emotions can undermine their emotional validation and negatively impact their emotional development.
- Punitive Reactions (PR) measures the extent to which respondents use punishment or criticism in response to the child's negative emotions. Lower scores are desirable because punitive reactions can lead to negative outcomes, such as increased anxiety and poor emotional regulation in children.

- Distress Reactions (DR) measures the extent to which respondents become distressed or upset in response to the child's negative emotions. Higher scores indicate a greater likelihood of experiencing distress. Lower scores are preferable, as teachers' distress can hinder their ability to respond supportively and effectively to children's emotional needs.

Psychometric Properties

The CCNES has demonstrated solid psychometric properties. In the initial study by Fabes et al. (2002), the internal consistency of the six subscales was satisfactory, with Cronbach's alpha coefficients ranging from 0.69 (Punitive Reactions) to 0.85 (Expressive Encouragement). The test-retest reliability over a four-month period was also strong, with correlation coefficients ranging from 0.56 to 0.83, indicating stability over time. Construct validity was supported through factor analysis, which suggested that the CCNES might be best represented by four rather than six distinct subscales. These subscales correspond to supportive responses (problem-focused and emotion-focused), expressive encouragement, non-supportive responses (minimization and punitive reactions), and distress reactions. Further evidence of construct validity was provided by significant correlations with related measures, such as the Parent Attitude Toward Children's Expressiveness Scale (PACES) and the Interpersonal Reactivity Index (IRI).

Case Study Rubric

The case studies were scored using a researcher-created rubric (see Appendix A) designed to analyze participant's application of knowledge. The case studies used in this study were adapted from Feeney and Freeman's (2018) work, "Ethics and the Early Childhood Educator: Using the NAEYC Code." These case studies were developed to provide realistic classroom scenarios that reflect various behaviors, requiring participants to apply their

knowledge to distinguish between developmentally appropriate and maladaptive behaviors. This adaptation ensured that the case studies were both practical and relevant, allowing participants to engage in realistic and meaningful applications of their learning. The rubric assessed students' identification of behavior quality (i.e., describing the intensity, duration, and/or frequency of behaviors displayed), differentiation between developmentally appropriate and maladaptive behaviors, identification of key behaviors requiring intervention, and proposal of behavior management strategies to support the child's needs. Each section had three performance levels - Target (5 points), Acceptable (3 points), and Unacceptable (1 point) - totaling 20 points. The rubric emphasized a comprehensive understanding of child behavior, effective identification and management of behaviors that need intervention, and the application of the content learned in each module.

Qualitative Focus Group

During the intervention phase of the study, a recruitment flyer was redistributed to participants one week prior to the end of the intervention detailing the purpose of the focus group with an opportunity to enter a raffle to win a $25 gift card. There was a total of four participants that volunteered to be in the focus group. The purpose of the focus group was to understand ECE teacher perceptions of their ability to identify behaviors in young children. The researcher guided the discussion using the discussion protocol (see Appendix C). Questions were asked to participants about their knowledge (e.g., "How would you define typical misbehaviors exhibited by young children?"), perceptions (e.g., "Do you feel confident in your ability to identify and respond to typical misbehaviors in young children?"), and ability (e.g., "How do you perceive your ability to identify developmentally appropriate behaviors and maladaptive behaviors in

young children?"). These questions sought to provoke critical thinking and reflect on their teaching experiences, knowledge, and skills.

Procedures

Students received an email two weeks prior to the intervention with a short description of the purpose of the study, the procedures, and a request to examine their data in Canvas as a component of the analysis. Students who did not provide consent were still allowed to participate in the PD modules; their data were not incorporated into the analysis. A link to complete the informed consent and demographic questionnaire were attached to the email. Additionally, a recruitment flyer was attached to the email asking for volunteers to engage in a post focus group after the PD. The flyer briefly discussed the purpose of the focus group, the length of time to complete it, the location of the meetings, and an incentive to be entered into a raffle for a $25 gift card. During week one of the PD, the researcher administered the quantitative assessments via Qualtrics (i.e., surveys of participants to assess their initial abilities, knowledge, and perceptions regarding identifying typical and atypical behaviors in young children). A small group (n = 4) was recruited for the focus group. The focus group received an email with the day and tentative times to meet virtually for the virtual discussion. Once a day and time was agreed upon by all participants, two reminder emails were sent three days before and the day before the meeting. Each week, a series of case studies were integrated into the PD modules. These case studies presented scenarios involving developmentally appropriate and maladaptive behaviors in preschool aged children. After the PD was completed, the same surveys and focus group discussion were administered again to assess changes in their abilities and knowledge. Please see Figure two for a visual representation of the design.

Data Analysis

An explanatory sequential mixed methods study is a research design that combines elements of both quantitative and qualitative research methods. This mixed methods study will have a simple pre-intervention/post-intervention design in which participants are taught to have a more nuanced understanding of behavior through a series of modules given in a PD. The quantitative measures will also assess their changes in how they're defining behavior over time. The integration of the data involves the comparison of the study's findings to identify patterns, consistencies, or contradictions (Creswell & Plano Clark, 2017). Developing a synthesized narrative that combines both types of data will provide a deeper understanding of the research question. In this study, the independent variable is the PD instruction and case study practice, and the dependent variables are teacher knowledge, teacher perceptions, and action (e.g., applying concepts learned in the PD to the case studies).

Quantitative

To examine the relationship between PD, teacher knowledge, and teacher perception, a two-paired samples T-test was used. A paired samples t-test is a statistical procedure used to determine whether the mean difference between two sets of observations is significantly different from zero (Creswell & Guetterman, 2018). It is typically used in situations where the same subjects are measured twice under different conditions or at different times. Descriptive statistics (i.e., mean, median, mode, standard deviation) was calculated from the CCNES subscales and Teacher Knowledge of Behaviors surveys to provide a clear overview of the variables involved in the study (Creswell & Guetterman, 2018).

Qualitative: Collaborative Coding (Focus Group)

Collaborative coding is a qualitative data analysis method that involves multiple researchers working together to code and analyze data. The goal is to ensure the reliability and

validity of the findings by incorporating different perspectives and reaching a consensus on the interpretation of the data (Creswell & Guetterman, 2018). The process was carried out in several stages. The initial set of codes was developed based on existing literature and the research questions. (i.e., preschool teacher readiness, educator preparation, teacher perceptions, self-efficacy, stress or burnout) in an Excel spreadsheet to create a codebook that was utilized when examining the data. The primary researcher applied these codes to the dataset, carefully reviewing each response and assigning the appropriate codes. To enhance the reliability of the coding process, a research assistant independently reviewed the coded data. During this review, the research assistant assessed the application of each code, indicating agreement or disagreement with the initial coding decisions.

Following the independent review, the researcher and research assistant convened a meeting to discuss the coding. In this meeting, each point of disagreement was highlighted, engaging in detailed discussions to understand each other's perspectives. Through this collaborative process, discrepancies were reconciled, and a consensus was reached on the final set of codes. Based on the discussions and agreements, the codebook was refined to include clear definitions and examples for each code. This refined codebook served as a reference for ensuring consistency in the application of codes across the dataset. With the reconciled codes, the researcher and research assistant proceeded to identify overarching themes and patterns in the data. This involved grouping related codes into broader themes that addressed the research questions. The collaborative nature of this analysis ensured that the themes were robust and well-supported by the data. By integrating multiple perspectives through this collaborative coding process, credibility of the findings was enhanced. This method allowed the researcher to capture

a more nuanced understanding of the data and ensured that the analysis was both rigorous and trustworthy.

Chapter Four: Results

This study was guided by three research questions examining the effectiveness of a series of PD modules on how early childhood education (ECE) teachers differentiate between developmentally appropriate and maladaptive behaviors in young children. ECE teachers often face challenges in distinguishing between developmentally appropriate and maladaptive behaviors in young children due to factors such as teacher and student demographics, teacher stress levels, and the quality of their training (Conroy et al., 2004; Hemmeter et al., 2008; Yumus & Bayhan, 2016). Research indicates that teachers often lack confidence in addressing behavioral issues, which can lead to negative outcomes like loss of instructional time and higher risks of suspension and expulsion (Clawson, 2006; Chow et al., 2021; Dunlap et al., 2006; Mitchell et al., 2019). Teacher perceptions, influenced by personal biases and stress, play a crucial role in identifying and managing behaviors (Alter, Walker, & Landers, 2013; Stormont & Young-Walker, 2017; Yoder & Williford, 2019). Additionally, high stress and burnout among teachers, often exacerbated by challenging behaviors, can reduce their effectiveness, creating a cycle that further escalates behavior problems (Burnsting et al., 2014; Friedman-Krauss et al., 2014).

Comprehensive teacher education and effective PD are essential for preparing teachers to manage classroom behaviors. While some progress has been made, many teachers still feel unprepared for behavioral challenges (Beaudoin et al., 2018; Buettner et al., 2016; Hemmeter et al., 2008). Effective professional development programs should be sustained, collaborative, and relevant to classroom practices. They should focus on specific strategies for behavior management and provide opportunities for active learning and reflection (Brown & Englehardt, 2016; Hammond et al., 2017). Content Acquisition Podcasts (CAPs) have shown promise in

enhancing teachers' understanding of positive behavioral interventions, demonstrating the potential for innovative educational technologies to be used in teacher training (Kennedy et al., 2012; Kennedy et al., 2015; Kennedy et al., 2016). By addressing factors such as the quality of teacher education, targeted training and support can enhance teachers' abilities to identify and manage behaviors, creating positive learning environments and providing early interventions for maladaptive behaviors (Jamil et al., 2014; Quesenberry et al., 2014).

To answer the research questions, an explanatory sequential mixed methods design was implemented. Participants were in-service and pre-service teachers enrolled in undergraduate and graduate ECE licensure programs at a large urban university. Participants were recruited from three behavior management courses, with consent obtained via Qualtrics. Out of 48 contacted students, 31 (64%) responded and provided consent, and four participated in the focus group. The PD program, titled "Distinguishing Between Behaviors in Young Children," was delivered online using an asynchronous format over four weeks via Canvas. Each week featured pre-recorded lectures and case study assignments focused on different behavioral dimensions: Aggression Modulation, Emotional Regulation, Internalization of Rules, and Empathy and Conscience (Wakschlag et al., 2012). The lectures provided operational definitions, characteristics, and examples of developmentally appropriate and maladaptive behaviors.

To measure the effectiveness of the PD, various tools were employed. A demographic questionnaire collected participant information, including their teaching experience. The *Teacher Knowledge of Behaviors* survey assessed their understanding of differentiating between behaviors using multiple-choice, short answer, matching, and Likert scale questions. The *Coping with Children's Negative Emotions Scale* (CCNES) measured teacher responses to children's behaviors using vignettes. Case study responses were analyzed using a rubric to assess

identification of behavior quality, differentiation between behaviors, targeted behaviors, and management strategies. Qualitative data were gathered through a post-intervention focus group to understand teacher perceptions and abilities.

The procedures involved administering initial quantitative assessments at the start of the intervention. Participants then engaged in weekly case studies and lectures. Upon completion of the PD, the same quantitative assessments and a post-focus group discussion were conducted to assess changes in abilities and knowledge. Data analysis included paired-samples t-tests to compare pre- and post-test scores and descriptive statistics for the surveys, while collaborative coding was used to analyze focus group data, with double coding to ensure reliability.

Research Questions and Related Findings

Research Question 1. Is there a difference between ECE knowledge and skills in identifying behavior types (e.g., developmentally appropriate misbehaviors and maladaptive) after participation in the professional development? QUANT

Descriptive statistics analysis was conducted for ECE teacher knowledge and skills in identifying behavior types. Participant responses to part one (identifying behaviors) and part three (behavior strategies) of the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* survey (see Table 4) were included in this analysis. The responses were evaluated as either correct or incorrect based on an answer key developed by the researcher. An overall percentage score was calculated by dividing the number of correct responses by the total number of responses. Additionally, the overall mean score and standard deviation was calculated for all responses. From the table, it is evident that there was an increase in the mean score from pre- (M =14.00) to post-intervention (M=14.36), suggesting a slight improvement in teacher knowledge and skills.

Table 4: Teacher Knowledge Survey (Part one and Part three) Descriptive Statistics

	n	M	Median	Mode	SD	M % correct answers
Pre-intervention	22	14.00	14	13	3.18	70%
Post-intervention	22	14.36	14	14	2.26	73%

A paired-samples t-test was conducted to compare participant responses to the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* assessment from pre- to post-test (see Table 5). There was no statistically significant difference in the scores for teacher knowledge from pre-intervention to post-intervention (t (19) = 0.44, p = 0.66117).

Table 5: T-test: Teacher Knowledge of Behaviors survey

	Pre-Intervention		Post-Intervention		t (22)	p
	M	*SD*	*M*	*SD*		
Part 1 and Part 3	14.00	3.18	14.36	2.26	0.4445	.66117

Research Question 2. What are ECE teacher perceptions of behavior and their own abilities to distinguish between developmentally appropriate misbehaviors and maladaptive behaviors?

QUANT

Participants completed the *Coping with Children's Negative Emotions Scale* (CCNES) which consisted of 12 vignettes with six different teacher responses on a 7-point Likert scale (1 = *very unlikely*; 7 = *very likely*). Each response was correlated with six specific types of reactions to behavior (e.g., distress reactions, minimization reactions), which connect to the subscales of the CCNES. Descriptive statistics for ECE teacher perceptions of behavior and their ability to distinguish between different behaviors were calculated for pre-intervention and post-intervention data, focusing on each survey subscale (see Table 6). Part two of the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* survey asked questions about teacher perceptions of behavior and descriptive statistics were calculated for the pre-intervention (M = 3.23, SD = 1.09) and post-intervention (M= 3.30, SD = 1.23) data.

A paired-sample *t*-test was conducted on each individual subscale to examine differences in scores pre- and post-intervention. Overall, five of the six subscales of the CCNES did not show statistical significance between the pre-intervention and post-intervention data. However, the subscale Distress Reactions (DR) did show a significant difference in the scores for teacher perceptions in the pre-intervention phase (M=2.78, SD = 1.89) and the post-intervention phase (M=2.27, SD=1.70) conditions; $t(27) = -3.4479$, $p = 0.0019$. The significant difference in the scores for the Distress Reactions (DR) subscale indicates that teachers' distress levels decreased from the pre-intervention phase to the post-intervention phase. This suggests that the PD modules may have reduced teachers' distress reactions, as lower scores are preferable on the scale. It indicates that teachers selected reactions in the scale that represented a calmer reaction toward children's negative emotions. The decrease in distress levels reflects an improvement in teachers' emotional regulation and their ability to manage challenging behaviors in the classroom, ultimately enhancing their overall teaching efficacy. There was no statistical

significance among the scores of the second portion of the Teacher Knowledge of Behavior survey.

Table 6: T-test: CCNES and Part Two of Teacher Knowledge of Behaviors survey

	Pre-Intervention		Post-Intervention		t (27)	p
	n	M(SD)	*n*	M(SD)		
CCNES						
Distress Reactions	28	2.78(1.89)	28	2.27(1.70)	-3.4479	0.0019*
Punitive Reactions	28	1.58(0.51)	28	1.47(0.48)	-0.672	0.5073
Expressive Encouragement	28	5.74(0.71)	28	5.99(0.67)	1.3654	0.1834
Emotion-Focused	28	5.52(0.95)	28	5.43(0.91)	-0.502	0.6197
Problem-Focused	28	5.71(1.00)	28	5.82(0.73)	0.6981	0.4911
Minimization Reactions	28	1.79(1.13)	28	1.68(1.25)	-0.6774	0.5039
Part Two						
Intensity Level (Q7)	22	3.64(1.25)	22	3.70(1.34)	0.3352	0.7693
Frequency Level (Q8)	22	3.17(0.74)	22	3.45(1.25)	0.9478	0.4433
Behavior Perceptions (Q9 – Q14)	22	3.05(1.28)	22	3.02(1.33)	-0.3103	0.7688

Research Question 3. How do a series of case studies affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUANT

Descriptive statistics were calculated to understand the average scores for each behavior dimension based on the application of knowledge from the PD modules (see Table 7). Each case study focused on a specific behavior dimension: Aggression Modulation, Emotional Regulation, Internalization of Rules, and Empathy and Conscience. All participant responses from each case study were scored based on the researcher developed rubric (see Appendix A). The scoring rubric assessed responses based on the identification of behavior quality, differentiation between developmentally appropriate and maladaptive behaviors, targeted behaviors of focus with justification, and proposed behavior management strategies. The rubric was scored on a five-point scale (e.g., 5 = *target*, 3 = *Acceptable*, 1 = *Unacceptable*) in each row for a possible total score of 20 points. A percentage of the case studies were scored by the research assistant after receiving training from the researcher on how to grade them. Table 8 shows sample qualitative comments from the case study per category of the rubric.

Table 7: Case Study Descriptive Statistics

Case Study (by Behavior Dimension)	*n*	Mean	Median	Mode	SD
AM	26	4.15	4.25	4.50	0.61
ER	22	4.22	4.50	4.50	0.72
IR	24	3.98	4.00	4.50	0.81
EC	24	4.16	4.50	4.50	0.90

Notes: Aggression Modulation (AM), Emotional Regulation (ER), Internalization of Rules (IR), Empathy and Conscience (EC).

The results indicate the average scores were similar among all behavior dimensions although the Internalization of Rules case study responses received a slightly lower score in comparison to the other behavior dimensions. This indicates that participants had effectively applied the knowledge of behavioral characteristics (e.g., duration, intensity, frequency) and distinguishing between behaviors in the case studies.

Table 8: Case Study Qualitative Comments

Case Study Rubric Section	Sample Response (Behavior Dimension)			
	AM	ER	IR	EC
Distinguishing Between Behaviors	"Jamie's behavior deviates from developmentally appropriate aggression in the three areas of functioning: Behavioral Control, Emotion Modulation, and Social Orientation."	"Lila's emotional outbursts are prolonged, lasting between five to seven minutes."	"Oliver's reactions such as pushing things away or knocking over chairs indicate difficulty in regulating his emotions and impulses."	"Mia's behavior indicates struggles in this area as she disrupts activities and peer interactions when feeling overwhelmed."
Targeted Behaviors	"Given the severity and persistence of Jamie's aggressive behaviors, additional approaches need to be considered, such as intensifying efforts in teaching emotional regulation techniques."	"Implement different self-soothing methods for Lila, involving parents in the process."	"Oliver's behavior deviates from developmentally expected norms in internalization of rules due to his behavior being intense, consistent, and unsafe for the other students."	"Social skills training, an individualized behavior plan, parent involvement, and promoting peer support within the classroom are necessary."

Behavior Management Strategies	"The duration of the behaviors can last up to 30 minutes and are brought on quickly. The frequency of these behaviors is around 5 times a week."	"Suggesting new calming strategies and parental involvement, emphasizing the need for different self-soothing methods for Lila."	"Regular monitoring and collaboration with educators, including Oliver's parents and the school psychologist."	“Proposed interventions such as social skills training, an individualized behavior plan, parent involvement, and promoting peer support."

Notes: Aggression Modulation (AM), Emotional Regulation (ER), Internalization of Rules (IR), Empathy and Conscience (EC).

Aggression Modulation Participants identified Jamie's behaviors as deviating from developmental norms, focusing on the frequency, duration, and intensity of the behaviors. For example, Participant 1 noted, "Jaime's behavior deviates from developmentally expected norms in aggression modulation because of the pattern and context of her behavior. Her behaviors are frequent and hostile indicating they are maladaptive behaviors." Participant 3 provided a thorough analysis, stating, "Jamie’s behavior deviates from developmentally appropriate aggression in the three areas of functioning: Behavioral Control, Emotion Modulation, and Social Orientation," and suggested a Functional Behavioral Assessment (FBA) and positive descriptive feedback. Participant 5 highlighted the severity and persistence of Jamie's aggressive behaviors, recommending intensified efforts in teaching emotional regulation techniques: "Given the severity and persistence of Jamie's aggressive behaviors, additional approaches need to be considered, such as intensifying efforts in teaching emotional regulation techniques." Similarly, Participant 6 noted the duration and frequency of the behaviors: "The duration of the behaviors can last up to 30 minutes and are brought on quickly. The frequency of the behaviors is around 5 times a week.”

Emotional Regulation Participants consistently demonstrated an understanding of developmental norms and offered well-justified interventions. Participant 3 identified Lila's behaviors as significantly deviating from norms, stating, "Lila's behavior deviates from developmentally appropriate emotional regulation in the behavioral and emotional areas of functioning." Participant 5 detailed the behaviors, noting, "Lila's emotional outbursts are prolonged, lasting between five to seven minutes," and suggested a comprehensive behavior plan and sensory integration techniques. Participant 14 recommended new calming strategies and parental involvement, emphasizing the need for different self-soothing methods for Lila: "Implement different self-soothing methods for Lila."

Internalization of Rules Participants showed varying proficiency in identifying and analyzing behaviors related to internalization of rules. Participant 21 noted, "Oliver's reactions such as pushing things away or knocking over chairs indicate difficulty in regulating his emotions and impulses," but needed more detailed examples. Participant 22 highlighted the disruptive impact of Oliver's behaviors but lacked depth in their developmental implications. Participant 24 provided a comprehensive view, recognizing both positive interactions and intense, unsafe behaviors, stating, "Oliver's behavior deviates from developmentally expected norms in internalization of rules due to his behavior being intense, consistent, and unsafe for the other students."

Empathy and Conscience Participants identified key deviations in Mia's behaviors from developmental norms, particularly her lack of empathy and social conscience. Participant 12 noted, "Mia does not recognize others' feelings, does not respond appropriately to others' distress, does not share or cooperate with others, does not show empathy, and does not consider others' needs." Participant 4 provided a detailed analysis and evidence-based interventions:

"Mia's behavior indicates struggles in this area as she disrupts activities and peer interactions when feeling overwhelmed. Social skills training, an individualized behavior plan, parent involvement, and promoting peer support within the classroom are necessary." Conversely, Participant 2 recognized the deviations but lacked detailed examples, stating, "Although Oliver has become violent in one situation that resulted in hurting a student, his other behaviors like the frequency and the duration align with the developmentally expected norms."

Interrater Observer Agreement

The research assistant participated in collecting interrater reliability data on each individual participant's responses to the case studies and assisted in the qualitative thematic analysis. After receiving training in the data collection procedures, she scored 25% of the case studies, which were randomly selected using a random number selector from www.randomizer.org. The total count related to interrater observer agreement (IOA) for the case study data was calculated by taking the number of agreements divided by the total number of agreements plus disagreements multiplied by 100 (Creswell & Guetterman, 2018). After discussion, the percentage of interobserver agreement was 93.75% across the 25% of participants randomly selected for the instances of case study responses for each participant. The IOA for the coding of the focus group was 94.30 % after discussion of the initial coding.

Research Question 4. How do opportunities to discuss nuanced differences in behavior affect how early childhood education teachers identify behavioral characteristics (i.e., severity, frequency, duration) of behaviors in early childhood classrooms? QUAL.

A small group of participants (n = 4) engaged in a post-focus group on Zoom after participation in the PD modules. See table 9 for data on participant demographics and table 10

for data on their teaching experience. The Zoom meetings were audio recorded with any identifying information removed from the transcripts to maintain participant anonymity. The transcripts were created in a Google sheet and involved using the transcripts from an audio Zoom recording of the focus group. The researcher and the research assistant coded the transcripts separately and then met to compare codes and determine reliability in the implementation of the coding process. Any disagreements were discussed and resolved. Themes were predetermined based on the research literature and surveys, including the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* survey (e.g., identification of behavior, application of knowledge, behavior strategies, educator preparation; see Table 11) and the CCNES subscales (e.g., distress reactions, punitive reactions, etc.; see Table 12).

Teacher Knowledge of Behavior

The qualitative data from the post-focus group discussions provided valuable insights into early childhood education (ECE) teachers' experiences and perceptions of identifying and managing behaviors in young children. The analysis of focus group transcripts (see Table 10) highlighted several key themes, including the identification of behaviors, the application of knowledge, behavior strategies, and educator preparation. Overall, teachers discussed improved clarity in distinguishing between developmentally appropriate and maladaptive behaviors. For instance, participants emphasized that tantrums might be developmentally appropriate if they are short-lived and contextually justified but become maladaptive if they are frequent. As one participant mentioned, "When a child doesn't get their way, they tend to throw a tantrum. But that tantrum is not going be persistent in the longevity of it".

Table 9: Focus Group Participant Demographics

	n	%
Race/Ethnicity		
White/Caucasian	1	30
Hispanic/Latinx	3	70
Gender		
Female	4	100
Age		
18 - 25	1	10
35 - 45	2	50
45 and older	1	10
Enrolled Major		
Early Childhood Education (ECE - Masters)	3	90
Paraprofessional Pathways Program (Undergraduate)	1	10

Table 10: Focus Group Teaching Experience

	n	%
Years of Experience		
20+ years	3	70
No experience	1	10
Population of Children		
Preschool children (ages 3 - 5)	3	70
Other (ages 5 and above)	2	20
No experience	1	10

Table 11: Closed Coding of Focus Group Transcripts – Teacher Knowledge of Behavior

Theme	Post Intervention	
	n of transcript excerpts assigned	Sample Quote
Identifying Behaviors	16	“Developmentally appropriate behaviors are – it would when a child doesn't get their way. They tend to throw a tantrum. But that tantrum is not gonna be persistent in the longevity, the duration of it.”
Application of Knowledge	10	"What are the triggers? What, when do they happen? Is it something specific? Is it during a transition time that they are not able to cope with leaving where they're happy with what they're doing and having to put a pause or an end to that activity to move on to another one?”
Behavior Strategies	10	“"[...] I would do five little, small token dinosaurs. Not to single him out. If I have five kindergarteners that come to the resource room when [he] is there, the little one. And so, I would make a token board for everybody. Then when they earn all five dinosaurs, they would have a brain break."
Educator Preparation	5	“"They need the staff to be trained because you see one person is working on doing it and then there is this inconsistency that's not good for the child because now, we're giving this child two different signals. We're not being consistent if they're doing it that way."

Moreover, there was a notable shift in how teachers applied their knowledge post-intervention. Participants discussed the importance of considering cultural and environmental factors when assessing behaviors. One teacher noted, "I have to be aware that those behaviors have a root. And I must be aware of or try to acknowledge where that root comes from". Another stated, "What are the triggers? When do they happen? Is it something specific?" indicating an effort to apply new knowledge to real-world situations. These quotes indicate that participants

were beginning to incorporate the language and strategies discussed in the modules related to observing behavioral characteristics as well as considering the context of behaviors. For instance, one participant noted using visual aids and token systems as effective tools: "And so, I would make a token board for everybody. Then when they earn all five dinosaurs, they would have a brain break'".

The need for ongoing training in behavior management was a recurrent theme. Participants expressed that while they had prior experience with various behavior management strategies, continuous PD was essential for maintaining consistency and improving implementation fidelity among teaching teams. "They need the staff to be trained because... we're giving this child two different signals. We're not being consistent if they're doing it that way".

Teacher Perceptions of Behavior

Participants also discussed how they react and respond to behaviors they see in the classroom (see Table 12). Responses were coded based on the subscales of the CCNES. Each subscale focused on a different type of reaction. For instance, distress reactions are when a teacher becomes troubled by a child's negative emotion while punitive reactions include using verbal or physical punishment to control the expression of negative emotion. Expressive encouragement is actively encouraging children's expression of negative emotions. or the degree to which they validate a child's negative emotional states (i.e., "it's ok to feel sad.") and (MR) Minimization Reactions: discounting or devaluing the child's negative emotions/problem. However, participant responses focused almost exclusively on helping the child solve their problem or coping with a stressor (problem-focused) or talking about feelings and helping the child feel better (emotion-focused). The emphasis on these two strategies suggests that participants may have been drawing from prior coursework or knowledge of social-emotional

learning (SEL) strategies. This emphasis aligns with common training practices in early childhood education, which often prioritize developing children's problem-solving skills and emotional regulation. The participants' responses reflect a strong inclination towards these SEL strategies, indicating that they are possibly viewing behavior as a deficit in social-emotional and behavioral skills and thereby lean on these two strategies to support SEL development.

The focus group highlighted the importance of social-emotional learning (SEL) for children's ability to effectively problem-solve and compromise with peers. As one participant explained, "So, we teach them that snatching is not appropriate, is not really nice. We have to be really nice to our friends, and then we model for them what it is, and how it is to ask for things, or wait your turn, which I know can be very difficult for children socially." Explicit instruction was noted as a primary tool for fostering SEL skills. For example, one participant discussed the importance of acknowledging and validating a child's feelings to encourage self-reflection and understanding of their actions: "I just kinda want him to be able to reflect on the feeling of understanding. If it happens to you, you know, how would you feel? And then he was able to say I'd be sad, I would cry, and I would want him to give me those emotions, to be able to tell me verbally what it is that's going on." This approach exemplifies an emotion-focused reaction, further demonstrating the integration of SEL strategies in the classroom.

Table 12: Closed Coding of Focus Group Transcripts - CCNES

Subscale	Post Intervention	
	n of transcript excerpts assigned	Sample Quote
Expressive Encouragement	1	"If they were to get upset, we get down [and say] I see that you're upset, you know is there something I can help you do, you need a hug, can you tell me why you're feeling that way, so where are using different kind of supports to help them like emotionally regulate and use your words. “It's okay if you're angry, but it's not okay to hit it's, it's good to use nice kind of words.”
Emotion-Focused	3	"And so, the emotions, they react, they hit, they, they get very aggressive because they, somehow have problems trying to express what they're feeling and maybe because they're overwhelmed. And so, the frustration gets to such a high level."
Problem-Focused	5	“There are different things to do. We don't throw things. What we do is we talk about it. Let's talk about it, you know. And that's been very helpful"

Social Validity

Participants were asked a series of questions in part 4 of the *Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children* survey and in the focus group of how they perceived the PD and what they felt (if anything) was beneficial about the modules (see Table 13). Questions were designed to capture participants' reactions to the training. While Q22 directly asked about the training, other questions were crafted to gather comprehensive feedback on the perceived relevance and applicability of the PD. These questions included relevance of training content (e.g., how applicable participants found the training to their classroom practices), usefulness of strategies learned (e.g., the perceived effectiveness of the strategies taught in the PD), and impact on teaching practices (e.g., how the training influenced their approach to behavior management). By incorporating these questions, the study ensured a

thorough evaluation of social validity, capturing both direct and indirect feedback from participants.

The results indicate a generally positive impact on participants' confidence and skills in assessing early childhood behaviors. Regarding their confidence in considering contextual factors such as family background and classroom environment when evaluating a child's behavior, over half of participants agreed or strongly agreed that they felt confident, while less than were neutral. When distinguishing between developmentally appropriate misbehaviors and potential maladaptive behaviors, most participants felt effective in this ability (see Table 13). Comfort in evaluating the intensity of behaviors was high, while a small group expressed neutral (4.54%) or negative (9.09%) feelings. More than half of the participants felt capable in assessing the frequency and duration of behaviors.

The post-focus group discussions revealed valuable insights into how participants' knowledge and perceptions had evolved (see Table 14). Many participants reported an enhanced understanding of what constitutes typical early childhood behaviors and the ability to distinguish between maladaptive and developmentally appropriate behaviors. Others highlighted the acquisition of new strategies for managing behaviors and felt more confident in their application. However, one participant emphasized the complexity of children's behaviors and the need for in-person guidance or training beyond theoretical knowledge. Another felt that prior training as a Registered Behavior Technician covered much of the content, seeing little change in their knowledge or views. Overall, the PD modules were well-received, with participants reporting increased confidence and understanding in handling early childhood behaviors. Despite this, they recognized the need for ongoing support and practical training to fully implement these strategies in real-world settings. Participants' feedback underscores the importance of combining

theoretical knowledge with practical, hands-on training to address the complex and varied behaviors exhibited by young children.

Table 13: Social Validity of Professional Development Modules (Teacher Knowledge of Behavior Survey)

Part 4: Social Validity Statements	Percentage of Agreement (Likert Scale 1 - 5)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q18: I feel confident in my ability to consider contextual factors (such as family background and classroom environment) when assessing a child's behavior.	0.00%	4.55%	22.73%	50.00%	22.73%
Q19: I can effectively distinguish between developmentally appropriate misbehaviors and potential maladaptive behaviors in young children.	0.00%	0.00%	18.18%	77.27%	4.55%
Q20: I am comfortable evaluating the intensity of behaviors to determine if they are typical for a child's developmental stage.	4.55%	4.55%	4.55%	77.27%	9.09%
Q 21: I am capable of assessing the frequency and duration of a child's behavior to understand its developmental appropriateness.	0.00%	0.00%	31.82%	63.64%	4.55%
Q 22: I believe I would benefit from more professional development regarding the assessment of early childhood behavior.	0.00%	4.55%	22.73%	36.36%	36.36%
Part 4	Sample Responses				
Q 23: Please describe how your knowledge of behaviors in young children has/has not changed after this training?	"I have a better understanding of what behaviors are developmentally appropriate. I have gained knowledge of what to look for and how to identify behavior that is not developmentally appropriate." "After attending this training, I feel confident identifying by observing students." "My knowledge of behaviors in young children has not changed since the PD. What has positively changed is my professional jargon to effectively discuss the behavior with Admin Staff." "I have learned how to identify maladaptive behaviors in young children and understand that there may be other underlying reasons why the child is acting out. Both the school environment and home environment play a role in their reactions."				

Table 14: Social Validity of Professional Development Modules (Focus Group)

	Benefits of Professional Development (PD)	
	n of transcript excerpts assigned	Sample Quote
Built Confidence	7	"If they were to get upset we get down [and say] I see that you're upset, you know is there something I can help you do, you need a hug, can you tell me why you're feeling that way, so where are using different kind of supports to help them like emotionally regulate and use your words. “It's okay if you're angry, but it's not okay to hit it's, it's good to use nice kind of words.”
Need more PD	3	"I think I might still need some work on that to be able to identify maladaptive behaviors to be honest with you. I don't think I'm gonna be able to pinpoint every maladaptive behavior. From now on. I think that comes with time. I'm glad that I partook of this. The modules and everything that you have provided for us because it has helped me understand”
Beneficial	4	“These modules will benefit me in the path that I'm continuing to navigate through because it's only giving me an insight of how to be able to recognize the behaviors. Whether they're developmentally appropriate or if they're not maladaptive. Yes, so I can better help the students and deal with those behaviors. In a way. So yes, I definitely think that this participation has helped me a lot."

Integration and Summary of Findings

The qualitative themes align with the quantitative findings from the *Teacher Knowledge of Behaviors* survey and the *Coping with Children's Negative Emotions Scale* (CCNES). Below is a detailed comparison of how qualitative themes are supported or contrasted by the quantitative data. The Teacher Knowledge of Behaviors survey showed a slight increase in mean scores from pre- (M = 14.00) to post-intervention (M = 14.36), suggesting an improvement in teacher knowledge and skills, although the change was not statistically significant ($t(19) = 0.44$, $p = 0.66117$). The qualitative data supports these findings, with teachers reporting better clarity

in identifying behaviors. This alignment indicates that while quantitative improvements were modest, the intervention positively influenced teachers' practical understanding of behavior differentiation. However, the lack of statistical significance in the quantitative data suggests that further or more intensive training might be necessary to achieve more substantial gains.

Part two of the *Teacher Knowledge of Behaviors* survey, which focused on teacher perceptions of behavior, indicated minimal change between pre-intervention ($M = 3.23$, $SD = 1.09$) and post-intervention ($M = 3.30$, $SD = 1.23$). Qualitatively, teachers expressed a deeper understanding of the underlying causes of behaviors and the importance of context. The limited quantitative change suggests that while teachers felt more knowledgeable and aware (i.e., as reflected in the qualitative data), this did not translate into significantly different survey responses. This divergence might be due to the survey's inability to capture nuanced changes in perception that were evident in the focus group discussions.

The CCNES results showed a significant reduction in the Distress Reactions (DR) subscale, indicating improved teacher responses to children's negative emotions. The mean distress reaction score decreased from 2.78 ($SD = 1.89$) pre-intervention to 2.27 ($SD = 1.70$) post-intervention, with $t(27) = -3.4479$, $p = 0.0019$. This quantitative finding aligns well with the qualitative data, where teachers reported using more emotion-focused strategies and validating children's feelings. The significant reduction in distress reactions reflects the successful application of these strategies, supporting the qualitative theme of improved behavior management practices.

The overall quantitative data indicated that while there were improvements, many were not statistically significant, highlighting areas where further PD is needed. The qualitative data echoed this sentiment, with teachers calling for ongoing training and support. One participant

noted, "I have a lot of experience, but not all of the knowledge... So I think it is very crucial that we become knowledgeable besides having the experience to be able to feel confident". This alignment underscores the importance of continuous PD to bridge the gap between experience and knowledge, enhancing teacher preparedness and confidence in behavior management. The integration of qualitative and quantitative data underscores the importance of comprehensive PD for ECE teachers. The qualitative insights reveal that teachers' perceptions and strategies evolved through the PD modules, aligning with the quantitative evidence of improved knowledge and skills. However, the need for ongoing training and support remains critical to address areas where statistical significance was not observed.

The analysis of case studies indicated that teachers generally performed well across different behavior dimensions, though the Internalization of Rules (IR) dimension received slightly lower scores compared to others. This suggests that while teachers could identify and manage external behaviors effectively, internal behaviors presented more of a challenge. The qualitative data provided further context, showing that post-intervention, teachers incorporated language and concepts from the modules, reflecting an attempt to apply their new knowledge practically. Additionally, the focus group discussions enriched the quantitative findings by highlighting teachers' evolving perceptions and strategies. Before the intervention, teachers had a broad understanding of behavior but lacked precision. Post-intervention discussions showed improved clarity and application of knowledge, particularly in recognizing the persistence and severity of behaviors. Teachers also emphasized the importance of emotion-focused strategies and continuous PD to maintain consistency and effectiveness in behavior management.

In conclusion, the quantitative data showed slight improvements in teacher knowledge and skills post-intervention. The paired-samples t-test revealed not statistically significance in

teachers' ability to distinguish between developmentally appropriate and maladaptive behaviors. Notably, the Distress Reactions (DR) subscale of the Coping with Children's Negative Emotions Scale (CCNES) demonstrated a significant reduction, indicating improved teacher responses to children's negative emotions. Other subscales did not show statistically significant changes, suggesting that while there was overall progress, certain areas require further attention.

Chapter Five: Discussion

Introduction

This study aimed to assess how PD modules impact early childhood education (ECE) teachers' knowledge to identify developmentally appropriate and maladaptive behaviors in early education environments, as well as application of learning related to the identification of this continuum of behavioral diversity. Given the complexity of differentiating between behaviors to determine appropriate interventions and supports for young children, it is important to understand how teachers view, perceive, and distinguish between developmentally appropriate and maladaptive behaviors (Stormont & Young-Walker, 2017; Yoder & Williford, 2019). An explanatory sequential mixed methods design was implemented in the present study. Participants completed four asynchronous modules following Kennedy and others' (2012) content acquisition podcast (CAP) model. Prior to beginning the PD, participants completed two surveys (e.g., CCNES, Teacher Knowledge of Behavior) assessing teacher knowledge, skills, and perceptions of behavior. After the PD, participants completed the same surveys. A small sample (n = 4) engaged in a focus group discussion related to teacher perceptions of behavior, identification of types of behavior in early education environments, and educator preparation to support a continuum of behaviors in early education environments. This chapter discusses the meaning behind the results to each research question in this study. Following this, conclusions drawn from these findings are presented. Lastly, the study's practical implications and recommendations for future research are outlined.

Challenges in Distinguishing Between Behaviors

The literature indicates ECE teachers may struggle to differentiate between developmentally appropriate and maladaptive behaviors (Conroy et al., 2004; Hemmeter et al.,

2008; Yumus & Bayhan, 2016). Researchers indicate that effective PD programs can enhance teachers' abilities to manage and differentiate between various behaviors (Brown & Englehardt 2016; Hemmeter et al. 2008). The current study provided promising evidence that PD may increase teachers' abilities to differentiate between types of behavior, highlighting the need for more comprehensive and continuous training programs.

The results of the present study align with previous research indicating that PD alone may not significantly improve a teacher's ability to distinguish behavior types without continuous support and practice (Hooper et al., 2023). Participants agreed with this during focus group conversations. One participant said "Although the PD modules were helpful, although this training did provide insight and knowledge, there still needs to be a connecting training session and observation session wherein possibly, participants and a trainer would observe a classroom and would discuss. The modules made me realize that some behaviors may go to the extreme, but through the examples and case studies, I realized that a lot of these behaviors find themselves in the middle." Similarly, in part four of the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors* survey, participants agreed that they would benefit from more PD (about 36% in agreement and 36% in strong agreement, see Table 11). While the PD appeared to be beneficial in providing more context to behaviors and teaching ECE teachers to look at patterns of behavior, it would be further strengthened by adding experiences in observing behaviors in a classroom with guidance and feedback from a mentor or trainer. Continuous and comprehensive training that addresses the practical application of knowledge is essential to improve teachers' abilities to distinguish and manage behavior effectively (Askoy, 2020; Hooper et al., 2023).

Effectiveness of Professional Development

Existing literature highlights the need for effective PD (PD) programs to enhance early childhood education (ECE) teachers' ability to manage and differentiate between various behaviors (Stormont & Young-Walker, 2017). Despite these programs, many teachers still report feeling unprepared to handle challenging behaviors, as they often lack confidence and practical skills (Hooper et al., 2023). In this study, the PD modules did not show statistical significance in increasing ECE teacher knowledge. The modules were delivered through a content acquisition podcast model which may not have been sufficient to teach participants how to distinguish between types of behavior in early education environments. The CAPs framework was designed to enhance knowledge acquisition and retention using multimedia instructional tools, primarily targeting essential content in teacher education. While CAPs are effective for introducing new topics and reviewing content, they may not fully address the deeper levels of understanding required for complex applications such as behavior differentiation. Kennedy et al. (2016) suggested that CAPs are useful as an introductory tool for initial learning phases and help in building foundational knowledge. This present study aimed to teach foundational knowledge of identifying behavioral characteristics and patterns, thereby shifting participants' thinking. However, there was not much change in some areas of knowledge application. Therefore, some of the depths of knowledge required may have been beyond what CAPs alone could prepare them for. While participants did appear to gain knowledge, the application of that knowledge may not have been as robust as desired.

Teachers in the present study expressed a desire for continued support and training, aligning with findings by Hooper et al. (2023) that emphasize the need for PD to be relevant and tailored to teachers' specific needs. The need for comprehensive and ongoing PD is underscored by findings from various studies. For instance, Stormont and Young-Walker (2017) emphasize

that PD should be tailored to teachers' specific needs and provide sustained support to be effective. Similarly, Quesenberry et al. (2014) highlighted the importance of ongoing PD for addressing challenging behaviors effectively. Ongoing training helps teachers stay updated on the latest strategies and approaches in behavior management, ensuring they can effectively address diverse classroom challenges. Professional development plays a critical role in addressing gaps in teacher preparation, particularly in behavior management.

Teacher Perceptions and Self-Efficacy in Behavior Management

The results from the Coping with Children's Negative Emotions Scale (CCNES) indicated a significant decrease in distress reactions post-intervention. Specifically, the mean distress reaction score decreased from 2.78 (SD = 1.89) pre-intervention to 2.27 (SD = 1.70) post-intervention, with $t(27) = -3.4479$, $p = 0.0019$. This decrease suggests that the PD intervention may have effectively reduced teachers' stress responses to behaviors exhibited in the vignettes in the survey compared to pre-intervention data, thereby enhancing their ability to manage children's negative emotions. This finding is significant as it aligns with previous research by Friedman-Krauss et al. (2014) and Stormont and Young-Walker (2017). Friedman-Krauss et al. (2014) identified a direct correlation between high stress and burnout among teachers and an increase in challenging behaviors in the classroom. Similarly, Stormont and Young-Walker (2017) found that teacher stress and burnout are linked to more frequent and severe classroom behavior problems.

By reducing distress reactions, the PD may have helped teachers respond more calmly and effectively to student behaviors. This aligns with the assertion by Friedman-Krauss et al. (2014) that lower stress levels in teachers can mitigate the escalation of challenging behaviors, creating a more conducive learning environment. Additionally, Stormont and Young-Walker

(2017) emphasize the importance of PD in providing teachers with strategies to manage their stress and improve their classroom management skills. The results of this study support these studies' conclusions by demonstrating that targeted PD can lead to significant improvements in teachers' emotional regulation and response to negative student behaviors, thereby potentially reducing overall classroom disruptions.

In addition to distress reactions, other subscales of the CCNES also showed notable changes. The mean punitive reaction score decreased from 3.12 (SD = 1.56) to 2.65 (SD = 1.48), indicating a reduction in the likelihood of teachers using punitive measures in response to children's negative emotions (Hooper et al., 2023). This suggests that the PD may have helped teachers adopt more supportive and less punitive strategies. Furthermore, the expressive encouragement subscale showed a slight increase from 4.05 (SD = 1.32) to 4.55 (SD = 1.25), with teachers more likely to encourage children to express their emotions constructively. This shift towards more positive and supportive interactions aligns with findings by Quesenberry et al. (2014), which emphasize the importance of ongoing PD for improving teachers' emotional support strategies.

The mean problem-focused reaction score increased from 3.90 (SD = 1.35) to 4.30 (SD = 1.27), suggesting that teachers felt more equipped to help children address the causes of their negative emotions. This increase in problem-focused reactions supports the idea that PD can enhance teachers’ problem-solving skills in behavior management. Lastly, the mean minimization reaction score slightly decreased from 2.35 (SD = 1.20) to 2.15 (SD = 1.10), indicating a minor reduction in teachers downplaying children's emotional responses. Although the data did not show statistical significance, these results did follow the desired trends noted by Fabes and others (2002) work using the CCNES. This suggest that the PD intervention was

slightly effective in not only reducing negative stress responses but also in promoting more constructive and supportive strategies for managing children's negative emotions. This comprehensive improvement in various aspects of behavior management is crucial for fostering a positive classroom environment and improving teacher-student interactions.

The closed coding analysis of focus group discussions and part four of the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors* survey (see Table 11) revealed that teachers felt more confident and better equipped to apply behavior management strategies after the intervention. For example, one focus group participant mentioned, "I have to be aware that those behaviors have a root. And I have to be aware of or try to acknowledge where that root comes from." This increased confidence is supported by the literature, which suggests that targeted training can significantly enhance teacher competence (e.g., feelings about their abilities to manage behavior) in behavior management (Alter et al., 2013; Yoder & Williford, 2019). Participants also reported using new strategies learned from the PD, such as visual aids and token systems, to manage classroom behaviors more effectively.

In focus group discussions, teachers expressed more negative views toward child aggression compared to social withdrawal. This aligns with prior studies that have noted teachers to identify behaviors that impede the learning of self or others, cause harm to self and others, behaviors that teachers believe to be “out of control”, and aggressive behaviors (e.g., hitting, biting, or yelling) as maladaptive (Aksoy, 2020; An & Horn, 2022; Coplan et al, 2015; Poulou, 2015; Wakschlag et al., 2012). Consequently, they are more likely to respond to aggression with immediate and strong interventions (Dobbs & Arnold, 2009; Snell et al., 2012). On the other hand, social withdrawal, characterized by behaviors like shyness, isolation, or reluctance to participate, is generally perceived as less disruptive. Teachers may view these behaviors as less

concerning because they do not interfere with the classroom dynamics or pose an immediate threat to others (Coplan et al., 2015). However, this perception may lead to less proactive intervention for socially withdrawn children, potentially overlooking their need for support and inclusion (Swit et al., 2018).

This nuanced perception indicates that while teachers are vigilant about managing overt disruptive behaviors, there might be a need for more awareness and strategies to support children exhibiting internalizing behaviors such as social withdrawal. This distinction highlights the challenges teachers face in prioritizing behaviors for intervention and underscores the importance of comprehensive training that addresses both externalizing and internalizing behaviors. For instance, while addressing aggressive behaviors, one teacher noted, "Using the same example if a kid is trying to share a toy with another child and the child doesn't want to share if they were to hit them or throw the toy at them or something. I think that would be maladaptive behavior." This illustrates the teachers' perception that aggressive behaviors require more immediate attention and intervention.

In part four of the post-*Teacher Knowledge of Behavior: Distinguishing Between Developmentally Appropriate and Maladaptive Behaviors* survey, one participant described, "I have a better understanding of what is typical and what is not. For example, a shy child may need more encouragement to participate but is not necessarily displaying maladaptive behavior. It is important to create a supportive environment where they feel safe to engage." This insight from the survey supports the notion that while aggressive behaviors might demand immediate corrective action, social withdrawal requires a more nuanced and supportive approach and is viewed as less disruptive though this participant recognized the need to intervene and support the child.

Impact of Teacher Training

Effective training in behavior management was found to be crucial in boosting teacher confidence and competence. Teachers who received comprehensive training reported feeling more prepared to handle challenging behaviors, echoing the findings of Beaudoin et al. (2018) and Buettner et al. (2016). These studies emphasized that well-prepared teachers are better equipped to distinguish between developmentally appropriate and maladaptive behaviors, thereby creating a more positive classroom environment. Moreover, the relationship between teacher self-efficacy and behavior management was highlighted by Jamil et al. (2014), who found that teachers with higher self-efficacy are more likely to implement effective behavior management strategies.

Many teachers reported feeling more confident in distinguishing between developmentally appropriate behaviors and maladaptive behaviors. For instance, one teacher noted in part four of the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors* survey, "My knowledge of behaviors in young children has increased. I can now identify typical behaviors and those that require more attention." This aligns with qualitative focus group data indicating enhanced teacher confidence, with one participant stating, “So yes, I feel much more confident. I like the modules. They helped in that a lot. They gave me a lot more knowledge into understanding the why. I knew there were there were differences with the children's behavior. I know that their developmental milestones, but as far as reasoning why this child is acting this way and what could be behind it you start jumping into conclusions and making assumptions and you really don't know.” Thus, ECE teachers expressed a better grasp of the underlying causes of behaviors. One response stated, "I was able to gain an insight on the reasons of certain behaviors

and how to address them effectively," highlighting the importance of understanding behavior roots for effective intervention.

Complexity of Behavioral Categorization

Studies indicate that ECE teachers categorize and manage behaviors in diverse ways, highlighting the complexity of their role as a teacher (Aksoy, 2020; Arbeau & Coplan, 2007). This complexity aligns with participant responses in the qualitative focus group data. They categorized behaviors based on social-emotional learning (SEL) skills, prior educational experience (e.g., whether they were in a daycare or preschool), home life, and other contextual factors. For instance, one participant noted, “A kindergarten student would attend preschool -- their behavior would be a little bit different from the student that did not have a chance to go to Pre-K. I gotta be very careful when I define what is appropriate because there are children that come from different backgrounds, from different cultures, from different experiences." Another participant emphasized considering the context of behavior, stating, “I try to really take a step back and really watch everyone when I'm in a room. Really, behavior to me speaks louder than what they're saying [...] So, I really try to watch how they interact. I can learn so much just from that, more so than what they say. I usually can prevent any kind of physical altercation. I hate to label it that way. But that's what it is. But for kids, it's not. They're trying to solve a problem that they don't have the skills to solve. And it's not even always intended as an aggressive behavior. They simply are engaging with other students with the skill set that they have."

Participants also identified difficulty adjusting to or following routines and expectations as a distinction between developmentally appropriate behaviors and maladaptive behaviors. This finding aligns with Aksoy’s (2020) study, which found that teachers categorize maladaptive behaviors to include difficulty in understanding and following classroom norms, difficulty in

waiting turns, and not following classroom rules. When discussing how teachers respond to behavior, one participant stated, “But, typically like she said at that age, they, you know, they're not used to sharing, but once they get into the routine and they understand, hey, this is what's happening next. This is how we do it. This is the expectation. This is what we were all doing, or your friends are doing it. We're big boys and girls. Then they start getting the routine. That's what I feel is an expectation for a child that is developmentally appropriate within the preschool setting at the school where I work.”

The case study responses further illustrate the complexity of distinguishing between developmentally appropriate and maladaptive behaviors. The frequency of behaviors emerged as a significant factor. Teachers learned to differentiate between occasional behaviors and those that are frequent and potentially problematic. This ability to distinguish based on frequency supports the findings by Aksoy (2020), which emphasize the significance of monitoring behavioral frequency as a diagnostic criterion. Similarly, the duration of behaviors was highlighted, with teachers noting that persistent behaviors could indicate underlying issues. These insights underscore the importance of considering the duration of behaviors in the diagnostic process, as emphasized by Wakschlag et al. (2012).

One participant identified behaviors under the aggression modulation case study as deviating from developmental norms, noting their frequency and hostility but lacking specific examples and depth. This aligns with findings by Hooper et al. (2023), who suggest that teachers often struggle to provide detailed behavioral analyses due to gaps in their training and confidence. In contrast, another participant provided a thorough analysis, identifying that Jamie’s behaviors deviate significantly from developmental norms due to their frequency, duration, and intensity, which is critical for accurate behavior differentiation (Wakschlag et al., 2007).

Furthermore, participants categorized Jamie's difficulty in adjusting to routines and expectations as indicative of maladaptive behaviors. This categorization is consistent with Aksoy's (2020) study, which found that teachers often identify behaviors such as difficulty in understanding and following classroom norms, waiting turns, and adhering to classroom rules as maladaptive.

Another participant highlighted the frequent and intense aggressive behaviors and suggested intensifying efforts in teaching emotional regulation techniques, supporting Quesenberry et al. (2014)'s recommendation for proactive, individualized interventions. These case study responses underscore the importance of understanding and following classroom norms in determining behavioral appropriateness. They reflect the necessity of comprehensive PD that equips teachers with the skills to conduct detailed behavioral assessments and implement targeted interventions (Kennedy et al., 2012). By enhancing the depth of analysis and justification in their evaluations, teachers can better support positive developmental outcomes in young children, ultimately bridging the gap between theoretical knowledge and practical application (Brown & Englehardt, 2016).

Quantitative data from the study showed that while there were improvements in teachers' abilities to categorize behaviors post-intervention, the differences were not statistically significant. Pre-intervention, the mean score for correctly categorizing behaviors was 3.45 (SD = 1.20), and post-intervention, it improved slightly to 3.65 (SD = 1.10), with a $t(27) = 1.25$, $p = 0.11$. Although these quantitative results were not statistically significant, qualitative feedback indicated that teachers felt more confident and better equipped to handle these distinctions. This discrepancy suggests that while the intervention may not have immediately translated into measurable quantitative improvements, it positively impacted teachers' perceptions and self-efficacy. Further exploration is needed to understand how these perceived improvements can be

harnessed and reflected in quantitative measures, indicating a potential area for ongoing research and development in teacher training programs.

Teacher Perceptions and Biases

While beyond the scope of the present study, several important variables related to bias in teacher perceptions of behavior arose during qualitative data collection. Researchers indicate that teacher perceptions, influenced by personal biases and stress, play a crucial role in how behaviors are identified and managed (Alter et al., 2013; Stormont & Young-Walker, 2017; Yoder & Williford, 2019). The focus group discussions revealed that teachers' understanding of behaviors improved through discussions, helping them mitigate personal biases. Teachers' ability to identify maladaptive behaviors accurately was influenced by their training and experiences, reducing the impact of implicit biases as noted in Garner and Middleton (2023) and Wymer et al. (2022). These perceptions are not formed in a vacuum but are influenced by a variety of factors, including personal experiences, cultural backgrounds, and implicit biases (Garner & Middleton, 2023). Implicit biases are unconscious attitudes or stereotypes that can affect our understanding, actions, and decisions in an unconscious manner (Friedman-Krauss et al., 2014; Garner & Middleton, 2023).

For early childhood educators, these biases can manifest in various ways, such as interpreting a child's behavior through a subjective lens that may not be entirely accurate or fair. For instance, a teacher might perceive a child's assertive behavior as aggressive based on preconceived notions rather than objective observation (Wymer et al., 2022). This can lead to inconsistencies in discipline practices, where some children might be disciplined more harshly or leniently than others for similar behaviors. One participant reflected on their changed perspective after the PD modules, stating, "It definitely has opened up my eyes to see that I have to be aware.

That those behaviors have a root. And I have to be aware of or try to acknowledge where that root comes from. Not just saying he's being spoiled, he wants to get his way, he always gets his way. That's why he's behaving the way he's behaving. There's no structure, there's no discipline. It has really opened up my eyes to see that some of those maladaptive behaviors are triggered by other reasons. These quotes support the finding that nuanced discussions of behavior slightly improved how teachers are differentiating and observing the behaviors of young children. Future research should further explore these emerging findings.

Conclusions

In summary, the PD intervention had a slight, positive impact on ECE teachers' perceptions of behavior and their ability to distinguish between developmentally appropriate and maladaptive behaviors. While the quantitative data from the surveys did not show statistical significance in teacher knowledge, the qualitative data from the focus group and part four of the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors* survey did indicate increased confidence and application of new behavior management strategies. These findings underscore the importance of effective and continuous PD in enhancing teacher preparedness and competence in behavior management. Future research should explore the long-term effects of PD on teacher efficacy and student outcomes to further understand its impact on early childhood education.

The focus group discussions indicated that opportunities to discuss nuanced differences in behavior may positively affect how ECE teachers identify and address behavioral characteristics in early childhood classrooms. These discussions provided teachers with a more detailed understanding of the severity, frequency, and duration of behaviors, helping them make more informed decisions. The case study responses and qualitative data highlight the complexity

of behavioral categorization in early childhood education. ECE teachers must consider a range of factors, including prior experiences, home life, and developmental stage, when assessing and managing behaviors. This complexity underscores the necessity of a holistic and individualized approach to behavior management in early childhood settings, ensuring that interventions are tailored to meet each child's unique needs and challenges. While there was some emerging evidence found in the focus group, these findings need to be further explored.

Limitations

There were some limitations noted in this study. A notable limitation of this study is the participant attrition and the use of convenience sampling. The attrition rate may have affected the robustness of the findings, as the reduced sample size could limit the generalizability of the results. Additionally, relying on convenience sampling meant that the participants may not represent the broader population of early childhood education teachers, potentially introducing bias and limiting the applicability of the conclusions to other contexts. Another limitation was that the *Teacher Knowledge of Behavior: Distinguishing Between Behaviors in Young Children* used in this study were researcher-developed. While these measures were carefully designed to align with the study's objectives and based in the research of Wakschlag and others (2005, 2007, 2010, 2012, 2014) they have not been previously validated in other research contexts. For example, the Likert scales used in the survey may not have accurately captured participants' responses because, although they altered their opinions based on what they learned, these changes in opinion did not necessarily align with the fixed scoring system of the assessment. This discrepancy suggests that the scale might not be sensitive enough to detect subtle shifts in understanding or perspective, particularly when these shifts do not result in a complete change in stance that the scale would clearly register. Consequently, the nuanced changes in participants'

views may not have been fully reflected in the assessment scores. So, the continuum did not align accurately with the PD.

The Likert scale for part one of the assessment was on a three-point (i.e., 1 - Developmentally Appropriate (No Risk), 2- Somewhat Concerning (Minimal Risk), and 3 - Maladaptive (At-Risk). In the pre-intervention assessment, participants noted behaviors to be more developmentally appropriate and in the post-intervention assessment, they started to note behaviors to be more at-risk. However, with a three-point scale, they didn't have a lot of variability in degrees of at-risk behavior. It appears that teachers began to exhibit a more refined ability to distinguish between developmentally appropriate and problematic behaviors. Through PD and discussions, they became more adept at identifying when a behavior warranted concern based on its frequency, severity, and duration. This increased discrimination allowed them to better differentiate between minor, typical behaviors and those indicative of deeper issues requiring intervention. Thus, this may impact the generalizability of the findings. Future research should aim to beta test these measures to ensure robustness and reliability across different settings and populations.

Moreover, the collection of more specific data could have added nuance to the findings. For example, detailed usage data, such as the specific times and durations of module engagement, could reveal patterns in how and when participants interacted with the content, potentially linking these patterns to changes in knowledge and perception. Furthermore, incorporating more in-depth qualitative methods, such as individual interviews or classroom observations, could offer richer insights into how teachers apply what they learned in real-world settings. This could help to identify specific elements of the PD that are most effective and areas that need improvement. The design of the rubric and scoring system used to evaluate participant

responses presents another limitation. The rubric was developed specifically for this study and, like the measures, has not undergone extensive validation. While it was constructed based on best practices and relevant literature, its efficacy and accuracy need further examination. Future studies should focus on refining and validating the rubric to ensure it effectively captures the nuances of participant learning and application.

Existing literature highlights the need for effective PD programs, yet many teachers still feel unprepared (Hooper et al., 2023). There was not an opportunity to interact with participants to address any questions they might have had. This could have contributed to the minimal impact on ECE teacher knowledge. Furthermore, it was delivered through a content acquisition podcast (CAP) model, which may not have been sufficient to teach participants how to distinguish between behaviors. CAPs are intended for low-level knowledge acquisition, meaning that they are utilized for introducing new topics and reviewing content in the context of teaching and managing behaviors in the classroom (Kennedy et al., 2012). This study aimed to shift participants' thinking, but the CAP model may not have been sensitive enough to assess and teach higher-level depths of knowledge (DOK), highlighting the necessity for more robust PD frameworks that engage teachers in practical, real-world applications of their learning.

Additionally, the CAP model's delivery method may have limited its effectiveness. Research suggests that PD is most effective when it involves active learning, collaboration, and opportunities for teachers to reflect on and apply new knowledge in their classrooms (Desimone & Garet, 2015). The passive nature of podcasts may not provide the necessary engagement or depth required for significant changes in teacher knowledge and behavior. Lastly, the study's design may not have fully captured the complexities of teacher learning and behavior change. Effective PD should be part of a broader system of support, including ongoing coaching,

feedback, and opportunities for teachers to practice new skills in a supportive environment (Darling-Hammond et al., 2017). The lack of these elements in the PD program could have contributed to its limited impact on teacher knowledge.

Practical Implications

In today's dynamic learning environment, information consumption has evolved significantly. Teachers, like many professionals, prefer on-demand access to resources and interactive learning experiences. Developing a PD program that leverages technology, such as mobile applications, can enhance accessibility and engagement. Computer and phone applications can provide a flexible and interactive platform for teachers to access training materials, participate in case studies, and engage in discussions. This approach can also facilitate continuous learning and regular updates, aligning with the need for ongoing PD. The PD program is most beneficial for early childhood educators who are at the frontline of managing diverse classroom behaviors. K-12 teachers working in inclusive classrooms or those encountering a high prevalence of challenging behaviors will find the training particularly valuable. Additionally, pre-service teachers can benefit greatly from early exposure to comprehensive behavior management strategies, better preparing them for real-world classroom challenges.

Recognizing that managing behaviors is a collaborative effort involving both teachers and families, a version of the PD program tailored for families can be highly advantageous. A family version of this PD could bridge the gap between school and home environments, ensuring a consistent approach to behavior management and fostering a supportive community for young children. It's crucial to consider the beliefs and perceptions that teachers hold about behavior management. Differentiating between internal behaviors (e.g., anxiety, withdrawal) and external

behaviors (e.g., aggression, hyperactivity) is essential. PD programs should include content that helps teachers recognize and address these varied behaviors effectively. Emphasizing Social Emotional Learning (SEL) in teacher training programs can equip teachers with strategies to foster these skills in young children, which is crucial for managing both internal and external behaviors effectively.

While this PD did not indicate significant differences in teacher knowledge of behavior, participants did note the modules to be beneficial and found the content to help them better distinguish between behaviors. The study reiterates that PD should not be a one-time event but a continuous process. Regular training sessions, follow-ups, and feedback mechanisms can ensure that teachers stay updated with the latest strategies and research findings in behavior management. Integrating comprehensive behavior management training into teacher education curricula, emphasizing both theory and practical application, can better prepare pre-service teachers for real-world classroom challenges. Future research should continue to explore other PD approaches that incorporate continuous training and feedback to ensure ECE teachers are well-equipped to foster positive developmental outcomes in their classrooms. Emphasizing SEL in teacher training programs can help teachers develop strategies to foster these skills in young children, which is crucial for managing behaviors effectively. As noted, prior, the PD should not be a one-time event but a continuous process. Regular training sessions and follow-ups can ensure that teachers remain updated with the latest strategies and research findings in behavior management. Teacher education programs should integrate comprehensive behavior management training into their curricula, emphasizing both theory and practical application. This will better prepare pre-service teachers for real-world classroom challenges.

Suggestions for Future Research

Building on the limitations identified, future research should prioritize the collection of detailed user data for the PD modules. Usability data, including metrics on how and when participants interact with the modules, can provide critical insights into the most effective ways to deliver content. Such data can inform the development of more tailored and adaptive learning experiences that better meet the needs of early childhood education (ECE) teachers. Other data analysis can include an item-by-item analysis of the *Teacher Knowledge of Behavior: Distinguishing Between Developmentally Appropriate and Maladaptive Behaviors in Young Children* survey. Such analysis could provide information on the specific strengths and weaknesses in participant knowledge, refine the PD program, and improve the measurement tools to ensure more effective training and better outcomes for early childhood education teachers. Future research should also explore innovative approaches to PD that leverage technology. Incorporating advanced educational technologies, such as interactive simulations, virtual reality, and adaptive learning platforms, could enhance the effectiveness and engagement of professional training programs. These technologies offer the potential to create more immersive and responsive learning environments, enabling teachers to practice and refine their skills in realistic, low-risk settings.

To validate and extend the findings of this study, replication in diverse educational settings is essential. Future research should involve a larger and more varied sample of ECE teachers, including those from different geographic regions and socio-economic backgrounds. This broader sampling will enhance the generalizability of the results and provide insights into how PD programs perform across different contexts. In addition, future studies should investigate the long-term impacts of PD programs on teacher practices and student outcomes. Longitudinal research can provide a more comprehensive understanding of how sustained PD

influences teaching behaviors and the developmental trajectories of children in ECE settings. Tracking teachers over an extended period will help determine whether the knowledge and skills acquired during PD are sustained and translated into improved classroom practices and student outcomes. Moreover, longitudinal studies can include other variables, such as classroom dynamics, teacher and student diversity, and teacher experiences. Finally, ensuring that the PD content is tailored to the specific needs and contexts of the teachers can enhance its relevance and effectiveness. Conducting needs assessments prior to PD design and involving teachers in the development process can ensure that the PD addresses their unique challenges and priorities.

To address the limitations identified in the present study, future iterations of the PD program should adopt a blended learning approach, combining online and face-to-face components. Participants expressed the impact of these factors, focusing more on in-service training and mindset, to impact how they view behavior. This approach can facilitate more dynamic and interactive learning experiences. Including sustained support mechanisms, such as ongoing coaching, mentorship, and peer collaboration, can help reinforce the learning and application of new strategies in real-world contexts. Incorporating active learning strategies, such as problem-solving activities, role-playing, and collaborative projects, can make the PD more engaging and effective. Teachers should have opportunities to practice new skills in simulated environments and receive constructive feedback to refine their practices

The present study utilized a Content Acquisition Podcast (CAP) model, which, while innovative, had limitations in fostering deep understanding. Future research should refine this model by integrating interactive and engaging elements. For instance, incorporating interactive webinars, live discussions, and practical workshops alongside podcasts can provide a more holistic learning experience. Tools that promote active learning and collaboration, such as

discussion forums, peer feedback mechanisms, and real-time case study analyses, should be incorporated to engage teachers more effectively. Moreover, the assessment tools used to measure teacher knowledge and behavior differentiation skills should be refined. Developing more sensitive and comprehensive assessment instruments that capture higher-order cognitive skills and practical application in classroom settings is crucial. These tools could include performance-based assessments, reflective journals, and classroom observation protocols to evaluate the practical implementation of learned strategies.

In conclusion, future research should focus on replicating and refining the present study by expanding the sample to include a more diverse group of early childhood education (ECE) teachers, thereby increasing the generalizability of the findings. Enhancing the PD design can be achieved by incorporating more interactive and engaging components, such as virtual simulations, real-time feedback, and collaborative learning opportunities. Integrating active learning components, such as hands-on activities, case studies, and role-playing scenarios, can further deepen teachers' understanding and application of behavior management strategies. Employing diverse methodologies, including longitudinal studies and mixed methods approaches, can provide a more comprehensive understanding of the long-term impacts and contextual factors influencing the effectiveness of PD programs. By addressing the identified limitations, such as the need for validated measures and detailed usability data, and incorporating these strategies, future studies can provide stronger evidence for the effectiveness of PD programs in equipping ECE teachers with the skills needed to differentiate and manage classroom behaviors effectively. This holistic approach will not only enhance the PD experience but also contribute to better educational outcomes for young children.

Appendix A - Rubric for Behavior Dimension Case Analysis Assignments

Identification of Behavior Quality (5 points)

- Target (5 points): Clearly and accurately defines the quality of behaviors (intensity, duration, frequency) with specific examples from the case study. Demonstrates a comprehensive understanding of the child's behaviors and their developmental implications.
- Acceptable (3 points): Mostly defines the quality of behaviors with some examples but lacks detail or precision in a few aspects. Shows a general understanding of the child's behaviors but misses some nuances.
- Unacceptable (1 point): Fails to define or inaccurately defines the quality of behaviors. Lacks specific examples and shows limited understanding of the child's behaviors and developmental context.

Distinguishing Between Developmentally Appropriate and Maladaptive Behaviors (5 points)

- Target (5 points): Precisely identifies and differentiates between developmentally appropriate and maladaptive behaviors, using detailed examples from the case study. Demonstrates a deep understanding of developmental norms and atypical behaviors.
- Acceptable (3 points): Identifies most behaviors correctly but may confuse or overlook some aspects of developmental appropriateness. Shows a general understanding but lacks depth in analysis.
- Unacceptable (1 point): Misidentifies or fails to distinguish between developmentally appropriate and maladaptive behaviors. Lacks clarity and depth in understanding developmental norms.

Targeted Behaviors of Focus with Justification (5 points)

- Target (5 points): Identifies two to three key behaviors needing intervention with clear, evidence-based justification. Demonstrates insight into the child's needs and potential educational impact of interventions.
- Acceptable (3 points): Identifies one to two behaviors with some justification but may lack depth or specificity in reasoning. Shows awareness of the child's needs but misses some critical areas.
- Unacceptable (1 point): Fails to identify relevant behaviors or provides weak or no justification. Shows limited insight into the child's specific needs or intervention impact.

Behavior Management Strategies and Justification (5 points)

- Target (5 points): Proposes 1-2 appropriate behavior management strategies for each identified behavior (total of 2-6 strategies). Strategies are well-aligned with the child's needs and case study context. Includes strong, evidence-based justification for each strategy.
- Acceptable (3 points): Proposes at least one appropriate strategy per behavior but may lack full alignment or depth in justification. Shows understanding of behavior management but could be more comprehensive or specific.
- Unacceptable (1 point): Fails to propose appropriate strategies or lacks justification. Shows limited understanding of effective behavior management or its application to the case study.

Total (20 points)

Appendix B - Demographic Questionnaire and Distinguishing Between Behaviors in Young Children in Early Childhood Classrooms Survey

Demographic Questionnaire

Race/Ethnicity
0. African American
0. White/Caucasian
0. Hispanic/Latinx
0. Native Hawaiian or Pacific Islander
0. Asian
0. Native American
0. Other/Unknown
0. I prefer not to answer

Gender
0. Male
0. Female
0. Transgender
0. Trans
0. Androgyne
0. Bigender
0. Genderfluid
0. Nonbinary
0. Other

Age
1. 18 – 25
2. 25 – 35
3. 35 – 45
4. 45 and older

Teaching experience (can be student teaching, internship, or any instructional experience with children)
0. 0 -5 years
0. 5 – 10 years
0. 10 – 15 years
0. 20 + years

What type of teacher education program are you currently enrolled in or have graduated with?
0. Early Childhood Education
0. Early Childhood Special Education
0. Dual program (early childhood education/early childhood special education)

Teacher Knowledge of Behaviors: Distinguishing Between Behaviors in Young Children in Early Childhood Classrooms - Created using Wakschlag's research (researcher developed)

Directions: Please read each question thoroughly. Read each question as if you were currently employed in an early childhood/ preschool setting.

Part 1: [IDENTIFYING BEHAVIORS: Q1 - Q6 will be used to answer the first research question]

Q 1: Which of the following is NOT a characteristic of maladaptive behavior?

A. High frequency across various settings
B. Mild intensity and quickly calms down
C. Prolonged duration and difficult to de-escalate
D. Negative emotionality including anxiety and jealousy

Q 2: A behavior that occurs daily, lasts for prolonged periods, and is intense is likely to be:

A. Developmentally appropriate
B. Maladaptive
C. Both A and B
D. Neither A nor B

Q3: Match each behavior description of preschool children (ages 3 - 5) to the correct category: Developmentally Appropriate (No Risk), Somewhat Concerning (Minimal Risk), or Maladaptive (At-Risk).

Behavior Description	Categories
1. Brief, infrequent tantrums	A. No Risk
2. Persistent sadness occurring more than 4-6 times a week	B. Minimal Risk
3. Intense, prolonged tantrums lasting several minutes	C. At-Risk
4. Mild shyness in new situations	
5. Consistent avoidance of social interaction	
6. Frequent opposition to rules	
7. Defiance in most situations	
8. Brief periods of inattention	

9. Inability to focus even in short activities	
10. Typical clumsiness in physical activities	
11. Significant coordination issues	
12. Developing language skills appropriate for age	
13. Noticeably behind in basic communication skills	
14. Mild distress with routine changes	
15. Extreme distress or tantrums during routine changes	

Key:
A. Developmentally Appropriate (No Risk)
B. Somewhat Concerning (Minimal Risk)
C. Maladaptive (At-Risk)

Q4: Which of the following best describes factors that contribute to the development of maladaptive behaviors in school-aged children?
A) Maladaptive behaviors are primarily influenced by the child's immediate environment and are not related to developmental factors.
B) Maladaptive behaviors are differentiated from normative misbehaviors based on their developmental context and qualitative features, with intense, dysregulated behaviors in unexpected contexts being considered more severe.
C) Maladaptive behaviors are typically a direct result of poor parenting practices and have little to do with the child's developmental stage.

D) Maladaptive behaviors in children are always indicative of underlying psychological disorders and require immediate intervention.

Q5: Imagine a young child in your class is non-compliant (i.e., is slow to follow directions when switching activities, refuses to pick up toys when asked, refuses to participate in large group activities when asked). Why might these behaviors be occurring?

A. These behaviors are typical in early childhood classrooms and should decrease without intervention as children near kindergarten.
B. These behaviors are due to parent-child interactions that develop at home and carry over to the classroom setting.
C. These behaviors are due to teacher-child interactions that develop in the classroom.

D. These behaviors can be indicative or more than typical misbehaviors depending on the severity, frequency, and duration of these behaviors.
E. All of the above
F. None of the above (please indicate why you think these behaviors are occurring)
_____

Q6: A teacher recorded a child's behavior during the day. Here is the data below:

+ = occurred - = did not occur

Time	Yelling (+/-)	Crying (+/-)	Stamping feet (+/-)
1:00 - 1:02	+	+	+
1:02 - 1:04	+	+	-
1:04 - 1:06	-	+	+
1:06 - 1:08	-	-	-
1:08 - 1:10	+	-	-

Notes: The child was asked to return to the circle for circle time after engaging in outdoor play. The child continuously shouted 'no' and it was difficult to calm the child down. The teacher assistant sat with the child until they were able to calm themselves down and return to circle time (about six minutes total).

Based on the data, do you think this behavior is developmentally appropriate or indicative of maladaptive behavior?

A. There is not enough information to make an informed decision.
B. This is more indicative of maladaptive behavior because of how long each behavior occurred.
C. These behaviors are developmentally appropriate because children are becoming more autonomous.

Part 2: [APPLICATION OF KNOWLEDGE: Q7 - Q16 will be used to answer the second research question]

Q7: Rate the following behaviors on a scale from 1 (low intensity) to 5 (high intensity):

- Child yells and stomps feet with closed fists
- Child takes toys from other children saying "mine"
- Child bites a peer during a conflict

Q 8: For the given behaviors, classify them as 'Occasional', 'Frequent', 'Short-lived', or 'Prolonged':

- Child throws tantrums when transitioning from play to mealtime up to several times a week.
- Child shows aggressive behavior like hitting in various situations
- Child becomes mildly resistant when hungry

Instructions: Please rate your agreement with the following statements based on your understanding of developmentally appropriate and maladaptive behaviors in preschool children (ages 3-5). Use the scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Q 9: "Brief, infrequent tantrums are a normal and expected aspect of preschool development."

Q 10:"Persistent noncompliance and defiance in most situations are typical and developmentally appropriate behaviors for preschool children."

Q 11: "Intense, prolonged tantrums are indicative of maladaptive behavior and may signal developmental concerns in preschool-aged children."

Q 12: "Mild shyness in new situations is indicative of at-risk behavior and is a cause for concern in preschool children."

Q 13: "Frequent crying for no clear reason in a preschool child may indicate somewhat concerning behavior that warrants further observation and understanding."

Q 14: "Extreme distress or tantrums during routine changes are a normal part of development and should be expected in preschool children.

PART 3 Instructions: For each scenario, please choose the most appropriate response from the multiple-choice options or provide a brief answer as instructed.

Q 15: Tommy, a four-year-old in your class, frequently hits other children during playtime. He seems to get frustrated easily and has difficulty in sharing toys.

What approach would you take to address Tommy's behavior?

A. Implement a time-out every time Tommy hits another child.

B. Observe and identify triggers for Tommy's behavior, then teach him alternative ways to express frustration.

C. Encourage peer-mediated intervention where other children tell Tommy that hitting is wrong.

D. Focus solely on positive reinforcement when Tommy is not hitting.

Q 16: Lily, a three-and-a-half-year-old, often sits alone during group activities and rarely interacts with peers. She appears to be withdrawn and does not express her needs.

Short Response: What strategies would you employ to support Lily's social and emotional development?

Q 17: You notice that Kevin, a five-year-old, often disrupts the class by shouting and running around during quiet activities. He struggles to focus and follow instructions.

How would you modify the classroom environment or routine to better accommodate Kevin's needs?

A. Increase physical activity and movement-based learning opportunities.

B. Strictly enforce rules and consequences for disruptive behavior.

C. Provide individual tasks for Kevin to keep him occupied.

D. Ignore the behavior as seeking attention.

Part 4: [EDUCATOR PREPARATION (Social Validity): Q18 - Q20 will be included in the post-assessment and will be used to answer the third research question]
Instructions: Please rate your agreement with the following statements about teacher preparation programs. Use the scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Q 18: I feel confident in my ability to consider contextual factors (such as family background and classroom environment) when assessing a child's behavior.

Q 19: I can effectively distinguish between developmentally appropriate misbehaviors and potential maladaptive behaviors in young children.

Q 20: I am comfortable evaluating the intensity of behaviors to determine if they are typical for a child's developmental stage.

Q 21: I am capable of assessing the frequency and duration of a child's behavior to understand its developmental appropriateness.

Q 22: I believe I would benefit from more professional development regarding the assessment of early childhood behavior.

Q 23: Please describe how your knowledge of behaviors in young children has/has not changed after this training? Specifically, how do you view behaviors (both internalizing and externalizing) after participating in the professional development?
Ending: Thank you for your participation in this survey!

Appendix C - Coping with Children's Negative Emotions Scale (CCNES - Fabes et al., 2002)
ID _____

Teacher Attitude/Behavior Questionnaire

Instructions: In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7.

Response Scale: 1(Very Unlikely) 2 3 4(Medium) 5 6 7(Very Likely)

---

1. If my student becomes angry because he/she is unable to participate in a classroom social activity (such as a field trip), I would:

a. Send my student to a different room to cool off 1 2 3 4 5 6 7

b. Get angry at my student 1 2 3 4 5 6 7

c. Help my student think about other ways that he/she can participate (e.g. participate in a different activity) 1 2 3 4 5 6 7

d. Tell my student not to make a big deal out of missing the activity 1 2 3 4 5 6 7

e. Encourage my student to express his/her feelings of anger and frustration 1 2 3 4 5 6 7

f. Soothe my student and do something fun with him/her to make him/her feel better about missing the activity 1 2 3 4 5 6 7

2. If my student accidentally damages some classroom materials, and then gets upset and cries, I would:

a. Remain calm and not let myself get anxious 1 2 3 4 5 6 7

b. Comfort my student and try to get him/her to forget about the accident 1 2 3 4 5 6 7

c. Tell my student that he/she is over-reacting 1 2 3 4 5 6 7

d. Help my student figure out how to fix the materials 1 2 3 4 5 6 7

e. Tell my student it's ok to cry 1 2 3 4 5 6 7

f. Tell my student to stop crying or he/she won't be allowed to play on the equipment anytime soon 1 2 3 4 5 6 7

3. If my student loses some prized possession and reacts with tears, I would:

a. Get upset with him/her for being so careless and then crying about it 1 2 3 4 5 6 7

b. Tell my student that he/she is over-reacting 1 2 3 4 5 6 7

c. Help my student think of places he/she hasn't looked yet 1 2 3 4 5 6 7

d. Distract my student by talking about happy things 1 2 3 4 5 6 7

e. Tell him/her it's ok to cry when you feel unhappy 1 2 3 4 5 6 7

f. Tell him/her that's what happens when you're not careful 1 2 3 4 5 6 7

4. If my student is afraid of injections and becomes quite shaky and teary while waiting for his/her turn to get a shot at the nurses office, I would:

a. Tell him/her to shape up or he/she won't be allowed to do something he/she likes to do (e.g., have recess) 1 2 3 4 5 6 7

b. Encourage my student to talk about his/her fears 1 2 3 4 5 6 7

c. Tell my student not to make big deal of the shot 1 2 3 4 5 6 7

d. Tell him/her not to embarrass us by crying 1 2 3 4 5 6 7

e. Comfort him/her before and after the shot 1 2 3 4 5 6 7

f. Talk to my student about ways to make it hurt less (such as relaxing so it won't hurt or taking deep breaths). 1 2 3 4 5 6 7

Response Scale: 1(Very Unlikely) 2 3 4(Medium) 5 6 7(Very Likely)

---

5. If my student is doing some difficult work and becomes nervous and upset because I can't stay beside him/her, I would:

a. Distract my student by talking about how easy it would be for him/her to do the work alone 1 2 3 4 5 6 7

b. Help my student think of things that he/she could do so that working independently me wasn't intimidating (e.g., talk him/herself through the problems) 1 2 3 4 5 6 7

c. Tell my student to quit over-reacting and being childish 1 2 3 4 5 6 7

d. Tell the student that if he/she doesn't stop that he/she won't be allowed to have free time that day 1 2 3 4 5 6 7

e. Feel upset and uncomfortable because of my student's reactions 1 2 3 4 5 6 7

f. Encourage my student to talk about his/her nervous feelings 1 2 3 4 5 6 7

6. If my student is participating in some group activity with his/her friends and proceeds to make a mistake and then looks embarrassed and on the verge of tears, I would:

a. Comfort my student and try to make him/her feel better 1 2 3 4 5 6 7

b. Tell my student that he/she is over-reacting 1 2 3 4 5 6 7

c. Feel uncomfortable and embarrassed myself 1 2 3 4 5 6 7

d. Tell my student to straighten up or he/she will have to leave the group 1 2 3 4 5 6 7

e. Encourage my student to talk about his/her feelings of embarrassment 1 2 3 4 5 6 7

f. Tell my student that I'll help him/her practice so that he/she can do better next time 1 2 3 4 5 6 7

7. If my student is about to appear in a recital or sports activity and becomes visibly nervous about people watching him/her, I would:

a. Help my student think of things that he/she could do to get ready for his/her turn (e.g., to do some warm-ups and not to look at the audience) 1 2 3 4 5 6 7

b. Suggest that my student think about something relaxing so that his/her nervousness will go away 1 2 3 4 5 6 7

c. Remain calm and NOT get nervous myself 1 2 3 4 5 6 7

d. Tell my student that he/she is being childish about it 1 2 3 4 5 6 7

e. Tell my student that if he/she doesn't calm down, he/she will not be able to participate 1 2 3 4 5 6 7

f. Encourage my student to talk about his/her nervous feelings 1 2 3 4 5 6 7

8. If my student receives an undesirable gift or card from a friend and looks obviously disappointed, even annoyed, after opening it in the presence of the friend, I would:

a. Encourage my student to express his/her disappointed feelings 1 2 3 4 5 6 7

b. Tell my student that the present can be exchanged for something the student wants 1 2 3 4 5 67

c. NOT be annoyed with my student for being rude 1 2 3 4 5 6 7

d. Tell my student that he/she is overreacting 1 2 3 4 5 6 7

e. Scold my student for being insensitive to the friend's feelings 1 2 3 4 5 6 7

f. Try to get my student to feel better by doing something fun 1 2 3 4 5 6 7

Response Scale: 1(Very Unlikely) 2 3 4(Medium) 5 6 7(Very Likely)

---

9. If my student is panicky and can't concentrate after talking with another student about something that was frightening to him/her, I would:

a. Encourage my student to talk about what was frightening 1 2 3 4 5 6 7

b. Get upset with him/her for being silly 1 2 3 4 5 6 7

c. Tell my student that he/she is over-reacting 1 2 3 4 5 6 7

d. Help my student think of something to do so that he/she can get to work (e.g., not think about it, focus on working) 1 2 3 4 5 6 7

e. Tell him/her to go to bed or he/she won't be allowed to talk with that friend in school 1234567

f. Do something fun with my student to help him/her forget about what scared him/her 1234567

10. If my student is at recess and appears on the verge of tears because the other children are mean to him/her and won't let him/her play with them, I would:

a. NOT get upset myself 1 2 3 4 5 6 7

b. Tell my student that if he/she starts crying then he/she will have to sit out. 1 2 3 4 5 6 7

c. Tell my student it's ok to cry when he/she feels bad 1 2 3 4 5 6 7

d. Comfort my student and try to get him/her to think about something happy 1 2 3 4 5 6 7

e. Help my student think of something else to do 1 2 3 4 5 6 7

f. Tell my student that he/she will feel better soon 1 2 3 4 5 6 7

11. If my student is playing with other children and one of them calls him/her names, and my student then begins to tremble and become tearful, I would:

a. Tell my student not to make a big deal out of it 1 2 3 4 5 6 7

b. Feel upset myself 1 2 3 4 5 6 7

c. Tell my student to behave or he/she will have to leave the game 1 2 3 4 5 6 7 d. help my student think of constructive things to do when other children tease him/her (e.g., find other things to do) 1 2 3 4 5 6 7

e. Comfort him/her and play a game to take his/her mind off the upsetting event 1 2 3 4 5 6 7

f. Encourage him/her to talk about how it hurts to be teased 1 2 3 4 5 6 7

12. If my student is shy and scared around strangers and consistently becomes quiet and withdrawn whenever visitors come to the classroom, I would:

a. Help my student think of things to do that would make meeting new people less intimidating. 1 2 3 4 5 6 7

b. Tell my student that it is OK to feel nervous 1 2 3 4 5 6 7

c. Try to make my student happy by talking about how much fun it is to meet new people 1 2 3 4 5 6 7

d. Feel upset and uncomfortable because of my student's reactions 1 2 3 4 5 6 7

e. Tell my student that he/she must interact with visitors appropriately 1 2 3 4 5 6 7

f. Tell my student that he/she is being childish or immature 1 2 3 4 5 6 7

Appendix D - Focus Group Discussion Protocol

Welcome!

Today, we will briefly discuss your experience with students in early childhood settings. Specifically, I will ask you about your knowledge and perceptions regarding identifying typical and atypical behaviors in young children. I will be recording the audio of this discussion so I can capture everything that was said and discussed. Your name and other identifiers will be removed to maintain anonymity.

Introduction: My name is Michela Carattini and I will be guiding our discussion today. I would like to hear from as many of you as possible as your input is invaluable to the future revisions of this professional development.

To participants: Let's take a moment and introduce ourselves. Tell us: (a) your name (or pseudonym), (b) your major or your highest degree held, and (c) current teaching role, paraprofessional role, or any prior experience working with children in preschool grade classrooms.

To help with our discussion today, here are a few rules:

1. Please participate in this discussion. There are no right or wrong answers. Everyone's thoughts, opinions and experiences are valid. Please speak up if you disagree or agree.

3. What is discussed in this room stays here in this room. Once we leave today, we ask that you respect other's experiences and opinions and keep our discussion confidential.

4. This discussion will be recorded. I want to capture everything you have to say.

5. Please mute yourself if you are not speaking so we are able to hear the speaker and we can obtain an accurate audio recording

6. You can choose to keep your camera on or off depending on your level of comfort.

Questions

Knowledge Assessment:

1. How would you define developmentally appropriate behaviors displayed by young children?

Post- Intervention: How would you define developmentally appropriate behaviors displayed by young children? And how has this definition changed or not changed after participating in the professional development modules?

    0. Can you provide an example of behaviors you consider typical for children of a preschool age group.

2. How would you define maladaptive behaviors in the context of young children's behavior?

Post- Intervention: How would you define maladaptive behaviors displayed by young children? And how has this definition changed or not changed after participating in the professional development modules?

    0. Can you provide an example of behaviors that you would classify as maladaptive for children of the same age group?

Perceptions and Attitudes:

1. What challenges do you believe teachers face when it comes to identifying maladaptive behaviors in young children?
2. Do you feel confident in your ability to identify and respond to behaviors you see in the classroom?

Post - Intervention: Has your confidence changed at all after participating in the modules?

Ability and Application:

1. Can you describe any specific strategies or techniques you have used, currently use, or may use in the future to identify and address behaviors in your classroom?
2. How do you perceive your ability to identify developmentally appropriate behaviors and maladaptive behaviors in young children?

Post - Intervention: Has this perception changed after participating in the modules?

3. Have you received any professional development or training related to identifying and addressing atypical behaviors in young children?

Post-Intervention: Do you believe the concepts learned in the professional development modules will be beneficial as you work with young children?

Closing

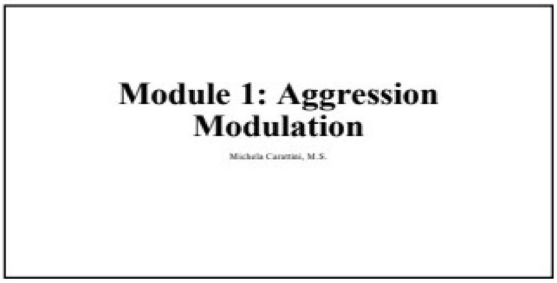
Thank you all for your participation in this study. I appreciate your honesty and willingness to share your thoughts, opinions, and experiences.

If you have any questions or concerns, please feel free to contact me at any point.

Appendix E - Screenshot of Qualitative Codebook

	THEMES	Theme Definition	Example (from transcripts)	POST- FOCUS GROUP QUOTES		
2	Identifying Behaviors	Description or definition of developmentally appropriate and maladaptive behaviors	" I would define maladaptive behavior as kind of something that interferes with daily life or the activity. And I think, my perception, it's changed because I see now that It's not just about the behavior itself,	"developmentally appropriate behaviors is – it would when a child doesn't get their way. They tend to throw a tantrum. But that tantrum is not gonna be persistent in and the longevity of it. And, you know, once you	"Some of them do have to do with them not being maladaptive behaviors when there's a lack of support from the parents or guidance or teaching. And some of them are not even because of that. It's just because there's	" I wo kind life o perce that I
3	Application of Knowledge	Discussion of duration, frequency, and/or intensity of behavior; makes distinctions between developmentally appropriate and maladaptive behavior	I would say. Kids often don't like to share. So if they had to share something like their favorite toy or something, then throwing a tantrum, but having the tantrum does not last a long time and maybe it's not as common for them, like, to throw tantrums	Some of them do have to do with them not being maladaptive behaviors when there's a lack of support from the parents or guidance or teaching. And some of them are not even because of that. It's just because there's something else more -- more profound in	What are the triggers? What, when do they happen? Is it something specific? Is it during a transition time that they are not being able to cope with living where they're doing and they're happy with what they're doing and having to put a pause or an end to that	"And out fo malad havin
4	Behavior Strategies	Mention of ways to respond to behavior; mention of behavior strategies such as FBA, BIP, SEL (i.e., emotional regulation)	it's the self-regulating, self-regulation in a child that has to be taught. If you see that the child is not self-regulating, then we do need to like like Ms. SG said, we do need to get into invention and some kind of help.	"There's been the online one I can't think [of the name]. And there's another one called Boys Something. It's been a while. It's been a while. Hmm. But I have been to some."	And I develop a, a plan where we he has a little card in his a token board and -- I did everything. I laminated. I gave it to her. But she's not implementing it. So I implemented in my room when he comes to resource. He does it and it's beautiful. You know, every	really for in I prin I lami don't
5	Educator Preparation	Mention of any education al training (e.g., in-service training or pre-service training)	"There's been an online one I can't think [of the name]. And there's another one called Boys Something. It's been a while. It's been a while. Hmm. But I have been to some."	When I attended those, they helped at the moment. But I do see the behaviors that I'm seeing now back then. The behaviors they are happening now are not the same behaviors that were happening before. There are, I guess, maybe because there's so	I would just say like education, they [teachers] just don't really have the knowledge that they need to be able to fully be able to identify them.	more I'm a, has th up on other
6	Potential Themes - (not in the survey, but interesting)					
7	Teacher Challenges to Idenitfying Behaviors	Challenges to identifying behaviors (e.g., homelife, classroom dynamics, student-teacher relationship..)	"it's student- teacher ratio mostly. In some of these classrooms – there's not enough teachers per the amount of kids that they have and to stay on task."	They need the train the staff to be trained because you see Miss G is working on doing it and then there this inconsistency that's not good for the child because now we're given this chil two different signals. We're not being consistent if they're doing it that way. And that really it makes me sad. So yeah, I've just been getting trainings on the		

Appendix F – Professional Development: Aggression Modulation Module



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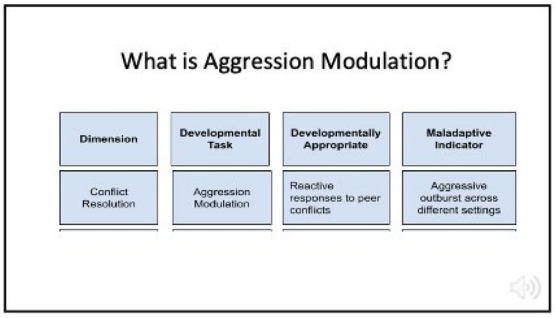

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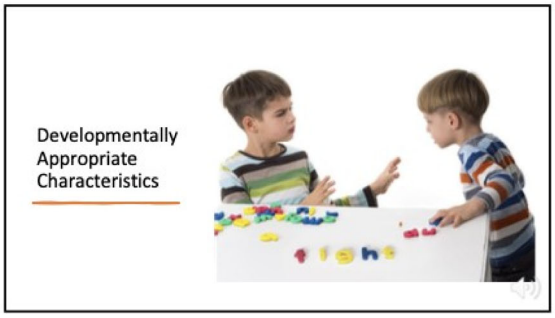


4

"The developmental task of this domain is aggression modulation. The developmental task for this domain focuses on the child's adaptive problem-solving skills. Aggression tends to appear during the first year of life as a developmentally appropriate expression of anger and remains a developmentally suitable reaction to irritation and peer disagreements throughout early childhood. Aggression in children can sometimes be seen quite often (frequency), and it can seem hostile or even happen before there's any real threat. This is different from normal aggression. By the time a child is about a year and a half old, you can usually tell the difference."
"The key point here is that by the age of 18 months, it is possible to distinguish between aggression that is a normal part of development and aggression that may indicate underlying issues. In typical development, aggression can be a way for very young children to express frustration or to respond to peer conflicts. This type of aggression usually decreases as children grow and develop better language and social skills. However, if by 18 months the aggression is still frequent, hostile, and proactive, it may be an early indicator of behavioral problems that could persist or worsen if not addressed."

"Developmentally appropriate characteristics tend to be reactive and often in response to peer conflict. These behaviors are not frequent, usually increase at age two, and decline across the preschool period beginning at around age three to three and a half. The rate of aggression tends to be low and inconsistent."

"Young children are still learning the complex skills of social interaction. They may not yet fully understand the concept of sharing or waiting their turn and may resort to grabbing objects they want to play with. This is a normal part of their social and emotional development. For example, a child grabs and forcibly pulls some magnetic letters from another peer's hands because he wants to play with them immediately. Children in early childhood settings are just beginning to learn how to have a good relationship with others. They don't always "know better" because they haven't learned the "better" yet.

Source: from the article "Using Guidance Instead of Discipline" by Dan Gartrell, published in Teaching Young Children, a magazine by NAEYC.
https://www.naeyc.org/resources/pubs/tyc/summer2021/discipli

5

"In assessing children's behavior, we often look at how often it happens (frequency), how long it lasts (duration), and how intense it is (intensity). But it's crucial to recognize that a behavior doesn't have to be frequent, long-lasting, and intense all at once to raise concerns. For example, a child's behavior that is very intense, even if it happens just occasionally, could still be a sign that something is amiss, and that the child might need additional support. Similarly, a behavior that happens frequently and is out of step with what's expected developmentally, even if it's not particularly intense or long-lasting, can also be a signal worth paying attention to. ***It's the pattern and the context of the behavior that give us the full picture, not just the presence of all three characteristics together. Keep this in mind as we discuss each behavior dimension.***"

6

"I want to connect back to our pre-module discussion on Wakschlag's framework. Remember, the three areas of socio-emotional and behavioral functioning are behavioral control, emotion modulation, and social orientation. Let's look at each in terms of *intensity, duration, and frequency* of behaviors:

7

Frequency: Behaviors may be considered maladaptive when they occur more frequently than what is developmentally expected, such as *several times (4-6 times) a week to multiple times a day and/or is consistent across different settings*.

8

Duration: Maladaptive behaviors are also characterized by their length. Tantrums or episodes of aggression that *last significantly longer than a few minutes daily up to a daily occurrence 4 to 6 days a week. These behaviors tend to be destructive and difficult to de-escalate*.

9

Intensity: In terms of intensity, behaviors that are *excessively forceful, threatening, or harmful (i.e., hitting, biting, scratching) compared to the mild and more controlled expressions of frustration (grabbing an object forcefully or reactive shoving)* typical in young children are indicators of maladaptive behavior.

Now, connecting this to Wakschlag's developmental framework:
Behavioral Control: A child with maladaptive aggression may frequently respond with intense aggression when upset, showing these behaviors across various settings and over time. This aligns with the concept of behavioral control, which refers to how well a child can manage their actions, especially when they need to follow social rules or when they feel strong emotions. On the other hand, a child displaying developmentally appropriate behavior in this domain might occasionally assert themselves but still show self-restraint and calm down quickly.
Emotion Modulation: Maladaptive behavior in this area could involve intense responses to minor frustrations, taking a long time to recover from emotional distress, escalating quickly to angry outbursts, and maintaining a generally negative mood. This is consistent with the concept of emotional modulation, which refers to how strongly and for how long a child reacts to something that makes them feel very emotional, and whether their reaction fits the situation. Conversely, a child showing developmentally appropriate behaviors in emotion modulation might experience frustration but maintains a positive demeanor and regains composure swiftly after upsets.
Social Orientation: Disruptive behaviors in this area might include a lack of empathy, responding in a consistently irritable and hostile way to social interactions, and engaging in antisocial behaviors. This aligns with the concept of social orientation, which is about how much a child pays attention to, cares about, and wants to be involved with the people around them. In contrast, a child displaying developmentally appropriate behaviors would show an interest and engagement in social interactions, use social strategies like asking for help, and exhibit prosocial behaviors such as kindness.

By observing a child's behaviors in these areas, we can gain insights into their socio-emotional and behavioral functioning and provide appropriate support and intervention when necessary.

10

"Here is the first example of developmentally appropriate characteristics:
Example 1: Three-year-old Mandy child shoves a peer who cuts in front of her in line.

11

The **frequency** of this behavior might be occasional, as it only happens when a peer cuts in line. The **duration** is short, as the child's reaction is immediate and doesn't last long. The **intensity** can vary, but in this case, it's moderate - the child is upset enough to shove, but not to the point of throwing a tantrum or escalating the conflict further.

12

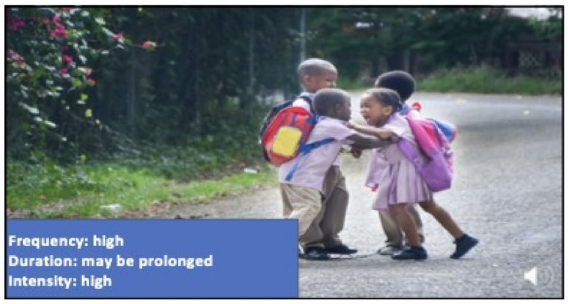
Example 2: A two-year-old child frequently says "mine" and take toys from other children. This increase in possessiveness and resulting aggressive behavior is typical around this age."

13

The **frequency** of this behavior is high, as the child is in a stage where they are asserting their independence and ownership. The **duration** can be prolonged, as the child may insist on keeping the toy for a significant amount of time. The **intensity** is relatively low - the child is assertive but not overly aggressive or violent. They're simply expressing their

14

"Now here is the first non-example of these characteristics: Example 1: A four-year-old bites a peer's arm when they do not get an item, he wants from them along with shouting and whining for several minutes. This happens to multiple peers in different settings such as recess, in the art room, and in the classroom.



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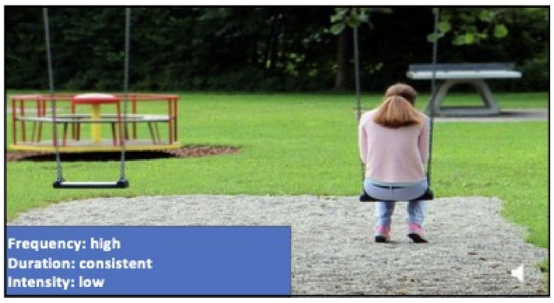
These behaviors are an overreaction and is not a direct response to a specific situation of peer conflict. The **frequency** of this behavior is high, as it happens consistently across different situations. The **duration** is likely prolonged, as the child may remain upset or aggressive for a significant amount of time after the triggering event. The **intensity** is high, as the child is resorting to physically aggressive behaviors like biting or hitting.

16

Example 2: During playtime, peers take a child's toys without asking or cut in front of her in line for the slide. However, the child never stands up for herself. She doesn't express her displeasure or ask for her toys back, and she doesn't assert her place in line. Even when other children are clearly in the wrong, the child remains passive.

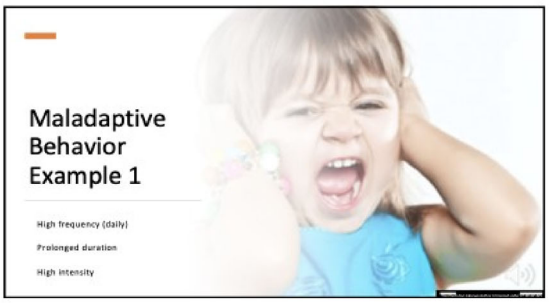


17

The **frequency** of this behavior is high, as it happens in most situations where assertiveness is required. The **duration** is consistent, as her passivity persists over time. The **intensity** is low, as she shows little to no reaction in these situations. This behavior prevents the child from effectively navigating social situations and standing up for her rights. While aggression is not desirable, a certain degree of assertiveness is necessary for healthy social interactions. By not asserting herself, she may be taken advantage of by her peers, which can lead to feelings of frustration, helplessness, and low self-esteem. It's important for children like Lily to learn and practice assertiveness skills, so they can stand up for themselves in a respectful and appropriate manner.

18

"Here are some examples of maladaptive indicators: Example 1: Jason, a four-year-old preschooler, hits other children and throws toys across the room almost every day, regardless of the context, such as during both structured and unstructured activities.



19

These outbursts are intense, lasting more than several minutes each time, and are not mitigated by adult intervention or redirection.

20

Example 2: Another four-year-old preschooler, Maddie, experiences a minor setback, like a puzzle piece not fitting, and reacts by screaming loudly and cannot be consoled or distracted, continuing the behavior for an extended period well beyond the few minutes, showing this pattern multiple times a week."

21

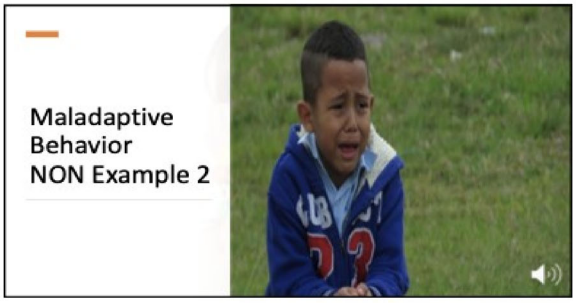
Example 2: This happens multiple times a week (frequency) and is high in intensity, with loud screaming and difficulty being consoled or distracted and the duration is well beyond a few minutes."

22

Here are some non-examples of maladaptive indicators: Example 1: A child occasionally shows frustration when a classmate takes their toy by grabbing it back or shouting but is usually able to move on after a brief moment of guidance from a teacher, without the behavior repeating frequently or intensifying.

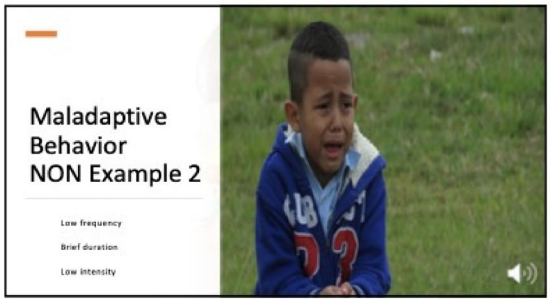
23

This behavior did not happen often and was brief. The behavior is not severe or intense. Although they may scream or grab the toy, they are easily redirected with guidance from the teacher.



24

Non- example 2: Another child, Devon, might show disappointment by pouting or briefly complaining (less than 5 minutes) when they lose a game but then is open to consolation from a caregiver or teacher and quickly returns to a neutral or positive state, ready to try again or engage in a different activity.



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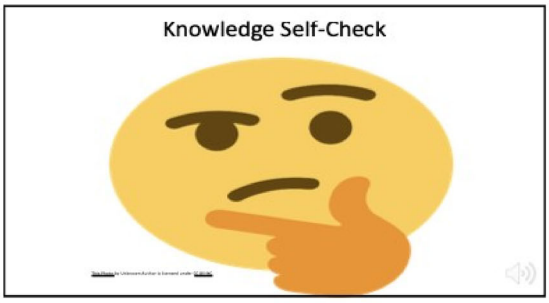
Again, this is not frequent; the behavior occurred when they lost a game. The complaints and disappointment were brief, and low in intensity.



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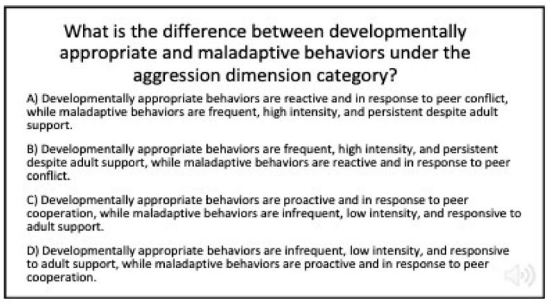
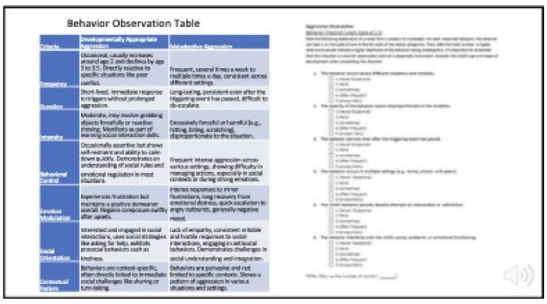


27

You can pause here and take time to reflect on the following question. This will not affect your grade: What is the difference between developmentally appropriate and maladaptive behaviors under the aggression dimension category?
A) Developmentally appropriate behaviors are reactive and in response to peer conflict, while maladaptive behaviors are frequent, high intensity, and persistent despite adult support.
B) Developmentally appropriate behaviors are frequent, high intensity, and persistent despite adult support, while maladaptive behaviors are reactive and in response to peer conflict.
C) Developmentally appropriate behaviors are proactive and in response to peer cooperation, while maladaptive behaviors are infrequent, low intensity, and responsive to adult support.
D) Developmentally appropriate behaviors are infrequent, low intensity, and responsive to adult support, while maladaptive behaviors are proactive and in response to peer cooperation.
The answer is A: Developmentally appropriate behaviors are reactive and in response to peer conflict, while maladaptive behaviors are frequent, high intensity, and persistent despite adult support.



28

Following this module, there will be a few handouts that you can use to observe behaviors: a behavior checklist (on a 1-5 likert scale) and a behavior observation table.
A few things to highlight:
This table is a guideline to help practitioners distinguish between developmentally appropriate and maladaptive aggression.
It's essential to consider the overall pattern and context of the behavior, rather than isolated incidents.
The child's age, developmental stage, and individual differences should be considered.
Continuous monitoring and re-evaluation are crucial for an accurate understanding of the child's behavior and development.
Both the likert scale and the observation table serve as a tool for observation. They are not a diagnostic instrument.

Also, think about these questions as you observe behaviors:

Frequency of Behavior: How often does the behavior occur? Is it an isolated incident or does it happen repeatedly? Maladaptive behaviors tend to occur frequently, across different situations and contexts.

Intensity of Behavior: How severe is the behavior? Does it seem disproportionate to the situation? Maladaptive behaviors are often intense and may seem excessive compared to typical reactions.

Duration of Behavior: How long does the behavior last? Does it persist even after the triggering event has passed? Maladaptive behaviors often have a prolonged duration and may continue despite attempts at intervention or redirection.

Context of Behavior: Does the behavior occur in multiple settings (e.g., home, school, with peers)? Maladaptive behaviors are pervasive and not limited to a specific context or situation.

Response to Intervention: How does the child respond to adult intervention or redirection? Maladaptive behaviors often persist despite attempts at intervention or redirection.

Impact on Functioning: Does the behavior interfere with the child's social, academic, or emotional functioning? Maladaptive behaviors often lead to difficulties in various areas of functioning.

29

"To review, this module was aimed at helping you differentiate between developmentally appropriate and maladaptive aggressive behaviors in young children. The criteria for identifying maladaptive behaviors include the frequency (several times a week or daily), duration (lasting longer than a few minutes), and intensity (excessively forceful or harmful actions) of such behaviors.

"Developmentally appropriate behaviors are presented as reactions to peer conflict, such as a three-year-old shoving in response to being cut in line, or a two-year-old claiming toys as "mine" – both are typical for their age. On the contrary, maladaptive indicators are exemplified by a preschooler showing daily aggressive outbursts or a child unable to calm down after minor setbacks."

30

Thank you for your participation in this week's module! Please continue to the Aggression Modulation case study."

Appendix G: Module Handouts

Aggression Modulation

Behavior Checklist (Likert Scale of 1-5)

Rate the following statements on a scale from 1 (Never) to 5 (Always). For each observed behavior, the observer can rate it on the scale of one to five for each of the below categories. Then, tally the total number. A higher total score would indicate a higher likelihood of the behavior being maladaptive. *It's important to remember that this checklist is a tool for observation and not a diagnostic instrument. Consider the child's age and stage of development when completing this checklist*:

1. **The behavior occurs across different situations and contexts.**

- 1 (Never/Occasional)
- 2 (Rare)
- 3 (Sometimes)
- 4 (Often Frequent)
- 5 (Always Daily)

2. **The severity of the behavior seems disproportionate to the situation.**

- 1 (Never/Occasional)
- 2 (Rare)
- 3 (Sometimes)
- 4 (Often Frequent)
- 5 (Always/ Daily)

3. **The behavior persists even after the triggering event has passed.**

- 1 (Never/Occasional)
- 2 (Rare)
- 3 (Sometimes)
- 4 (Often Frequent)
- 5 (Always/Daily)

4. **The behavior occurs in multiple settings (e.g., home, school, with peers).**

- 1 (Never/ Occasional)
- 2 (Rare)
- 3 (Sometimes)
- 4 (Often Frequent)
- 5 (Always/Daily)

5. **The child's behavior persists despite attempts at intervention or redirection.**

- 1 (Never/ Occasional)
- 2 (Rare)
- 3 (Sometimes)
- 4 (Often Frequent)
- 5 (Always/Daily)

6. **The behavior interferes with the child's social, academic, or emotional functioning**
   - 1 (Never/ Occasional)
   - 2 (Rare)
   - 3 (Sometimes)
   - 4 (Often Frequent)
   - 5 (Always/Daily)

TOTAL (Tally up the number of 'points'): _____

Behavior Observation Table (Aggression Modulation)

Behavioral Characteristic	Developmentally Appropriate Aggression	Maladaptive Aggression
Frequency	Occasional, usually increases around age 2 and declines by age 3 to 3.5. Directly reactive to specific situations like peer conflict.	Frequent, several times a week to multiple times a day, consistent across different settings.
Duration	Short-lived, immediate response to triggers without prolonged aggression.	Long-lasting, persistent even after the triggering event has passed, difficult to de-escalate.
Intensity	Moderate, may involve grabbing objects forcefully or reactive shoving. Manifests as part of learning social interaction skills.	Excessively forceful or harmful (e.g., hitting, biting, scratching), disproportionate to the situation.
Behavioral Control	Occasionally assertive but shows self-restraint and ability to calm down quickly. Demonstrates an understanding of social rules and emotional regulation in most situations.	Frequent intense aggression across various settings, showing difficulty in managing actions, especially in social contexts or during strong emotions.
Emotion Modulation	Experiences frustration but maintains a positive demeanor overall. Regains composure swiftly after upsets.	Intense responses to minor frustrations, long recovery from emotional distress, quick escalation to angry outbursts, generally negative mood.
Social Orientation	Interested and engaged in social interactions, uses social strategies like asking for help, exhibits prosocial behaviors such as kindness.	Lack of empathy, consistent irritable and hostile responses to social interactions, engaging in antisocial behaviors. Demonstrates challenges in social understanding and integration.
Contextual Factors	Behaviors are context-specific, often directly linked to immediate social challenges like sharing or turn-taking.	Behaviors are pervasive and not limited to specific contexts. Shows a pattern of aggression in various situations and settings.

Notes:

- This table is a guideline to help practitioners distinguish between developmentally appropriate and maladaptive aggression.
- It's essential to consider the overall pattern and context of the behavior, rather than isolated incidents.
- The child's age, developmental stage, and individual differences should be considered.
- Continuous monitoring and re-evaluation are crucial for an accurate understanding of the child's behavior and development.

This framework is designed to provide a structured approach for assessing aggression in young children, aiding in the identification of behaviors that are within the expected developmental range versus those that may indicate underlying behavioral or emotional challenges.

Appendix H – Case Study Example

Case 1: Aggression Modulation

Adapted from Feeney, S., & Freeman, N. K. (2018). Ethics and the early childhood educator: Using the naeyc code. National Association for the Education of Young Children.

Background:
Ms. Taylor is an early childhood educator observing behavior in a preschool setting. One of the children, Jamie, a 4-year-old girl, has been displaying notable aggression in various contexts (i.e., lunchroom, music room, classroom) over the past two months. Jamie's behavior includes frequent tantrums, hitting other children, and breaking classroom materials. Jamie's parents have heard your concerns, but because they feel that his behavior is typical for boys his age, they won't seek counseling. A preschool specialist from the Department of Mental Health has also observed the child and suggested some techniques to try, but none of her recommendations have helped. The other parents are starting to complain to Taylor because Jamie's behavior intimidates their children.

Observations:
Jamie's aggressive episodes, such as biting, pinching, and hitting peers without provocation, occur up to five times a week and can last up to 30 minutes. These behaviors are seen across various contexts and are not solely triggered by peer conflicts. Despite this, Jamie also shows an ability to follow simple instructions, showing interest in stories, and playing alongside peers. He occasionally shares toys and engages in cooperative play, though these instances are less frequent. Ms. Taylor notes that these behaviors often occur in the lunchroom, classroom, and at home and are not limited to peer conflicts. At home, parents report that Jaime will display aggressive behaviors when asked to do a task he does not want to do (e.g., brushing his teeth or stopping an enjoyable activity). Attempts by adults to intervene or redirect Jamie's behavior have been largely unsuccessful. The aggressive episodes often last longer than a few minutes, with some instances extending up to half an hour.

Notes:
- Jamie seems to have difficulty regulating emotions, quickly escalating from calm to aggressive.
- The child's aggressive behavior is not always directly linked to identifiable triggers like peer conflicts.

Support Strategies Implemented:
- Interventions focusing on emotional regulation, like structured time-out and calming strategies, have been tried.
- Consistent reinforcement of positive behaviors and structured routines are in place.

Questions:
Behavioral Analysis: Considering Jamie's age and developmental stage, how do Jamie's behaviors align with or deviate from developmentally expected norms in aggression modulation?

Behavioral Characteristics: Identify the ***duration, frequency, and intensity*** of behaviors (use your checklist and observation table to guide you). What do these behavioral characteristics indicate to you?

Intervention Effectiveness: Evaluate the effectiveness of the current intervention strategies. What modifications or additional approaches could be considered to better address Jamie's needs?

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Curriculum Vitae

Michela Carattini

Michela.Carattini@smsu.edu

EDUCATION

University of Nevada, Las Vegas, Las Vegas, NV
Expected May 2024
Doctoral Candidate in Special Education
Dissertation Title: Early Childhood Education Teachers' Knowledge Of Behaviors: Distinguishing Between Developmentally Appropriate Behaviors And Maladaptive Behaviors In Young Children
Specialization: Teacher Education (LD/EBD)
Advisor: Dr. Joseph Morgan

Capella University Online
March 2020
Masters of Science in Educational Psychology

Brigham Young University - Idaho, Rexburg, ID
July 2016
Bachelor of Science in General Psychology

LICENSES & CREDENTIALS

Special Education K-12 Generalist, NV
November 2026

WORK EXPERIENCE

University Supervisor, University of Nevada**,** Las Vegas, Las Vegas, NV
April 2022 – May 2022
Department of Early Childhood, Multilingual & Special Education

- Observed student teachers in the classroom and provided constructive feedback.
- Utilized Canvas to grade assignments and give constructive feedback to students.
- Collaborated with professors on ways in which we could better assist our learner's academic needs.

Part Time Instructor, University of Nevada, Las Vegas, Las Vegas, NV
August 2021 – Present
Department of Early Childhood, Multilingual & Special Education

- Taught 11 synchronous, asynchronous, hybrid and in person graduate and undergraduate courses in traditional and modular formats
- Created lessons and powerpoints and lectured in person and through zoom

- Utilized Canvas to grade assignments and give constructive feedback to students
- Collaborated with professors and other graduate assistants on ways in which we could better assist our learner's academic needs.
- Developed PowerPoint, course materials, discussion questions and course assignments

Clark County School District, Las Vegas, NV
August 2017 – June 2020
Resource Special Education Teacher (6th – 8th): Kenny Guinn Middle Elementary School
August 2017 – June 2019

- Taught ELA and reading resource room.
- Co-taught with general education teachers in supporting special education students and other students in need of extra supports.
- Collaborated with school staff in creating after-school activities (i.e., homecoming).
- Created and revised Behavior Intervention Plans (BIP).
- Created lesson plans and curriculum that was tailored to student needs
- Differentiated and scaffolded instruction.
- Wrote Individualized Education Plans (IEP) and conducted team member meetings to discuss special education services for students on my caseload.

Self-Contained Special Education Teacher (6th – 8th): Anthony Saville Middle Elementary School August 2019 – June 2020

- Provided academic (reading, ELA, math, science) instruction to students in a self-contained setting.
- Collaborated with the special education team to develop and teach creating and FBA and BIP to interested general education teachers.
- Created and revised Behavior Intervention Plans (BIP).
- Collaborated with related service personnel, staff members and parents
- Created lesson plans and curriculum that was tailored to student needs; differentiated and scaffolded instruction.
- Wrote IEPs and conducted team member meetings to discuss special education services for students on my caseload

Self-Contained Special Education Teacher (6th – 8th): Legacy Traditional Charter School – North Las Vegas August 2020 – June 2021

- Provided academic (reading, ELA, math, science) instruction to students (push-in and pull-out)
- Created and revised Behavior Intervention Plans (BIP).
- Collaborated with related service personnel, staff members and parents
- Created lesson plans and curriculum that was tailored to student needs; differentiated and scaffolded instruction.
- Wrote IEPs and conducted team member meetings to discuss special education services for students on my caseload.

Graduate Teaching Assistant, Capella University, Remote
August 2019 – December 2020
Department of Psychology – Social Psychology

- Created lessons and conducted study sessions via Adobe Connect.
- Graded undergraduate essays via Blackboard and gave constructive feedback.
- Collaborated with professors and other graduate assistants on ways in which we could better assist our learner's academic needs.
- Used Yellow dig website to interact with learners through discussion posts, posting announcements, and giving feedback.

HONORS

Rodman Doctoral Scholarship (UNLV)
September 2022

Psi Chi National Psychology Honor Society
March 2020

PUBLICATIONS

Carattini, M., & Morgan, J. Understanding Behavior and Social-emotional Needs of Diverse Young Children in Early Education Environments. CEC-TED Conference Proceedings 2023.

PRESENTATIONS

Carattini, M., Cope, K., Rakos, M. (2023, October). *The Impacts of Depression on Students with Learning Disabilities.* Roundtable discussion accepted to the Annual Council for Learning Disabilities

Carattini, M., Morgan, J. (2023, October). *Teacher Understanding of Behavior: When Does Behavior Become Disruptive*?. Roundtable discussion accepted to the Annual Conference for Exceptional Children: Teacher Education Division

Cope, K., **Carattini., M.,** Rakos., M. (2024, March). *Inclusive Leadership and Co-Teaching Practices: Recommendations for Administrators*. Concurrent session accepted to the Annual Conference for Exceptional Children

UNIVERSITY TEACHING

In-Person Graduate Practicum Course: **ESP 737I – Advanced Practicum with Exceptional Children** (UNLV) Spring 2024

Asynchronous Undergraduate Course: **EDSP 432 - Serving Individuals with Disabilities** (UNLV) Spring 2024

Asynchronous Graduate Course: **ESP 730 – Parent Involvement in Special and General Education** (UNLV) Fall 2023

Asynchronous Undergraduate Course: **EDSP 432 - Serving Individuals with Disabilities** (UNLV) Fall 2023

Asynchronous Undergraduate Course: **EDSP 411 - Students with Disabilities in General Education** (UNLV) Summer 2023

Hybrid Undergraduate Course: **ECE 492 - Preparing Professionals for Changing Educational Contexts** (UNLV) Spring 2023

Asynchronous Undergraduate Course: **EDSP 432 - Serving Individuals with Disabilities** (UNLV) Spring 2023

Asynchronous Undergraduate Course: **EDSP 411 - Students with Disabilities in General Education** (UNLV) Fall 2022

In Person Undergraduate Course: **EDSP 475 Strategies for Teaching Young Children with Disabilities** (UNLV) Fall 2022

Asynchronous Undergraduate Course: **EDSP 411 - Students with Disabilities in General Education** (UNLV) Summer 2022

In Person Undergraduate Practicum Course: **ECE 483 - Pre-Student Teaching in Early Childhood Education (**UNLV) Spring 2022

Fieldwork Supervision: **EDSP 481/487 - Student Teaching Practicum (**UNLV) Spring 2022

Asynchronous Undergraduate Course: **EDSP 411 - Students with Disabilities in General Education** (UNLV) Fall 2021

In Person Undergraduate Course: **EDSP 475 Strategies for Teaching Young Children with Disabilities** (UNLV) Fall 2021

SUPERVISIVORY EXPERIENCE

Paraprofessional Pathway Program (PPP) Student Supervisor: University of Nevada, Las Vegas April 2022 – May 2022

- Supervised seven student teachers
- Provided biweekly oral and written feedback on instruction, classroom management and evidence-based practices
- Completed three observations using student teaching rubric

PROFESSIONAL MEMBERSHIP

Council for Exceptional Children (CEC)
March 2022 – Present

Teacher Education Division (TED)
March 2022 – Present

Council for Learning Disabilities (CLD)
October 2023 – Present

RESEARCH

Understanding Behavior and Social-Emotional Needs of Diverse Young Children in Early Education Environments: Delphi Study

with Dr. Joseph Morgan (UNLV)
August 2022 - April 2023

- Created three round, Qualtrics surveys
- Coded data collection
- Completed descriptive statistics in Excel spreadsheet
- Contribute to articles and presentations on findings