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Reliability and Validity of a Measure of Preschool Teachers' Attributions for Disruptive Behavior

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Research Findings: This study examined the quality of teacher attributions for child disruptive behavior using a new measure, the Preschool Teaching Attributions measure. A sample of 153 early childhood teachers and 432 children participated. All teachers completed the behavior attributions measure, as well as measures regarding demographics, beliefs, self-efficacy, child behavior, and the quality of the teacher–child relationship with selected children. Confirmatory factor analysis demonstrated that the hypothesized 2-factor model fit significantly better than a 1-factor model, with the 2 factors being *Causal* and *Responsibility*. The resulting Causal and Responsibility subscale scores had solid internal consistency as measured by Cronbach's alpha coefficients. Significant bivariate and partial correlations with teacher practices and beliefs provided preliminary support for the measure's construct validity. *Practice or Policy:* Findings from this study suggest the importance of including a measure of teacher attributions in studies that explore teachers' beliefs, practices, and relationships with children.

Approximately 10% to 20% of preschool children display high levels of impulsivity, hyperactivity, oppositionality, and aggression (Egger & Angold, 2006; Powell, Fixsen, & Dunlap, 2003). Children who display these behaviors are at risk for a host of maladaptive outcomes, including unsuccessful transition to kindergarten (Rimm-Kaufman, Pianta, & Cox, 2000); negative relationships with adults (Howes, 2000; Ladd & Burgess, 2001); and psychological, social, and school maladjustment (Conyers, Reynolds, & Ou, 2003; Ladd & Burgess, 2001). A young child's behavioral outcomes are dependent in part on how important adults respond to the child's displayed behavior (Bowlby, 1969; Hamre & Pianta, 2001; Hinshaw, 2002). The quality of an adult's responsiveness to a child's disruptive behavior depends upon variables that are both internal (such as beliefs, cognitions, and attributions) and external (such as the environment and school expectations).

One of these internal variables, an adult's attributions for a child's behavior, has theoretical support for how it may affect the adult's responsiveness in Weiner's interpersonal attribution theory. Weiner (1985) theorized that an individual responds to behavior based on what he or she understands as the source and rationale for the behavior. Although this theory has empirical

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support in the parenting literature (e.g., Black, Heyman, & Slep, 2001; Bugental, Johnston, New, & Silvester, 1998; Johnston & Ohan, 2005; Johnston, Reynolds, Freeman, & Geller, 1998), few studies have been conducted with another important adult in a young child's life: his or her teacher. Given that children who attend full-day preschool spend on average 30 hr per week with their teacher(s), it is important to understand teacher attributions for child disruptive behavior more fully (Blau & Currie, 2006). In this study, we examined early childhood teachers' attributions for child disruptive behavior using a newly developed measure, the Preschool Teaching Attributions (PTA) measure.

DISRUPTIVE BEHAVIOR IN PRESCHOOL CHILDREN

Preschool children who display disruptive behaviors such as impulsivity, hyperactivity, oppositionality, and aggression are at risk for several externalizing behavior diagnoses, including attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (American Psychiatric Association, 2013), if these behaviors are not addressed early. Well before a diagnosis is warranted, these behaviors are the primary reason that children are expelled from preschool and child care, which occurs at a rate that is 3.2 times higher than among children and youth in Grades K–12 (Gilliam, 2005). One likely reason for these expulsions is that children with disruptive behavior tend to have conflictual, tense interactions with their teachers (Doumen et al., 2008; Howes, 2000; Ladd & Burgess, 2001; Spilt & Koomen, 2009). The teacher's contribution in these conflictual teacher–child interactions may depend in part on the classroom environment or context that he or she sets in which children learn and grow. Recent work done by Raver and colleagues (2009) provides evidence that with support from a mental health consultant, an early childhood teacher can create a classroom environment and interact with children in a way that allows all children, even those with disruptive behavior, to be successful. However, a teacher's willingness to openly reflect upon and change his or her practices in the classroom may depend in part on how the teacher understands the source and rationale for a child's disruptive behavior (Andreou & Rapti, 2010; Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000).

BEHAVIOR ATTRIBUTIONS

Theoretical Support

According to Weiner's (1985) interpersonal attributions theory, the way that an individual understands the source and rationale for the behavior of others, or his or her behavior attributions, impacts how that individual responds to these behaviors. Dix, Ruble, Grusec, and Nixon (1986) built on this theory with a social-cognitive model for understanding the role that attributions play in an individual's response to behavior. The premise of this model is that the nature of an adult's attributions for disruptive behavior are semi-stable characteristics that serve as a mediator in the relation between the child's behavior and the adult's reaction to the behavior. In the classroom environment, this theory would suggest that a teacher has a semi-stable understanding and belief system for the cause of misbehavior that he or she typically applies to all children. This is important because in part it helps to explain why a teacher reacts to behavior

in a particular manner. For example, if a teacher believes that a child can control his or her behavior rather than that the behavior is out of the child's control, then the teacher may be more likely to blame the child for the behavior.

Dix and colleagues' (1986) social-cognitive model is not entirely linear. They suggested a bidirectional relationship between the individual and his or her attributions, meaning that an individual may be capable of reflecting on his or her own attributions and may even seek to understand a child's behavior in a new way, particularly when the behavior is negative or unexpected. This model provides theoretical support for the self-report style of measuring attributions commonly used in the attribution literature.

Weiner suggested that behavior attributions theoretically split into three types: *locus,* or whether the cause of behavior is internal or external; *stability,* or whether the behavior is stable over time; and *control,* or whether the individual behaving has the ability to control his or her behavior. Earlier research on parent attributions provided some empirical support for the presence of these three dimensions (Bugental & Johnston, 2000; Joiner & Wagner, 1996). However, more recent work provides support for two attribution factors: *Causal,* a blend of locus and stability; and *Responsibility,* which includes both the dimension of control and whether the child deserves blame and discipline for the behavior (Williford, Graves, Shelton, & Woods, 2009; Wilson, Gardner, Burton, & Leung, 2006). Although many studies provide empirical support for both of these theories for parent attributions (see Johnston & Ohan, 2005, for a review), few studies have attempted to study a teacher's attributions for child behavior, particularly in early childhood.

Teacher Behavior Attributions

The limited amount of research on teacher behavior attributions primarily focuses on one dimension of attributions: a teacher's *Causal* attributions (Andreou & Rapti, 2010; Bibou-Nakou et al., 2000). In addition, this research has been conducted with older children, primarily those in elementary school. *Causal* attributions are an adult's ideas regarding why a child behaves the way that he or she does and whether the behavior is stable over time and location. Bibou-Nakou and colleagues (2000) found that elementary school teachers attributed the cause of misbehavior mostly to internal student-related causes, such as disobedience or being off task. In addition, they discovered that a teacher's attributions were significantly related to her reported choice of behavior management practices. Andreou and Rapti (2010) provided additional support for the link between behavior attributions and an elementary school teacher's reported choice of management practices. These studies suggest that behavior attributions are at least in part important to the behavior management practices that a teacher reports that he or she would choose to use.

Thijs and Koomen (2009) explored the mediating role of kindergarten teachers' behavioral appraisals and the moderating role of both their *Causal* and *Responsibility* behavior attributions. Findings supported an interaction between a teacher's behavioral appraisals, or the extent to which a teacher believes a child's behavior to be problematic for social and emotional functioning, and *Responsibility* attributions for the reported closeness in the teacher–child relationship. This suggests that for teachers with more negative attributions for a child's behavior control, behavioral appraisals have a stronger relationship with the quality of the teacher–child relationship. This study provides further support that behavior attributions may in part play a role in the manner in which a teacher perceives and responds to a child's disruptive behavior in the classroom.

At the time of this writing, we found no published work examining how early childhood teachers attribute disruptive behavior of 3- and 4-year-old children. Furthermore, there is not an existing measure with sound psychometric properties to use to assess an early childhood teacher's attributions for child disruptive behavior. Given a research base that supports the importance that parental behavior attributions have in a parent's response to a young child, it is important to extend this exploration into the early childhood classroom environment (e.g., Black et al., 2001). For many children, preschool is the child's first experience in school; how a teacher responds to the child and his or her behavior likely has significant and lasting implications for the child's developmental trajectory, particularly given the malleability of a child's trajectory at this time (Kazdin & Weisz, 2003). The purpose of the present study was to take a first look at a new measure developed specifically to examine early childhood teacher attributions for disruptive behavior, the PTA measure. This article presents initial reliability and validity findings. In support of the construct validity of the PTA measure, we expected teacher attributions about child disruptive behavior to be linked with other aspects of a teacher's belief systems, teaching practices, self-report of the relationship with disruptive children, and report of the level of children's disruptive behavior. Next we describe our hypothesized associations between teacher attribution and these related constructs.

VARIABLES PREDICTED TO BE ASSOCIATED WITH ATTRIBUTIONS

Teacher Beliefs

Authoritarian Beliefs

The connection between a caregiver's authoritarian beliefs, which are adult-centered, traditional beliefs about controlling a child's behavior, and his or her attributions for child behavior has been demonstrated by several studies with parents and their young children. Teachers with an authoritarian belief system agree with items such as ''Children should always obey the teacher,'' ''Children must be carefully trained early in life or their natural impulses will make them unmanageable,'' and ''Children should be treated the same regardless of differences among them'' (items taken from Modernity Scale; Schaefer & Edgerton, 1985). Hastings and Rubin (1999) showed that mothers with an authoritarian belief system were more likely to blame their toddler-age children for aggression and misbehavior. The interactions between these mothers and their children focused on compliance with authority. Coplan, Hastings, Lagace-Seguin, and Moulton (2002) provided additional evidence that authoritarian mothers were less likely to attribute a child's aggression and misbehavior to external sources and more likely to show greater levels of anger toward the child when he or she misbehaved. We found no evidence of studies that have examined the relations between a *teacher's* authoritarian beliefs and his or her attributions for child behavior; however, we would expect associations similar to those for parent attributions.

Self-Efficacy

Another element of a teacher's beliefs is his or her self-efficacy, or whether the teacher believes that he or she is capable of managing and teaching the classroom effectively. Andreou

and Rapti (2010) found a significant negative correlation between an elementary school teacher's perceived efficacy for classroom management and her disagreement that school-related factors were the cause of disruptive behavior. In addition, they found that perceived efficacy and a teacher's *Causal* attributions worked together to predict the teacher's reported choice of behavioral intervention in an elementary school setting. Based on these findings, we would expect teacher self-efficacy and attributions to be correlated; we hypothesize that greater teacher self-efficacy would be associated with less negative behavior attributions.

Teacher Practices

Parenting research, and to a lesser extent educational research, has demonstrated that a relationship exists between an individual's behavior attributions and chosen practices for managing a child's behavior. Parents with more negative *Responsibility* attributions for child behavior (i.e., greater intent on the part of the child) are more likely to use harsh disciplinary practices, particularly those that are physical and punitive (Bugental & Johnston, 2000; Laskey & Cartwright-Hatton, 2009). Although negative attributions have not necessarily been associated with harsh, punitive practices in the classroom, educational researchers have provided evidence that a teacher's attributions are correlated with the teacher's reported discipline practices (Andreou & Rapti, 2010; Bibou-Nakou et al., 2000). Based on the directionality provided by the parenting literature, we would expect that teachers with more negative attributions would report using negative behavior management strategies more often than positive or proactive strategies.

Additional studies from the parenting literature have provided evidence that negative attributions are correlated with a lower quality of parent–child interactions as displayed by dysfunctional relationships and more parental anger (e.g., Black et al., 2001; Coplan et al., 2002). Although we found no studies that have examined a teacher's attributions and the quality of his or her interactions with children, we would expect similar findings to those in the parenting literature. Thus, we would expect that teachers with more negative attributions would have a lower quality of teacher–child interactions, specifically with regard to emotional support.

Teacher–Child Relationship Quality

The quality of the relationship a child has with his or her early childhood teacher(s) has been proven to be important in protecting the child from negative behavioral outcomes by providing the child with the support needed to develop academic, behavioral, and social-emotional skills (e.g., Mashburn et al., 2008; Pianta, Stuhlman, & Hamre, 2002; Rimm-Kaufman et al., 2000). This is particularly true for young children with disruptive behavior (Hamre & Pianta, 2001; Pianta, Stuhlman, et al., 2002). Hamre and Pianta (2001) have shown that children who have a negative relationship with their teacher in kindergarten are more likely to develop along a negative trajectory in school, as evidenced by poor behavioral and academic outcomes through eighth grade.

However, few studies have explored the connection between teacher–child relationship quality and a teacher's behavior attributions. Thijs and Koomen (2009) recently demonstrated

that for teachers with more negative *Responsibility* attributions, a stronger correlation existed between the teachers' appraisals of child behavior and the teachers' perceived closeness in the relationship. A direct link was demonstrated between parents' negative attributions and decreased quality of the parent–child relationship (e.g., Black et al., 2001). Thus, we would expect that more negative attributions, particularly *Responsibility* attributions, would be correlated with more negative teacher-reported teacher–child relationship quality.

Level of Child Behavior Problems

Early work in the parenting literature demonstrated that the parent of a child with disruptive behavior who also has negative behavior attributions is more likely to report the child's negative behavior as enduring and pervasive over time (Johnston & Freeman, 1997; Sobol, Ashbourne, Earn, & Cunningham, 1989). However, the directionality of this is unclear. We would expect that a teacher who has negative behavior attributions would also be more likely to report a child's negative behavior more negatively than a teacher with more positive behavior attributions. Thus, we would expect a significant association between negative attributions and a child's level of disruptive behavior. Given the multimethod nature of the data collection in the present study, we had the unique opportunity to explore the link between a teacher's behavior attributions and direct observation of the child's behavior. Because behavior attributions and the reported level of child disruptive behavior are both teacher reported, we would expect that this relationship would be stronger than a relation between behavior attributions and direct observation. In addition, the parenting literature provides evidence that individuals with negative behavior attributions tend to perceive even ambiguous child behavior as negative (see Johnston & Ohan, 2005); thus, we would expect that teachers with negative behavior attributions may perceive and report a child's behavior as more negative than it is objectively observed by others.

A RELIABLE AND VALID ATTRIBUTION MEASUREMENT TOOL

Given the importance of understanding teacher attributions about young children's disruptive behavior and the associations with the quality of their interactions, there is a need for a reliable and valid measure that assesses this construct. Measuring an individual's thoughts, beliefs, or attributions is a difficult feat, considering the internal nature of these variables. Nevertheless, research from the parenting literature suggests that what an individual can identify about his or her understanding of a child's behavior through vignettes proves to be important in his or her resulting behavior toward the child (e.g., Black et al., 2001; Johnston & Ohan, 2005; Williford et al., 2009). Educational research that examines early childhood teachers' attributions for disruptive behavior can help uncover how teachers understand disruptive behavior and how this understanding connects with their responsiveness and practices, particularly with students who are likely to display these negative behaviors. A deeper understanding of teacher attributions may help explain in part the mechanism through which teacher behavior occurs, allowing it to be a more precise target for intervention. This is particularly important for interventions that target the conflictual and negative interactions between teachers and children with disruptive behavior.

RESEARCH AIMS AND HYPOTHESES

The purpose of this study was to establish the initial reliability and validity of a new measure that explores early childhood teachers' attributions for child disruptive behavior, the PTA measure. With regard to reliability, we hypothesized that teacher attributions would follow the same factor structure of the measure from which the PTA was adapted, the Attributional Style Measure for Parents (ASMP; O'Brien & Peyton, 2002). As in the parent measure, we expected that teacher data for the present study would load onto two factors: *Causal* and *Responsibility* (Williford et al., 2009).

In terms of validity, we hypothesized that the PTA would be significantly associated with teacher beliefs, teacher practice in the classroom, and teacher-reported level of child disruptive behavior. More specifically, and based on evidence from the parenting literature, we hypothesized that negative attributions (*Causal* and *Responsibility*) would be positively linked with more authoritarian beliefs and negatively associated with teacher self-efficacy. In addition, we expected that *Responsibility* attributions would be negatively correlated with teacher–child closeness and positively correlated with teacher–child conflict. Furthermore, we expected that negative attributions would be positively correlated with a teacher's report of inappropriate behavior management strategies and would be negatively correlated with the quality of the teacher's practice in the classroom, specifically the teacher's emotional support. Finally, we hypothesized that teachers with more negative attributions would perceive children's disruptive behavior as more extreme, and so we expected teacher attributions to be positively associated with teacher reports of children's disruptive behavior but not significantly correlated with observed disruptive behavior.

METHOD

Participants

Data for the present study were collected within a larger intervention study. All data in the present study were collected at the beginning of the year, prior to the implementation of the intervention. The sample for the present study included 153 early childhood teachers and 432 children, with approximately three children nested within each teacher's classroom (see Table 1 for classroom, teacher, and child demographics). Teachers worked within a variety of early childhood programs: state-funded prekindergarten (14.1%), private agencies (45.7%), and Head Start (24.8%). Teachers were mostly female (96.1%) and on average 43 years old (range = 22–69). Teachers were primarily Caucasian or African American (49.4% Caucasian, 34.7% African American, 0.6% Asian, 0.6% Native American, 1.2% Hispanic, 2.4% multiracial, and 1.2% other). Nearly half of the teachers had a bachelor's degree (47.6%), and about equal numbers of teachers had a master's degree (12.4%), a 2-year degree (13.5%), or some college but no degree (12.4%). In addition, there was a considerable range of teacher experience, from 0 to 38 years ($M = 9.217$ years).

A total of 432 preschool children (M age = 4.1 years) participated. Of these, 65.4% were male. The sample represented an ethnically diverse group of children, with 37.6% Caucasian, 41.9% African American, 1.7% Asian, 0.4% Native American, 7.8% Hispanic, 10.0% multiracial, and 0.4% other. Children came from a range of socioeconomic backgrounds but were primarily from low-income households, with the mean family income-to-needs ratio being 1.898 ($SD = 1.534$).

TABLE 1
Descriptive Statistics for the Sample

Variable	*Valid %*	M	SD	*Min*	*Max*
Classroom demographics					
Type					
Public agency	14.1				
Nonprofit agency	38.3				
For-profit agency	7.4				
Head Start	24.8				
Teacher demographics					
Age (in years)		42.763	11.731	22	69
Years prekindergarten experience		9.217	7.679	0	38
Gender					
Female	96.1				
Ethnicity					
Caucasian	49.4				
African American	34.7				
Asian	0.6				
Native American	0.6				
Hispanic	1.2				
Multiracial	2.4				
Other	1.2				
Education					
HS diploma	0.6				
Some college, no degree	12.4				
HS diploma + training	3.5				
2-year degree	13.5				
Bachelor's degree	47.6				
Master's degree	12.4				
Child demographics					
Age (in years)		4.1			
Income-to-needs ratio		1.898	1.534	0.20	6.15
Gender					
Male	65.4				
Ethnicity					
Caucasian	37.6				
African American	41.9				
Asian	1.7				
Native American	0.4				
Hispanic	7.8				
Multiracial	10.0				
Other	0.4				

Note. HS = high school.

Procedures

Preschool centers were recruited from three geographical sites (all urban or semi-urban) in the southeast. After permission was obtained from the director of each center, lead teachers in preschool classrooms serving predominantly 3- to 4-year-olds were invited to participate in

the study. After attending an initial meeting in the fall and providing informed consent, teachers assisted with the parental consent process and completed a personal and classroom demographic survey. All parents received a letter that explained the study, an informed consent form, and a short demographic survey. A total of 76% of parents consented to having their children included in the study. Teachers rated all children in their classroom on two disruptive behavior rating scales: the ADHD Rating Scale–IV (DuPaul, Power, Anastopoulos, & Reid, 1998) and the Oppositional Defiant Disorder Rating Scale (Hommersen, Murray, Ohan, & Johnston, 2006). Three children in each classroom, whom the teacher rated as having the highest overall disruptive behavior based on the total score of these rating scales, were selected to participate in the study. In order to ensure a sample representation of both male and female students, we chose two male children and one female child from each classroom. At the beginning of the school year, teachers also completed a variety of other measures, including measures that assessed their beliefs, their practices, and the teacher–child relationship. In addition, observations of the teacher's classroom interactions and each child's classroom behavior were conducted across multiple days.

Measures

Teacher Ratings of Behavior Attributions: The PTA Measure

The PTA was adapted from the ASMP (O'Brien & Peyton, 2002). The ASMP, a vignette-style measure, has been used in several research studies to assess the quality of parental attributions about child disruptive behavior (e.g., Tsethlikai, Peyton, & O'Brien, 2007; Williford et al., 2009). In this measure, a mother considers four to six different behavior scenarios and responds to each by rating a series of statements using a 6-point Likert scale. Each statement maps onto one of eight dimensions of attributions (internal/external locus, controllability, stability, globality, purposefulness, motivation, blame and negative intent). Scores are typically aggregated across all scenarios to create a total score for each attributional dimension (Williford et al., 2009).

Similar to the ASMP, the PTA (presented in the Appendix) asked the teacher to think about a recent time that a child in his or her classroom misbehaved in each of the following five ways: noncompliance with teacher requests, aggression toward peers, aggression or disrespect toward the teacher, interruption, and noncompliance with the routine. In order to encourage a teacher to remember a situation in which this actually occurred in the classroom and ideally to access more internal, automatic beliefs, the measure asked the teacher to answer some preparatory questions about the child and the situation. As the intent was to assess the teacher's general, behavior attributions, the teacher could choose the same or a different child for each scenario. The teacher then used a 6-point scale (ranging from 1 = *strongly disagree* to 6 = *strongly agree*) to rate statements for each behavior scenario across the same eight dimensions as the ASMP: internal/external locus (6 = *something about the child*), controllability (6 = *completely within the child's control*), stability (6 = *not likely to change*), globality (6 = *happens often in my classroom*), purposefulness (6 = *definitely intentional, on purpose*), motivation (6 = *selfish concerns*), blame (6 = *deserves to be disciplined*), and negative intent (6 = *did to annoy me*). Scores were then aggregated across the five scenarios so that there

was one score for each attributional dimension. Each teacher completed this measure once at the beginning of the school year.

Teacher Beliefs

Authoritarian beliefs: Modernity Scale (Schaefer & Edgerton, 1985). Teachers completed the Modernity Scale, which is a 16-item, Likert scale questionnaire that yields information regarding a teacher's beliefs about interactions with children—the extent to which the teacher endorses an authoritarian or adult-directed perspective compared to a child-centered perspective. Teachers with high scores on this measure strongly agree with items such as ''Children should always obey their teacher'' and strongly disagree with items such as ''Children have a right to their own point of view and should be allowed to express it.'' This scale had good reliability in the current study ($\alpha = .79$) and has shown construct validity in prior studies with significant correlations with a teacher's emotional support and classroom practices (Driscoll & Pianta, 2010; Pianta et al., 2005). This questionnaire was completed by each teacher once at the beginning of the year. A total score was created for each teacher; higher scores suggested stronger, more adult-centered, authoritarian beliefs.

Self-efficacy: Teacher Self-Efficacy Scale (Bandura, 1997). So that we could measure teachers' self-efficacy, each teacher completed an abbreviated version of the Teacher Self-Efficacy Scale (Bandura, 1997). This 7-item, Likert scale measure assesses a teacher's self-efficacy regarding discipline, instruction, positive environment, and decision making in the school environment. This scale had excellent reliability, with a Cronbach's alpha of .86 in the current study. Each teacher completed this questionnaire at the beginning of the school year. A total score was created for each teacher; higher scores indicated greater levels of believed efficacy in the areas of discipline, instruction, positive environment, and decision making.

Teacher Practices

Reported behavior management strategies: Teaching Classroom Management Strategies Questionnaire (Teaching Strategies; Webster-Stratton & Reid, 2003). Teachers completed this 59-item, Likert scale questionnaire that measured the teacher's reported use of strategies related to four areas: managing classroom behavior, specific teaching techniques, working with parents, and planning and support. The current study used the Inappropriate Strategies subscale (nine items, $\alpha = .62$) and included the teacher's report of the frequency of the following types of behaviors: commenting on bad behavior, singling out a child or group for misbehavior, using physical restraint, using comments in a loud voice, sending a child home, an so on. A total score was created for each teacher for the Inappropriate Strategies scale; higher scores indicated more frequent use of inappropriate management strategies.

Observed teacher interaction quality: Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008). The CLASS is an observational instrument that measures classroom quality across 10 dimensions using a 7-point scale: positive climate, negative climate, teacher sensitivity, regard for student perspectives, behavior management,

productivity, concept development, instructional learning formats, quality of feedback, and language modeling. Previous factor analyses demonstrated that data supported three domains of classroom quality: emotional support, classroom organization, and instructional support (Hamre, Pianta, Mashburn, & Downer, 2007). Multiple studies have demonstrated this measure's validity (e.g., Mashburn et al., 2008). In the current study, the CLASS demonstrated excellent reliability, with Cronbach's alphas of .89 for emotional support, .84 for classroom organization, and .87 for instructional support.

Raters for the present study completed the standardized CLASS training process and demonstrated reliability above 80% within and across dimensions prior to rating classrooms in the field. In addition, raters attended weekly calibration meetings and proved continued reliability at 80% as measured by weekly calibration tests. A domain score was created for each of the three domains (emotional support, classroom organization, and instructional support) by aggregating all appropriate dimension codes for the beginning of the year data collection cycle.

Teacher–Child Relationship Quality: The Student–Teacher Relationship Scale (STRS; Pianta & Hamre, 2001)

The STRS is a widely used measure of a teacher's perception of the quality of his or her relationship with a specific child (Pianta & Hamre, 2001; Pianta, La Paro, Payne, Cox, & Bradley, 2002). For the current study, the 15-item, 5-point short form was used, and it had good psychometric properties, including a Cronbach's alpha coefficient of .83 for the Closeness subscale and .87 for the Conflict subscale. For this measure, the teacher rated a series of 15 statements that related to the level of conflict and closeness in his or her relationship with a specific child on a scale of 1 to 5 (5 = *definitely does apply*). The authors have demonstrated strong evidence for the validity of this scale (Pianta & Hamre, 2001). Each teacher completed the STRS for each of the selected children prior to the child receiving the intervention. A composite was created for each of the two subscales (Conflict and Closeness) for each selected child. Then a total aggregated score was created for each teacher to represent the level of conflict and closeness the teacher perceived in his or her relationships with the three selected children in his or her classroom.

Level of Child Behavior Problems

Teacher-reported child disruptive behavior: Sutter-Eyberg Student Behavior Inventory–Revised (SESBI-R; Eyberg & Pincus, 1999). Teachers completed the SESBI-R, which asked teachers to report the frequency of problem behaviors for each of the selected children. The SESBI-R had excellent reliability in the current sample, as measured by a Cronbach's alpha coefficient of .97. Using a 38-item questionnaire, teachers rated a child's behavior on a 7-point intensity scale. Preliminary evidence of the convergent and discriminant validity of this measure has been demonstrated (Rayfield, Eyberg, & Foote, 1998). Each teacher completed this questionnaire for each child at the beginning of the school year. A total score for child disruptive behavior was calculated, including individual scores for aggression, defiance, impulsivity, and hyperactivity. In order to compare to teacher-level attributions, we created an aggregate of the selected children's disruptive behavior scores for each teacher.

Direct observation: Individualized Classroom Assessment Scoring System (inCLASS; Downer, Booren, Lima, Luckner, & Pianta, 2010). The inCLASS is an observational instrument that measures young children's competence during daily interactions with teachers, peers, and tasks in the preschool environment. For each observation, 10 dimension scores are obtained: positive engagement with the teacher, teacher conflict, teacher communication, peer sociability, peer conflict, peer assertiveness, peer communication, engagement within tasks, self-reliance, and behavior control. Each dimension was rated by coders on a 7-point scale; coders were guided in their ratings by detailed descriptors of behaviors that demonstrate low, medium, and high quality. Higher ratings suggested more positive behaviors or interactions (with teacher, peers, or task), with the exception of teacher conflict and peer conflict, for which higher ratings reflected higher levels of conflict.

In an initial validation study, Downer and colleagues (2010) conducted an exploratory factor analysis that supported four domains: interactions with teachers, interactions with peers, interactions with tasks, and negative classroom engagement. In a more recent study, Bohlmann and colleagues (2014) found that an additional dimension, behavior control, should be reverse coded and included in the fourth domain of negative classroom engagement. Several studies have demonstrated the construct, criterion-related, and predictive validity of the inCLASS (Downer et al., 2010; Maier, Downer, Vitiello, & Booren, 2012; Williford, Whittaker, Vitiello, & Downer, 2013).

Raters for the present study were trained using the standardized inCLASS training and demonstrated reliability above 80% within and across dimensions. Children's scores for baseline data collection were aggregated across cycles and up to the four domain levels. Interrater agreement (intraclass correlation coefficients) during live observations for the inCLASS domain scores ranged from .71 to .84, and internal consistencies ranged from .74 to .83. For the current study, we used the domain of negative classroom engagement, for which higher scores indicated greater negative engagement.

Data Analysis Plan

In order to assess the PTA's level of reliability, we conducted a series of confirmatory factor analyses (CFAs) using Mplus Version 6.1 (Muthén & Muthén, 1998–2011). The purpose of these analyses was to determine whether the two-factor model of *Causal* and *Responsibility* attributions previously established with parents of children who displayed disruptive behaviors using the ASMP (Williford et al., 2009) adequately fit the existing teacher data collected using the PTA. Both estimates and measures of fit were examined to determine goodness of fit. In order to determine whether a one-factor or two-factor model fit better, we fit both models to the data while allowing factors to correlate freely, and a chi-square difference test was calculated to assess whether a two-factor model fit significantly better. Once the factors were identified, subscale scores were calculated using simple aggregates (consistent with how the ASMP subscales were created). Scale reliability statistics were calculated using Cronbach's alpha coefficients in order to provide measures of consistency for each subscale score once established using the CFA.

In order to assess the PTA's content-related validity, we ran bivariate Pearson's correlations to examine the associations between the established attribution subscales and teacher beliefs,

TABLE 2
Descriptive Statistics for Attribution Dimensions (Means for Each Scenario and Overall Means)

Dimension	*Scenario 1*	*Scenario 2*	*Scenario 3*	*Scenario 4*	*Scenario 5*	*Overall mean*
Purposefulness	4.06	3.88	3.64	4.15	4.26	3.97
Globality	4.59	4.24	4.27	4.42	4.24	4.37
Stability	2.79	2.82	3.04	3.09	2.81	2.90
Motivation	2.88	3.38	3.22	3.35	3.54	3.26
Internal/external locus	4.18	4.21	3.88	4.25	4.38	4.18
Blame	2.89	3.90	2.12	2.78	3.70	3.08
Negative intent	1.95	1.50	1.60	2.11	2.21	1.83
Controllability	4.26	3.90	3.96	4.20	4.09	4.07

teacher practice, and children's level of disruptive behavior. Because of a high correlation between the attribution subscale scores, partial correlations were run in order to disentangle the unique variance that each subscale contributed to a correlational relationship.

RESULTS

Descriptive Statistics

Descriptive statistics provided evidence that teachers reported attributions along the full range of the 6-point scale, with the majority of scores falling in the middle to middle-high range of the scale (see Table 2 for descriptive statistics for each dimension). The scale with the lowest average was Negative Intent, with a mean of 1.83, indicating that teachers reported less negative attributions for the statement ''This child did this behavior in order to annoy me.'' The scale with the highest mean was Globality, with a mean of 4.34, meaning that teachers reported the most negative attributions for the statement ''This child does this behavior across different settings.''

Reliability

CFA

A series of CFAs were conducted in order to determine whether teacher behavior attributions followed a two-factor structure (with factors as *Causal* and *Responsibility*). After the initial CFA showed an inadequate fit for the one-factor and two-factor models (see Table 3 for fit statistics), we conducted a careful review of both the scenarios and the items. This revealed two issues: (a) The second behavior scenario was conceptually different than the other four (child's disruptive behavior with peers rather than the teacher), and statistically speaking the items from this scenario did not hang together in the same way as the items within the other four scenarios. Thus, we did not include this scenario when calculating the dimension and subscales. (b) The dimension of controllability loaded onto both factors, *Causal* and *Responsibility*.

TABLE 3
Confirmatory Factor Analysis Results for the Preschool Teaching Attributions Measure

Analysis	*One factor*	*Two factor*
Initial analysis		
RMSEA	0.135	0.123
CFI	0.783	0.828
TLI	0.696	0.746
SRMR	0.079	0.067
Final analysis[a]		
RMSEA	0.093	0.073
CFI	0.879	0.931
TLI	0.819	0.889
SRMR	0.062	0.050
Scale loadings[b]		
Attributions—one factor		
Purposefulness	0.690	
Globality	0.540	
Stability	0.553	
Motivation	0.730	
Internal/external locus	0.578	
Blame	0.462	
Negative intent	0.432	
Two factor		
Causal		
Globality	0.639	
Stability	0.622	
Internal/external locus	0.652	
Responsibility		
Purposefulness	0.729	
Motivation	0.771	
Blame	0.462	
Negative intent	0.438	
Causal with Responsibility	$r = .742$	

Note. RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root-mean-square residual.

[a]The final analysis included the Preschool Teaching Attributions measure without the Controllability scale and without Behavior Scenario 2.

[b]Scale loadings are standardized model results.

Because of this, and the fact that control is proposed as a separate factor in Weiner's interpersonal attribution theory, we dropped this dimension (Weiner, 1985, 2010).

We then fit a second set of CFAs using four scenarios and seven dimensions to both a one-factor and a two-factor model. The one-factor model was an acceptable fit: root mean square error of approximation (RMSEA) = 0.093, comparative fit index (CFI) = 0.879, Tucker–Lewis index (TLI) = 0.819, and standardized root-mean-square residual (SRMR) = 0.062. The two-factor model demonstrated a good fit: RMSEA = 0.073, CFI = 0.931, TLI = 0.889, and SRMR = 0.050. (See Table 3 for detailed information on fit statistics for our initial and final analyses.) Factors were allowed to correlate freely (correlation between two factors =.742).

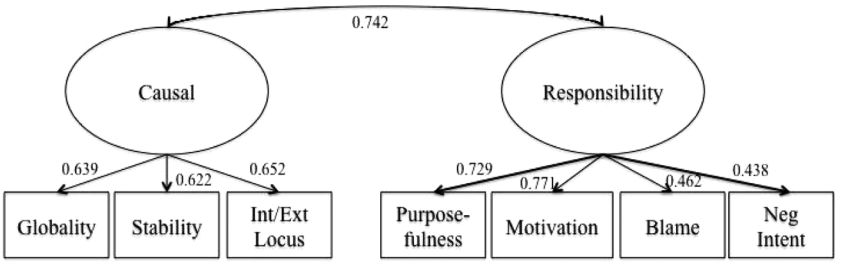

FIGURE 1 Visual path model of final confirmatory factor analysis results for the Preschool Teacher Attributions measure. Int/Ext = internal/external; Neg = negative.

A chi-square test of difference was calculated in order to compare the one-factor model with the two-factor model; results demonstrated that the two-factor model was a significantly better fit (χ^2 $(n = 112) = 8.163$, $df = 1$, $p < .005$). All items loaded onto one of two factors with an estimate of at least 0.44, with most items loading above 0.62 (see Figure 1 for a visual path model of the final CFA results).

Two composite subscales were subsequently created based upon the CFA by averaging the dimensions associated with each factor: *Causal* (globality, stability, internal/external locus) and *Responsibility* (purposefulness, motivation, blame, and negative intent). The two subscales were moderately correlated (.502). Subscale scores ranged from 1.13 to 5.44. Teachers reported slightly more negative *Causal* attributions ($M = 3.843$) than *Responsibility* attributions ($M = 2.997$). In addition, Cronbach's alpha coefficients were calculated for the two subscales, and they demonstrated good internal consistency (*Causal* = .77 and *Responsibility* = .85).

Validity

Bivariate Correlations

To establish construct validity, we conducted bivariate Pearson correlations in order to compare a teacher's *Causal* and *Responsibility* attributions with his or her ratings on several established measures (see Table 4 for bivariate and partial correlations).

The *Causal* attribution subscale was significantly correlated with a teacher's report of his or her use of inappropriate strategies in the expected direction: More negative attributions about the cause and stability of misbehavior were associated with a teacher's reported use of more inappropriate behavior strategies. *Causal* attributions were also correlated with a teacher's classroom quality, specifically emotional support, in the expected direction: More negative attributions were linked with lower emotional support. In addition, a teacher's *Causal* attributions were significantly related to the teacher's reported closeness with selected children in the expected direction: More negative attributions were correlated with lower reported closeness. However, *Causal* attributions were not correlated with a teacher's authoritarian beliefs or self-efficacy. In addition, a teacher's *Causal* attributions were not correlated with the teacher's report of student behavior but were negatively correlated with a student's observed conflict behavior (more negative *Causal* attributions were associated with less observed child conflict).

TABLE 4
Bivariate and Partial Correlations for Preschool Teaching Attributions Subscales and Related Measures

Related measure	*Causal bivariate*	*Causal partial*	*Responsibility bivariate*	*Responsibility partial*
Teacher beliefs (authoritarian)	.078	−.046	.233**	.224**
Teacher efficacy (Teacher Self-Efficacy Scale)	−.169	−.095	−.156	−.101
Teacher strategies (inappropriate)	.195*	.100	.222**	.146
Classroom quality—emotional support (CLASS emotional support domain)	−.213*	−.276**	.050	.186
Classroom quality—classroom organization (CLASS classroom organization domain)	−.095	−.108	−.003	.052
Classroom quality—instructional support (CLASS instructional support domain)	−.083	−.124	.048	.104
Behavior ratings (SESBI-R)	.113	.091	.069	.014
Observed conflict (inCLASS negative engagement)	−.17*	−.154	−.075	.012
Teacher–child closeness (STRS)	−.216*	−.229**	−.036	.086
Teacher–child conflict (STRS)	.089	.119	−.027	−.083

Note. CLASS = Classroom Assessment Scoring System; SESBI-R = Sutter-Eyberg Student Behavior Inventory–Revised; inCLASS = Individualized Classroom Assessment Scoring System; STRS = Student–Teacher Relationship Scale.

*$p \leq .05$. **$p < .01$.

The *Responsibility* composite was positively correlated with a teacher's report of his or her use of inappropriate teaching strategies: More negative attributions were related to a teacher reporting greater usage of inappropriate behavior strategies. A teacher's authoritarian beliefs were also significantly positively correlated with his or her *Responsibility* attributions in the expected direction: More negative attributions were related to more authoritarian beliefs. A teacher's *Responsibility* attributions were not correlated with the quality of the teacher's interactions in the classroom, the teacher–child relationship quality, or the teacher's self-efficacy. In addition, *Responsibility* attributions were not related to either a teacher's report of child disruptive behavior or observed disruptive behavior.

Partial Correlations

Given the moderate correlation between the *Causal* and *Responsibility* attribution subscales ($r = .502$), we conducted partial correlations in order to explore the correlations that each attribution subscale had with related variables while controlling for the other subscale (see Table 4). When we controlled for *Responsibility* attributions, *Causal* attributions remained significantly correlated with a teacher's emotional support and a teacher's report of closeness with selected children. Because we controlled for the variance of *Responsibility* attributions, the *Causal* attributions were no longer correlated with observed child behavior or a teacher's report of inappropriate management strategies. When we controlled for *Causal* attributions, *Responsibility* attributions remained significantly correlated with a teacher's authoritarian beliefs. Controlling for the variance of *Causal* attributions removed the association between *Responsibility* attributions and a teacher's reported use of inappropriate strategies.

DISCUSSION

The purpose of this study was to establish initial reliability and validity for a measure of early childhood teachers' self-reported attributions of young children's disruptive behavior, the PTA measure. Adapted from a previously developed attribution measure used with parents of young children (O'Brien & Peyton, 2002; Williford et al., 2009), the PTA is a vignette-based measure in which teachers read a series of vignettes and are asked to think about a time when they recently experienced a similar situation in their classrooms. For each vignette, teachers rate their level of agreement with a series of statements that map onto eight dimensions of behavior attributions. Our results provide initial support for the reliability and validity of the PTA, and findings are discussed in more detail here.

Reliability

Consistent with our hypotheses, a two-factor model of *Causal* and *Responsibility* attributions fit the PTA data well and significantly better than a one-factor model. Teachers who endorse high *Causal* attributions believe that a child will display disruptive behavior across contexts, that the behavior is stable, and that the behavior is caused by internal factors. Teachers who endorse high *Responsibility* attributions believe that a child's behavior is purposeful, that a child is motivated by selfish reasons, that the child deserves to be disciplined for the behavior, and that the child engages in negative behavior in order to negatively affect the adult (i.e., annoy). The current CFA results mirrored the two-factor structure of parent behavior attributions from which the PTA was developed, and this replication of factor structure with early childhood teachers provides support that the PTA reliably measures a teacher's attributions. The better fit for the two-factor model suggests that each factor of the model, *Causal* and *Responsibility,* represents a separate, distinct aspect of teachers' behavior attributions. The correlation between the factors was moderate, indicating that on average teachers reported similar levels of *Causal* and *Responsibility* attributions but that that the correspondence was not exact. That is, teachers may hold high *Causal* attributions but low *Responsibility* attributions or vice versa.

Validity

Correlation results establish initial evidence for the validity of the PTA, although not all results were in the expected direction. Comparison of the bivariate and partial correlation results helps to understand the combined and unique ways that *Causal* and *Responsibility* aspects of a teacher's attributions are related to other aspects of the teacher's practices and beliefs related to teaching. Here we describe associations between the teachers' *Causal* and *Responsibility* attributions and related constructs in more detail.

With regard to a teacher's beliefs, we found mixed support for our hypotheses that both *Causal* and *Responsibility* attributions would be correlated with the teacher's authoritarian beliefs about children and efficacy regarding teaching. Only a teacher's *Responsibility* attributions were positively associated with teacher authoritarian beliefs. This is consistent with the pattern found by Hastings and Rubin (1999) with mothers and their young children; teachers who believed that children should obey the teacher and that children should be treated the same were

more likely to believe that children who displayed disruptive behavior were behaving intentionally and deserved blame (i.e., had more negative *Responsibility* attributions). In contrast, teachers' authoritarian beliefs were unrelated to whether they felt children's negative behavior was stable and due to factors internal to the child.

Contrary to our hypotheses, we did not find evidence that *Causal* or *Responsibility* attributions were significantly associated with teachers' self-efficacy regarding their teaching. This may be due to the fact that our teacher self-efficacy scales included a teacher's perceived efficacy across a variety of factors, including discipline, instruction, positive environment, and decision making, rather than just the teacher's perceived efficacy in classroom management strategies (such as what was used in Andreou & Rapti, 2010). Alternatively, a teacher's efficacy about teaching children may be separate from the attributions he or she holds about children's negative behavior. Teacher attributions thus may be more related to the practices that teachers use to handle misbehavior in the classroom.

In relation to teaching practices, teachers' *Causal* and *Responsibility* attributions were significantly and positively associated with teachers' reported use of inappropriate discipline strategies in the classroom. That is, teachers who believed that a child's negative behaviors were stable and internal to the child and that the child deserved blame and punishment for such behaviors were more likely to endorse using negative and punitive discipline strategies in the classroom, such as commenting on or singling out a child for negative behavior or sending the child home for misbehavior. When comparing the bivariate and partial correlations, we see that *Causal* and *Responsibility* attributions remain associated with a teacher's reported use of inappropriate discipline strategies, even when the other subscale is controlled. Thus, teachers' negative attributions may account for this association more generally rather than *Causal* or *Responsibility* attributions differentially. This is in accord with previous findings that a teacher's negative behavior attributions are associated with his or her reported choice of discipline practices in the classroom (Andreou & Rapti, 2010; Bibou-Nakou et al., 2000). It also aligns with literature that demonstrates that negative parent attributions are correlated with the use of harsh, or inappropriate, disciplinary practices (e.g., Bugental & Johnston, 2000). This finding suggests that when a teacher holds negative attributions for disruptive behavior (both negative *Causal* and *Responsibility*), the teacher reports responding to misbehavior in a more negative, inappropriate manner. The parenting literature would suggest that this would imply that a teacher with negative attributions would respond to misbehavior in a more negative, punitive manner as well. However, further testing must be conducted in order to determine this.

We found mixed support for the link between observed teacher classroom practices and teacher attributions. The quality of teachers' independently observed classroom practices was not associated with teachers' reports of their *Responsibility* attributions as hypothesized. However, as expected, the quality of teachers' emotionally supportive practices in the classroom was negatively linked with their reports of *Causal* attributions. Specifically, teachers who believed a child's behavior to be stable, to be internal to the child, and to occur across contexts also tended to interact in ways that were less sensitive and responsive to children's needs in the classroom. This may be due in part to teachers providing less support to children whose behavior they perceive as an enduring and pervasive part of that child's experience in the classroom. This finding is similar to parenting studies that demonstrate that parents with more negative behavior attributions are more likely to demonstrate insensitive behaviors, such as displaying anger (Black et al., 2001; Coplan et al., 2002).

This negative link between a teacher's *Causal* attributions and emotionally supportive practices may suggest something about the way in which a teacher's attributions are associated with the level of emotional support he or she provides for all children in the classroom. Our measurement of the quality of a teacher's interactions was assessed at the classroom level and consequently weighed a teacher's interactions with all children. This measure did not specifically look at a teacher's interactions with the selected children with disruptive behavior. It is possible that teachers may be differentially supportive to certain children based upon their attributions of the children's behavior. Or a child with disruptive behavior may seek a great deal of emotional support from the teacher, allowing for a lower level of emotional support for the average child in the classroom, consequently leading to a lower emotional support score.

Based on the literature regarding negative, conflictual relationships between a teacher and children with disruptive behavior, we expected that the quality of the teacher–child relationship would be significantly associated with both negative *Causal* and *Responsibility* attributions. We found that only *Causal* attributions were significantly associated with teacher–child closeness in the expected direction. This finding is consistent with the parenting literature, which shows that negative attributions are significantly associated with more dysfunctional relationship patterns (Black et al., 2001; Coplan et al., 2002). Contrary to our expectations, *Responsibility* attributions were not significantly related to either closeness or conflict within the teacher–child relationship, which was unexpected given prior research supporting the link between negative attributions and dysfunctional relationship patterns (e.g., Black et al., 2001) and research demonstrating that *Responsibility* attributions served as a moderator between a teacher's behavioral appraisals and her reported closeness with a child (Thijs & Koomen, 2009).

Another surprising finding is that *Causal* attributions were significantly associated with *less* observed conflict but not with a teacher's behavior ratings, although there was not a significant link for either teacher report or observed behavior with *Responsibility* attributions. The missing link between a teacher's behavior rating and either *Causal* or *Responsibility* attributions is unexpected given the support in the parenting literature for a link between negative attributions and higher reported disruptive behavior (e.g., Johnston & Freeman, 1997). It is possible that this finding may be related to the previous unexpected finding, that more negative *Causal* attributions were related to a teacher's report of lower closeness in his or her relationship with a child. If a teacher is reporting a significantly lower amount of closeness with a child, the teacher and child may be interacting with each other less in general—both in positive and in negative ways.

Measuring the Two Subscales Separately

It is interesting that a comparison of the bivariate and partial correlations provides support for the validity and importance of measuring *Causal* and *Responsibility* attributions separately. Although the subscale scores were moderately correlated with each other, the subscale scores differentially linked to certain aspects of teacher beliefs, teacher practice, the teacher–child relationship, and children's behavior problems. These unique links may help experts to better target aspects of teacher attributions for professional development. For example, a professional development tool that has the goal of improving a teacher's emotional support may also want to include elements that address the teacher's *Causal* attributions. Or a professional development tool that has the goal of addressing a teacher's authoritarian beliefs may also want to examine the teacher's *Responsibility* attributions.

LIMITATIONS

The results of this study add to the literature on teacher attributions by providing a reliable and valid measure for assessing an early childhood teacher's attributions for child disruptive behavior. However, several limitations of the current study must be acknowledged. Because this is a correlational study, we cannot make causal claims. Due to the fact that all measures were collected concurrently, we also cannot make predictive claims about the directionality of a teacher's attributions with regard to future practices or beliefs. Another limitation of the data having been collected at baseline is that all measures were assessed at the beginning of a school year, which may have been prior to the teacher and child developing a familiar relationship or before the teacher had an adequate chance to assess the child's behavior across settings. With regard to the PTA measure itself, we assessed a teacher's attributions of disruptive behaviors using teacher self-report; thus, a teacher may have provided more positive attributions in order to increase desirability. The meaningful variability in responses, though, suggests that teachers were providing responses across the range, including those that endorsed more negative attributions. In addition, a teacher may not have been able to fully reflect upon the internal process of his or her attributions. However, we attempted to elicit this internal process in the use of vignettes that teachers personalized by thinking of a time when misbehavior occurred in their classroom.

FUTURE DIRECTIONS

This study sets the stage for future research in the area of teachers' attributions of children's disruptive behavior. Specifically, replication of the present study would provide important confirmation of the reliability and validity of the PTA as a measure of early childhood teachers' attributions. Furthermore, future work could explore whether early childhood teachers' attributions are different or similar across types of classrooms, by teacher or child ethnicity and culture, or with different levels of teacher experience. Additional studies of teachers' behavior attributions of children across different age groups may provide important information about how teachers understand behavior in the context of age and development. The correlations between attributions and emotional support, teacher beliefs, and teacher-reported practices provide evidence for the importance of collecting data about a teacher's attributions in studies that explore teacher beliefs, teacher practices, or the teacher–child relationship.

CONCLUSION

The purpose of this study was to add to the literature regarding the importance of and ability to measure early childhood teachers' attributions for child disruptive behavior. Findings demonstrated the initial reliability of the measure, with good fit for a two-factor structure (similar to parent attributions) and solid internal consistency of each subscale. Validity results suggest that the PTA measure assesses an important aspect of a teacher's internal beliefs: his or her attributions for disruptive behavior. The bivariate and partial correlations provide additional evidence for the validity of each attribution subscale as well as for the importance of including both *Causal* and *Responsibility* attributions when assessing a teacher's attributions. This study provides preliminary evidence that the way an early childhood teacher understands the source

and rationale for child disruptive behavior may in part contribute to how the teacher responds to the behavior and the child. With replication, this finding may provide valuable evidence for the inclusion of a teacher's behavior attributions in interventions that target teachers' beliefs, practices, and relationships with children.

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APPENDIX

Preschool Teaching Attributions Measure

Preparatory Questions

Question
The age and sex of the child _____
What happened _____
What you did _____
And why you think the child didn't do what you asked _____

Behavior Scenarios

Type of Misbehavior	Scenario
Noncompliance to teacher requests	Think about a time recently when a child in your classroom didn't do something you wanted done (such as picking up toys at the end of an activity, staying in line during hand washing, etc.), even after you asked several times.
Aggression towards peers	Think about a time recently when a child in your classroom hit, pushed, yelled at, or otherwise behaved aggressively with another child.
Aggression towards teacher	Think of a time recently when a child in your classroom was disrespectful of you (talked back to you, lashed out physically as if to hit or kick you, etc.).
Interruption	Think about a time recently when a child in your classroom interrupted you and demanded your attention when you were busy with something else (talking on the phone, speaking with another child's parent, working on a project with other children, etc.).
Noncompliance with routine	Think of a time recently when a child in your classroom refused to go along with a daily routine (settling down to eat lunch, getting ready to go outside, lying quietly at rest time, etc.).

Sample Items for Scenario 1

Dimension	Item
Purposefulness	The child didn't do what I asked on purpose rather than unintentionally
Globality	The reason the child didn't do what I asked is something that comes up often with this child
Stability	The reason the child didn't do what I asked is not likely to change
Motivation	The child didn't do what I asked because he or she is motivated by selfish rather than unselfish concerns
Internal/external locus	The child's behavior (in not doing what I asked) is due to something about him or her (for example, the mood he or she was in, his or her personality)
Blame	The child deserved to be disciplined for not doing what I asked
Negative intent	The child didn't do what I asked mainly just to annoy me
Controllability	The child was able to control whether or not he or she didn't do what I asked