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The Impact of Teacher Education in ADHD and ODD on Perceived Efficacy, Proposed Interventions, and Behavior Attributions

Melissa Webb

THE IMPACT OF TEACHER EDUCATION IN ADHD AND ODD ON PERCEIVED EFFICACY, PROPOSED INTERVENTIONS, AND BEHAVIOR ATTRIBUTIONS

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Melissa Webb

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Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Psychology

We hereby approve the dissertation of

Melissa Webb

Candidate for the degree of Doctor of Psychology

_____ _____
Laura Knight, Ph.D.
Assistant Professor of Psychology, Chair

_____ _____
Lisa Newell, Ph.D.
Associate Professor of Psychology

_____ _____
Pearl Berman, Ph.D.
Professor of Psychology

ACCEPTED

_____ _____
Randy L. Martin, Ph.D.
Dean
School of Graduate Studies and Research

Title: The Impact of Teacher Education in ADHD and ODD on Perceived Efficacy, Proposed Interventions, and Behavior Attributions

Author: Melissa Webb

Dissertation Chair: Dr. Laura Knight

Dissertation Committee Members: Dr. Lisa Newell
Dr. Pearl Berman

Disruptive behavior in children is the most common reason for seeking mental health services (Keenan & Wakschlag, 2000; Robins, 1991) and often carries over into the child's academic environment. Teacher beliefs and behavior can ameliorate or exacerbate behavioral problems in the classroom (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2007; Hamre & Pianta, 2001). Teacher education in childhood behavioral disorders and classroom management varies widely (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000), as state and program requirements differ (Freeman, Simonsen, Briere, & MacSuga-Gage, 2014). Increasing teachers' knowledge of behavior disorders has been shown to increase teacher self-efficacy, and lead to attributions for behavior problems to a child's disorder, rather than the child's disposition, which increases the number of positive interventions utilized in the classroom (Andreou & Rapti, 2010; Jones & Chronis-Tuscano, 2008; Poulou & Norwich, 2002). Although there are many validated teacher training programs that provide instruction in positive interventions and education about behavioral problems, they tend to be expensive and time consuming. Therefore, alternative programs that require fewer resources and are consequently more accessible, should be explored.

The purpose of this study was to develop and administer an intervention that provides education about common behavioral disorders, as well as evidence-based

strategies to address related problems in the classroom in a convenient format. The aims of the current study were to increase teacher knowledge of ADHD and ODD and self-efficacy in classroom management, as well as modify attributions for child behavior to increase positive intervention selection. Due to difficulty with in-service teacher recruitment, education students were included as participants. Results showed that the intervention significantly increased knowledge in ADHD for females and ODD for both genders, as well as ratings of self-efficacy. Additionally, gender appeared to mediate attributions to disorder factors, such that more females than males reported attributions to disorder factors following the intervention. Lastly, participants significantly increased their preference for positive interventions in response to an ADHD vignette, as well as increased their perception of effectiveness of positive interventions in reference to an ODD vignette. Possible explanations for the results, future directions, and limitations are also discussed.

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CHAPTER I

INTRODUCTION

One of the most prevalent reasons for a pediatric referral to a mental health agency is disruptive behavior (Keenan & Wakschlag, 2000; Robins, 1991). This includes aggressive or defiant behaviors such as arguing with adults, blaming others for misbehavior, destroying others' property, and school truancy (American Psychiatric Association, 2013). Many programs have been developed to address children's behavior difficulties in multiple settings, including the home and the classroom. However, formal programs are lengthy and require a great deal of resources for training and implementation. The program with the most significant amount of literature support, The Incredible Years®, requires months of meetings for parents and multiple full days of training for teachers (Reid & Webster-Stratton, 2001). Although teachers report high levels of satisfaction with the program (Webster-Stratton, Reid, & Stoolmiller, 2008), the program is expensive and lengthy.

Research indicates that teachers are not universally trained in the concepts or implementation of basic classroom management skills that help them in managing the behavior of children in their classrooms (Jones, 1996; Hammerness, 2011). Furthermore, teachers who do not feel confident in their ability to manage a classroom are more likely to choose negative interventions to deal with disruptive students (Andreou & Rapit, 2010). Conversely, teachers are more likely to choose positive interventions when they have an explanation for a child's behavior, and are more likely to help if they view the child's behavior as out of the child's control (Alderman & Nix, 1997; Anderou & Rapit, 2010). Arcia, Frank, Sanchez-LaCay and Fernandez (2000)

determined that teachers do not have adequate knowledge about Attention Deficit Hyperactivity Disorder (ADHD), or how to adjust their classroom management plans to work with students who have this disorder. Therefore, the goal of this research project is to examine changes in attributions for child misbehavior, feelings of self-efficacy and intervention preference as a result of increased teacher information about common childhood behavior disorders, ADHD and Oppositional Defiant Disorder (ODD). It is predicted that improving a teacher's knowledge base about common childhood behavior disorders will change the teacher's attributions for child misbehavior, increase their feelings of effectiveness, and inform their choice of intervention.

CHAPTER II

LITERATURE REVIEW

Child Problem Behaviors

Disruptive behavior in children is considered to be one of the most prevalent reasons for referral to a mental health agency (Keenan & Wakschlag, 2000; Robins, 1991). This includes aggressive or defiant behaviors such as arguing with adults, blaming others for misbehavior, destroying others' property, and school truancy (American Psychiatric Association, 2013). The current edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013) includes three diagnoses addressing disruptive behavior: Disruptive Mood Dysregulation Disorder (DMDD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD). Attention Deficit/Hyperactivity Disorder (ADHD) is not considered a disruptive behavior disorder, but is frequently co-occurring (August, Realmuto, MacDonald, Nugent & Crosby, 1996). ADHD is characterized by symptoms of inattention, hyperactivity, and impulsivity, and symptoms must be present before a child turns 12. ODD is characterized by angry or irritable mood, argumentative or defiant behavior, and vindictiveness (American Psychiatric Association, 2013). There is no floor or ceiling age for a diagnosis of ODD, but the frequency requirement for problematic behaviors differs for those under and over the age of 5. A diagnosis of Conduct Disorder suggests symptoms relating to aggression towards people and animals, destruction of property, deceitfulness or theft, and/or serious violations of rules (American Psychiatric Association, 2013). Diamantopoulou, Verhulst, and van der Ende (2011) found that the previously assumed progression of ODD to CD is not necessarily accurate. Instead, the researchers found

that the symptoms of ODD and CD develop in a parallel manner, and further concluded that symptoms of ODD are not developmental precursors to CD without the initial presence of the more severe symptoms that make up the CD diagnosis. Age is not addressed in the general criteria for CD, but is considered when specifying type. CD is differentiated from ODD by the former's distinct lack of respect for the rights of others, increased aggressive behavior and antisocial features. DMDD, a new diagnosis introduced in the DSM-5, is characterized by recurrent outbursts of verbal or physical aggression that are inconsistent with developmental level. Initial diagnosis requires that a child be between the ages of 6 and 18. Each diagnosis requires significant impairment in functioning as a result of symptoms (American Psychiatric Association, 2013). The remainder of this literature review will focus on the diagnoses of ADHD and ODD, as they are most commonly seen in young children below the age of 6 years.

A discussion of different types of aggression is necessary to understand child misbehavior. Research has identified 2 primary types of aggression: reactive and proactive aggression (Crick & Dodge, 1996; Ojanen & Kiefer, 2013). Reactive (or hostile) aggression is a defensive response to provocation, while proactive (or instrumental) aggression is defined as a deliberate behavior that is conducted to reach a specific goal. A prominent model that describes the development of disruptive behavior and aggression in children is the "coercive process" introduced by Patterson (Patterson, Reid, & Dishion, 1992; Burke, Pardini, & Loeber, 2008). Within this process, young children learn to use oppositional or disruptive behavior patterns to circumvent or avoid parental censure. Parental response to misbehavior is met with defiance from the child; the subsequent parental response escalates and may involve yelling or other

ineffective means of gaining the child's compliance. In response to the parent's attempts at gaining control of the child, the child escalates behavior further. If this cyclical process ends with the parent withdrawing attempts at controlling the child and the child getting his/her way, the child has learned to respond defiantly again in the future via negative reinforcement, or removal of the undesirable stimulus (parental control strategies). For example, if a child wants candy while at the grocery store and his demand is met with firm refusal, the child may respond with defiance. The parent becomes frustrated and angry, and escalates the interaction with the child, who becomes more defiant. If the parent eventually capitulates and gives the child what he wants, the child learns that defiance is rewarded. Previously tested primarily in boys and older children, this model was also found to be generalizable to male and female 5-year-olds (Eddy, Leve, & Fagot, 2001). The tenets of this theory are the focus of current interventions that teach parents to change their parenting to be more constructive and less harsh (Brestan & Eyberg, 1998; Burke, Pardini, & Loeber, 2008).

Early identification and treatment of childhood behavioral disorders is crucial to the prevention of more serious behavioral problems. However, it can be difficult to differentiate between normal developmental misbehavior and disruptive behavior on a diagnosable scale (Wakschlag et al., 2007), especially in the areas of defiance, temper tantrums, and aggression. A low level of these behaviors is common and developmentally appropriate, especially as children explore their autonomy and learn to do things for themselves. As Keenan and Wakschlag (2002) point out, development of a preschooler's verbal skills and independence are concurrent with parents' imposition of new rules and limits. Clashes between the preschooler and parent are to be expected at

this point, and one might say that preschool children are developmentally prone to a normative level of disruptive behavior. The behaviors become problematic when this defiant behavior persists as the child enters school, and the defiance and/or aggression is directed toward teachers and peers. Normatively, children may display low-level defiance, but become compliant with a parental prompt. They may experience mild difficulty in recovering from negative affect (a temper tantrum), requiring more time or adult support. Normative expression of aggression involves mild or low intensity aggression that appears to be impulsive in nature.

The Diagnostic and Statistical Manual provides variable guidance in differentiating between normal child misbehavior and clinical symptoms. The diagnostic criteria for ODD specify that frequency and persistence of the core behaviors are the qualities that should be evaluated to distinguish behavior that is “within normal limits” from behavior at the clinical level (APA, 2013). Further, the behavior should occur most days for a period of at least 6 months for children under the age of 5, and at least once per week for at least 6 months for those over the age of 5. This reflects an established difference in normative defiant or oppositional behavior in younger children. Many behaviors included in the criteria for Conduct Disorder, such as fire setting, theft, and physical cruelty to people or animals, do not have a developmentally appropriate equivalent, and therefore reflect problems whenever they occur. However, the DSM-5 does not provide assistance in distinguishing between normative and clinical behaviors when describing ADHD or DMDD, both of which include components that can be developmentally appropriate, such as forgetfulness, lack of attention to detail, fidgeting, and temper outbursts.

The introduction of Disruptive Mood Dysregulation Disorder in the DSM-5 prompted significant concern from psychological professionals that developmentally appropriate behaviors in children may be labeled as disordered, resulting in the pathologization of normal child development or simply an unneeded diagnostic category (Axelson, et al. 2012). This is especially concerning with regard to the diagnosis of preschool-aged children. Despite this, research has found that DSM diagnostic categories are valid when applied to children of preschool age, provided developmental level is taken into account (Keenan & Wakschlag, 2002). This suggests that the frequency of behavior as specified in the DSM is helpful in drawing the distinction between typical and atypical behaviors. Wakschlag and colleagues (2007) provided a conceptual framework with which to categorize a child's behavior as non-disruptive, sub-clinical, or disruptive. The essential components of that judgment include direct observation in addition to parental report, pervasiveness of problematic behavior, and assessment of behavior across multiple dimensions.

Although children generally outgrow normative disruptive behavior by the start of kindergarten, the behavior of children at the clinical level remains moderately consistent. Young children with a baseline diagnosis of a disruptive behavior disorder were likely to have a disruptive behavior disorder approximately 2 years later; this was true for 50% of 2-3 year-olds and 65% of 4-5 year-olds (Lavigne, Cicchetti, Gibbons, Binns, Larsen & DeVito, 2001). Additionally, for a significant minority of children, the effects of disruptive behavior problems can be seen throughout adolescence and, at times, into adulthood. Breslau, Breslau, Miller and Raykov (2011) found that behavior problems at ages 6 and 11 predicted lower math and reading test scores at the age of

17. Aggression and conduct problems found in school-aged children have been found to be predictive of criminal behavior (Huesmann, Eron, Lefkowitz, & Walder, 1984), major depression, development of CD, and antisocial personality disorder (Biederman, Petty, Dolan, Hughes, & Mick, 2008). An ADHD diagnosis was found to have its own risks. ADHD in 5- to 17-year-old children was a significant predictor of male adolescent cigarette smoking (Milberger, Biederman, Faraone, Chen, & Jones, 1997), as well as tobacco and illicit drug use in both genders (Molina & Pelham, Jr., 2003). The same study also found that the severity of childhood inattention problems predicted multiple substance use problems. Broidy and colleagues (2003), however, found in a cross-national study that prevalence rates for disruptive behavior decline over time. Therefore, most disruptive preschoolers will not continue to demonstrate behavior problems into adolescence or adulthood.

The impact of the school community on the behavioral functioning of children has also been documented. Students' feeling of belongingness to their school community has been shown to have a significant positive correlation with a range of motivational, attitudinal, and behavioral variables such as concern for others, conflict resolution skills, and general self-esteem for children in the 3rd through 6th grades (Battistich, Soloman, Kim, Watson, & Schaps, 1995). Burns (1995) found that 70-80% of children who received mental health care received services from mental health providers who worked in the school setting, such as guidance counselors and school psychologists. The educational setting was also the only source of mental health care for the majority of children who received any mental health services at all, and this was true for children both with and without a mental health diagnosis and functional impairment. Farmer

(2003) found that the number of children who received mental health services in the educational setting (i.e., school psychologist, counselor, or teacher intervention) was almost double the number of children receiving “specialty mental health” such as psychologists, psychiatrists or counselors in private practice or community mental health settings. Schools were found to be the most common point of entry to mental health services for children and youth, and 58% of the children in Farmer’s (2003) study subsequently sought help within the specialty mental health sector. This data indicates that the majority of children for whom services may be beneficial are not receiving treatment outside the school setting, as the lifetime rate of mental health services use in the educational setting was 42.3%, compared to the lifetime rate of 24.3% for “specialty mental health.” Given that the overall prevalence of ADHD and ODD is 15.7% and 13.4% respectively (Pardini & Fite, 2011), it is clear that teachers need to be proficient in handling problem behaviors in the classroom, because these behaviors are not being addressed elsewhere.

Child Variables That Contribute to Problem Behavior

Variables relating to a child’s personality and behavior at a young age are predictive of long-term outcomes. Risk for externalizing behavior problems is increased when a child has a difficult temperament, characterized by excessive crying, negative mood, inflexibility, problems adapting, and greater difficulty managing behavior (Stormont, 2002). Additionally, comorbid hyperactivity and aggression may be a risk factor in the development of future behavior problems due to an increase in irritability and reactivity as well as a more difficult temperament (Sanson et al., 1993). Age and gender are also important to consider (Stormont, 2002) when determining whether a

child's behavior is developmentally appropriate. Research has found significantly higher rates of conduct problems and hyperactivity in males than in females (Huselid & Cooper, 1994), and these behaviors are often overlooked in females (Quinn, 2005). It is important to emphasize, however, that a child's temperament alone does not predict externalizing behavior problems. Temperament characteristics interact with other family, child, and sociocultural factors to predict outcomes (Deater-Deckard, Dodge, Bates, & Pettit, 1998; Stormont, 2002; Bradley & Corwyn, 2008).

Variables Related to the Home Environment

As children spend significant amounts of time at home, the home environment should not be overlooked in the etiology of behavior disorders. Sociocultural factors in problem behavior include harsh parental discipline, poverty, patterns of parental violence, and parental substance abuse/pathology (Fitzgerald, 2003; Loeber & Farrington, 2000; Youngstrom, Weist & Albus, 2003). All of these variables interact with each other to predict outcomes for the child (Deater-Deckard, Dodge, Bates, & Pettit, 1998; Stormont, 2002; Bradley & Corwyn, 2008).

Parental and caregiving variables. Fitzgerald (2003) identified harsh parental discipline, poverty, and a pattern of parental violence as predictive of psychological or psychosocial problems over time. Support for these risk factors has been significant (Mackenbach, et al., 2014; Slopen, Fitzmaurice, Williams, & Gilman, 2010; Yoo & Huang, 2012), and additions include parental substance abuse and/or pathology (Loeber & Farrington, 2000; Youngstrom, Weist & Albus, 2003). Longitudinal studies have shown that maternal depression, marital conflict, family/parenting stress, and low maternal educational levels are predictors of behavior problems in preschoolers

(Stormont, 1998). Compared to children whose behavior improves over time, preschool children with stable behavioral problems had mothers who initially felt more parenting stress, were less satisfied in their marriage, and were more depressed (Campbell, 1995). The research indicates that a child's characteristics interact with family variables, in that more stress in a child's family environment is associated with a higher severity of behavioral problems (Stormont, 2002; Magee & Roy, 2008). A stressful family experience increases the likelihood of comorbid diagnoses in adolescence (Moffitt, 1990). Additionally, preschoolers with both hyperactivity and aggression were found to have more adverse characteristics in their families than preschoolers with only hyperactivity (Stormont-Spurgin & Zentall, 1995). Campbell, Pierce, March, Ewing, and Szumowski (1994) stated that children with the largest risk of displaying problem behavior "do not have either the internal resources or the external supports to help them overcome early difficulties with self-regulation and behavior control" (p. 837).

As previously discussed, early harsh child management has been shown to play a large role in aggression shown by children (Patterson, Reid, & Dishion, 1992). Negative and/or controlling parenting behaviors are the most concerning. Instances of negative control displayed by mothers toward their 3-year-old children predicted negative behavior at 9 years old, including antisocial behavior, as well as mothers' use of harsh discipline at that age (Campbell & Ewing, 1990). Higher levels of self-reported maternal control in childrearing when the child was in preschool were associated with more stable behavior problems (Stormont, 2001). In contrast, poor parental monitoring can lead to many problem behaviors. Dishion and McMahon (1998) found that parents' inability to monitor and punish aggressive behavior contributes to ongoing problems

with aggression. Therefore, balance must be achieved between poor monitoring and excessive amounts of control.

Mothers of preschool children with conduct problems spend 20% of their time in negative interactions with their child, almost ten times the amount spent by parents of children without conduct problems (Gardner, 1987). Children without conduct problems also spent over twice as much time engaged in positive interactions with their mothers than those with behavioral problems. Mothers of preschoolers with conduct problems were less consistent, following through on commands only 23% of the time (Gardner, 1989). Lorber and Egeland (2011) found that conduct problems in preschool were predicted by negative parenting in infancy, mediated by mutually angry and hostile toddler-mother interactions from 24-42 months. For example, negative parenting leads to hostile interactions, such as rejection or expression of anger from both the child and the parent, and conduct problems result from those interactions. A number of risk factors typically co-occur for children demonstrating problem behaviors, including harsh parenting, poverty, and parental psychopathology (Deater-Deckard, Dodge, Bates, & Pettit, 1998).

Sociocultural factors. Sociocultural factors have also been found to increase a child's risk for externalizing behavior problems. Low socioeconomic status has been shown to have significant negative effects. Low socioeconomic status, breastfeeding for less than 3 months, and the child living with only one parent were independent predictors of problem behavior in preschool children (Samarakkody, Fernando, McClure, Perera, and De Silva, 2012). Additionally, the effects of low socioeconomic status are durable over time. Scaramella, Neppl, Ontai and Conger (2008) found that

low socioeconomic status in the first generation of a family was significantly correlated with externalizing behavior problems in that generation's grandchildren (generation 3). This relationship was mediated by harsh parenting of generation 3 children by their parents. Similarly, Martin, Conger, Schofield, Dogan, Widaman, Donnellan and Neppl (2010) found a significant correlation between low socioeconomic status of the first generation and family stress. Family stress was then a predictor for problem behavior in generation two. Further, first generation adult low socioeconomic status predicted problem behavior in their children, with the relationship mediated by material and emotional investment in their children. Although research has shown the significant correlation of low socioeconomic status with child problem behavior, it can be difficult to determine specific causation. Those with low socioeconomic status are also more likely to experience all other risk factors for problem behavior (Huaqing Qi & Kaiser, 2003). These factors, as discussed by Huaquing Qi and Kiasier in their 2003 meta-analysis, include ethnicity, family instability, family conflict, and community violence in addition to general parent and child factors.

Classroom Variables

The effects of a child's classroom environment should be considered as well; specifically, the relationship that the child has with the teacher. Several studies have found that teacher-child relationship quality in kindergarten is negatively correlated with aggression and conduct difficulties in the classroom (Birch & Ladd, 1997; Pianta & Nimetz, 1991; Pianta & Steinberg, 1992), as well as predictive of problems in classroom behavior in later grades (Hamre & Pianta, 2001; Ladd & Burgess, 2001; Pianta, Steinberg & Rollins, 1995). Additionally, teachers spend less than 5% of the time

engaged in positive interactions with children who have behavior disorders, and more than 20% of the time in negative interactions (Jack et al., 1996). Children who display aggressive behaviors in the classroom not only have more negative interactions with teachers and receive more criticism, but also receive less teaching, nurturing, and support from those teachers (Dodge & Feldman, 1990; Patterson et al., 1992). However, when those children with problem behavior do follow directions or behave appropriately, that behavior may not be consistently reinforced. Shores et al. (1993) found that when children with aggressive behaviors raised their hands, teachers only responded 20% of the time. It is likely that children with behavior problems would benefit from an increase in positive reinforcement and positive interactions with their teacher, even at the kindergarten level (Payne & Dozier, 2013; Call & Mevers, 2014).

The teacher-student relationship. The quality of the teacher-student relationship can have a significant impact on a child's problem behavior. Buyse, Verschueren, Doumen, Van Damme, and Maes (2007) found that a kindergartner's problem behaviors, as measured by teacher-report on the Student-Teacher Relationship Scale, negatively impacted the teacher-child relationship. Additionally, an emotionally supportive teacher (described as high levels of warmth and sensitivity, rated by the teacher for the relationship with each individual child) is beneficial to children with internalizing or externalizing behavior problems, in that it removes the increased risk for later interpersonal difficulty, as measured by the child's relationship closeness and conflictual relationships. When teachers perceive the relationship with a student positively, that student's behavior is also perceived more positively, and therefore the teacher will rate that student as having more positive relationships with others.

Hamre and Pianta (2001) conducted a longitudinal study in which they found that teachers' perceptions of a negative relationship with students in kindergarten was associated with students' negative behavioral and academic outcomes in the eighth grade. This was especially significant for boys, as teachers reported "closer and less conflictual relationships with girls" (Hamre & Pianta, 2001, p. 630). Both child and teacher reports of relationship quality in grades 2 and 3 were predictive of teacher-rated aggression in the following year (Hughes, Cavell & Jackson, 1999). In short, a positive student-teacher relationship was associated with lower levels of aggression the following year as reported by the new teacher. Teacher reports across grades 2 and 3 were correlated with peer ratings of aggression in grade 4, which is significant in that peer relations are an important part of adjustment for children with problem behaviors. Conversely, a positive teacher-student relationship was most beneficial for children whose parents reported parenting histories with negative attachment or rejection of the child (Hughes, Cavell & Jackson, 1999). Pace and colleagues (1999) found that teachers' negative perceptions of students are associated with student-reported depression (as measured by the Children's Depression Inventory), and with parent-reported internalizing and externalizing problems and overall psychopathology (as measured by the Child Behavior Checklist). Teachers' ratings of personal rejection toward students were associated with parent-reported externalizing behavior problems, indicating the power of disruptive behaviors on the teacher's perception of that student.

The classroom environment and interactions. Kellam, Ling, Merisca, Hendricks Brown, and Ialongo (1998) researched the longitudinal effects of aggressive school environments, with individual classrooms being identified as "aggressive" based

on the number of displays of disruptive or aggressive behavior by children in that classroom. Children were assigned to classrooms sequentially via alphabetized lists, and the assignment was subsequently checked to ensure it was balanced based on children's behavior in kindergarten so that an equal number of children with behavior problems were placed in each classroom. The researchers used the Teacher Observation of Classroom Adaptation-Revised (TOCA-R), a 2-hour structured interview, to measure each child's adequacy of performance on the core tasks in the classroom, such as Authority Acceptance, which measures maladaptive displays of disruptive and aggressive behavior. The combined mean score for each classroom was then utilized to characterize each classroom as "aggressive" or "non-aggressive."

Kellam et al. (1998) found that boys who were rated as aggressive by teachers in the first grade and subsequently placed in an aggressive classroom were significantly more likely to be rated highly aggressive by teachers in middle school. Children with the same high level of aggression in first grade but placed in non-aggressive classrooms were at significantly lower risk of being aggressive in middle school. The environment of high aggression was also found to be have a significant long-term effect on children displaying aggressive behaviors early in life; early display of aggression was a moderator between the exposure to the highly aggressive classroom and aggression in middle school. Thomas, Bierman, and The Conduct Problems Prevention Research Group (2006) found cumulative effects, in that children from kindergarten to 4th grade exposed to classrooms with high rates of student aggression for multiple years showed more aggressive behavior after 3 years than children with less consistent exposure, even after controlling for initial aggression levels. Kellam and colleagues (1998) found

that the aggression of an individual child increases when they are exposed to aggressive peer models. The authors further concluded that reducing the overall level of aggression in the classroom may result in lower levels of individual aggression.

Negative correlations have been found between social competence and behavioral problems (Vahedi, Farrokhi, & Farajian, 2012). Najaka, Gottfredson, and Wilson's meta-analysis (2001) found that improvement in social competency as observed by others had a strong positive correlation with improvements in problem behavior. Additionally, behavior problems displayed by 4-year-old children predicted the social competence of those children in the second grade (Howes, 2000). Generally, difficulty experienced by children in developing and maintaining peer relationships, as well as outright peer rejection, has been found to predict long-term negative effects (Coie, Dodge, & Kupersmidt, 1990).

Perceived teacher efficacy. Andreou and Rapti (2010) found that the teacher's perceived efficacy in class management predicted intervention choice. As the teacher's perceived efficacy increases, they are more likely to attribute behavior problems to school-based, rather than child-based factors. Negative interventions, such as the use of punishments and threats, were predicted by teachers' low self-efficacy for classroom management, along with attributions of the child's behavior that were family-related (Andreou & Rapti, 2010). It seems, therefore, that teachers who feel competent in their own ability to manage a classroom are more likely to choose positive interventions. Alderman and Nix (1997) found that when teachers were given any explanation for a child's misbehavior, they were more likely to choose a positive intervention rather than a negative one. Additionally, teachers who do not feel confident in their abilities to

manage a classroom are more likely to respond punitively or neutrally to students perceived as misbehaving due to family problems, parental attitude, low family level and lack of parental interest (Andreou & Rapti, 2010).

Teacher attributions for problem behavior. Teachers are more likely to make student-related attributions for classroom problem behavior, as opposed to attributing poor behavior to teacher-related factors (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Ho, 2004). Research has found that the attributions teachers made about student misbehavior were related to the strategies they thought should be utilized to address that behavior (Soodak & Podell, 1994; Poulou & Norwich, 2002). More specifically, Poulou and Norwich (2002) found that when teachers perceived themselves as responsible for and able to deal with problem behavior, they were more likely to take action. Conversely, the more indifference, anger, irritation, or lack of sympathy the teacher felt, the less likely they were to help the child with their current problem.

Teacher responsibility and stress. Teachers have a wide variety of responsibilities. Darling-Hammond (2009) delineates five qualities that the research has identified as important for teacher effectiveness: (a) strong general intelligence and verbal ability; (b) strong content knowledge; (c) knowledge of how to teach others in that area; (d) an understanding of different learners as well as their development; and (e) adaptive experience to help them make judgments within a situation in response to student needs. In a less direct manner, teachers are also expected to collaborate with other professionals and parents, aim to continually learn and improve, teach in an unbiased and fair manner, and be willing to adapt instructions to help students succeed (Darling-Hammond, 2009). It is not difficult to see how these responsibilities, what the

research considers to be “effective teaching,” result in significant amounts of responsibility and effort for the teacher.

Given that responsibility, it is not surprising that teachers experience high levels of stress, resulting in burnout. Byrne (1994) divides the causal process of teacher burnout into several dimensions. These include organizational determinants such as peer support, decision making, classroom climate, role conflict and work overload, mediators, and the absence of role ambiguity and superior support. Hastings and Bham (2003) found that student behavior has a significant impact on teacher burnout. Emotional exhaustion and depersonalization were predicted by student disrespect toward the teacher, whereas depersonalization and personal accomplishment burnout were predicted by student lack of sociability. This suggests that the reduction of the stress inherently involved in managing a classroom may significantly impact teachers’ perceptions of their own efficacy. To further emphasize the interdependence of factors on the problem behavior of children, Yoon (2002) found that teacher stress predicts negative teacher-student relationships, suggesting that teacher stress impacts their efficacy in managing a classroom. Therefore, teachers may benefit from learning coping skills to effectively manage the daily stresses and responsibilities inherently involved in their profession.

Teacher training in developmental disorders. Martin, Linfoot and Stephenson (1999) found that teachers are most interested in positively-focused information on handling misbehavior. However, teachers lack information on the presentation of ADHD and do not have plans of action for classroom management for those students with clinically disruptive behavior associated with ADHD (Arcia, Frank, Sanchez-LaCay &

Fernandez, 2000). Clearly, teachers need education related to this diagnosis and others to fully understand the behavior of their students. Given the relationship between teachers' perceived competence and overall efficacy, as well as their experience of heightened amounts of stress on a regular basis (Byrne, 1994; Hastings & Bam, 2003), specialized training for teachers in common child behavior problems, as well as ways to manage that behavior, may help to increase teacher competence and success in classroom management.

The training that teachers receive in developmental disorders, which includes ADHD, varies by both state and the level at which teaching students expect to teach (i.e., elementary, middle, or high school students). In Pennsylvania, developmental disorders are not explicitly mentioned within the educational curriculum guidelines. However, the professional core concepts covered within the curriculum for those teaching preschool through fourth grade does include a focus on "child development, typical and atypical, birth through age 9" (Pennsylvania Department of Education, 2009b, p. 6) and the guidelines emphasize that "all courses should be grounded in child development" (p. 7). Further, the guidelines specify that future teachers should be able to "identify the current identification criteria related to diverse learners," (p. 18) although developmental disorders are not specifically mentioned, and guidelines are open to interpretation.

Guidelines for teachers intending to teach students in grades four through eight similarly require that "all courses should be grounded in adolescent development" (Pennsylvania Department of Education, 2009a, p. 7), and specifies that teachers should be able to "respect and appreciate the range of individual developmental

differences of all young adolescents" (p. 17), as well as utilize supporting programs to attend to a teen's social and emotional needs. Guidelines for teachers anticipating students in seventh through twelfth grades do not appear to have any requirements of education regarding developmental disorders, although the guidelines do continue their emphasis that teacher education should be grounded in knowledge of adolescent development (Pennsylvania Department of Education, 2009c). To summarize, teacher education programs across Pennsylvania are required to integrate normal development throughout the curriculum, but it is unclear the extent to which developmental disorders or classroom management specific to developmental disorders is addressed within that curriculum.

Interventions to Address Problem Behavior

Numerous behaviorally-based programs are aimed at providing parents and teachers strategies to manage problematic child behavior. Models typically include modification of a child's behavior through the use of positive and negative reinforcement, more effective commands, positive interactions between the parent/teacher and child, consistent rule enforcement, and/or a token economy (Lundahl, Risser & Lovejoy, 2006). Additionally, methods available to teachers may include teaching students to recruit positive attention (Alber & Heward, 2001), increasing use of specific positive praise (Chalk & Bizo, 2004), greeting students as they enter class (Allday & Pakurar, 2007), and antecedent strategies to prevent problematic behavior altogether (Bambara & Kern, 2005). Formal programs for teachers with research support include The Incredible Years® Program (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton, & Hammond, 2003; Webster-Stratton, Reid, &

Hammond, 2004; Webster-Stratton, Reid, & Stoolmiller, 2008), Teacher-Child Interaction Therapy (McIntosh, Rizza, and Bliss, 2000; Gershenson, Lyon, & Budd, 2010), and the GREAT program (Orpinas, Home, & Multisite Violence Prevention Project, 2009).

Interventions in the Home

Many different parent training programs target problem behavior in children (Lundeen, 1977; Kazdin, 1997). One of the most prevalent models, behavioral modification, teaches parents to change behavior through the application of learning principles, such as positive and negative reinforcement. Specifically, parents learn to use effective commands, increase positive interactions with the child, implement consistent consequences for violation of clearly set rules, and establish a token economy to reward desired behavior (Barkley, 2013; Webster-Stratton, 2001; Pearl, 2009). The use of “time out” is recommended as a disciplinary strategy in most parent training programs. Many different forms of time out, with varied duration as well as varied conditions, have been found to be effective in reducing the rates of problem behaviors (Fabiano et al., 2004). Parent-child interaction therapy adds the development of a positive parent-child relationship before introducing behavior modification techniques and is targeted at younger children between the ages of 2 and 7 (Eyberg, 1995; Pearl, 2009). Different delivery formats for behavioral parent training have been validated, including group training (Danforth, Harvey, Ulaszek, & McKee, 2006), internet-based training (Enebrink, Hogstrom, Forster, & Ghaderi, 2012), and a single instructional workshop followed by parent self-administration (Kling, Forster, Sundell & Melin, 2010).

Some programs, such as The Triple P Positive Parenting Program (Sanders, 1999), have variable applications ranging from universal prevention to intensive skills training to specifically address the needs of children and parents at different points on a continuum of behavioral disturbance and dysfunction (de Graaf, Speetjens, Smit, de Wolff & Tavecchio, 2008). Offering training in child management skills such as giving effective commands, providing logical consequences for misbehavior, and using time out, programs such as Triple P may be offered in a self-directed, one-on-one, or group format to best suit each family's needs (de Graaf et al., 2008). Other interventions, such as the Incredible Years® Parent Training Program (Reid & Webster-Stratton, 2001), are offered specifically in a group format and utilize video modeling (Menting, Orobio de Castro & Matthys, 2013). Similarly, focus remains on assisting parents in handling child misbehavior, setting limits, learning play skills, and praising and rewarding desired behaviors.

Lundahl, Risser and Lovejoy (2006) conducted a meta-analysis including 63 studies on the effectiveness of parent training programs, 72% of which were behavioral. Their findings indicated that behavioral parent training is moderately effective immediately following treatment and findings remain significant up to one year later to a lesser extent. Children and families facing higher levels of adversity benefited less from behavioral parent training as compared to non-disadvantaged families, and financial hardship was the most significant moderator of outcome. However, behavioral parent training programs were more effective for disadvantaged families when delivered in an individual rather than group format. This may be due to interventions tailored to or accommodating the families' specific needs. A minority of studies included a child-

focused treatment component, which was found to be ineffective (Lundahl, Risser and Lovejoy, 2006).

Despite its documented efficacy, parent training still faces major obstacles to effective clinical application. As a behavioral modification method, parent training does not consistently show effectiveness in real-world settings (Kazdin, 1997). Forty to 60% of families that begin child or adolescent therapy in general terminate prematurely, and many family and environmental factors correlated with conduct problems are also risk factors for dropping out of treatment (Kazdin, 1996). These include low socioeconomic status, young age of mothers, single-parent status, high levels of stress, and low levels of social support (Kazdin et al., 1994). Spoth, Redmond, Hockaday, and Shin (1996) also found an increased risk of low or poor participation in treatment by parents due to low motivation, personal psychological problems, general life stress, or work conflicts. The high demands placed on the parent in parent training, including mastery of psychological concepts and implementation of new techniques at home, may further intensify the high termination rate or significantly influence its effectiveness. Although there is no research at this time to indicate that parent training results in higher dropout rates than other treatment modalities (Spoth et al., 1996), many factors contribute to a likely premature discontinuation of treatment for the child or adolescent with disruptive behavior.

Research has also shown that, despite improvements in a child's problem behavior in the home environment that reliably result from the use of parent training, improvements in oppositional or aggressive behavior with peers will not necessarily occur (Taylor & Biglan, 1998; Webster-Stratton, 1990). Although parent training for

parents of children ages 4 to 8 years of age results in significant reductions in conduct problems at home and with peers, as well as producing better long-term outcomes, one third of those children will still have problems at school (Webster-Stratton & Hammond, 1997). The lack of generalization of positive results may be due to the focus on one setting: the majority of parent training programs center on behavior at home, and do not extend to behavior with peers or at school, where the parents do not interact with the child. Teachers are generally not included in the treatment administered in parent training programs, further limiting generalization. Although these treatments may be effective in changing behavior in the home, other approaches are necessary to change behavior in the school setting.

Pharmacotherapy. Pharmacotherapy is a common intervention for problematic child behavior. Although there is extensive research on the use of medication to treat ADHD (Bussing et al., 2014; Rowles & Findling, 2010; Meijer, Tobi, van den Ban, & Faber, 2009), as well as documented improvement in ADHD symptoms (Murray, 2010; Brown & La Rosa, 2002; Greenhill et al., 2006), medication does not improve oppositional behavior (Findling et al., 2007; Gadow et al., 2014). Isper and Stein (2007) conducted a meta-analysis on the effectiveness of pharmacotherapy in treating disruptive behavior disorders and found that most psychostimulants are ineffective in treating disruptive behavior disorders, with the exception of methylphenidate. Lithium was effective in reducing overall symptom severity, but displayed limited effectiveness in addressing aggressive symptoms. Haloperidol and risperidone showed reductions in aggression for hospitalized children and adolescents. Mixed results were found with the use of anticonvulsants. Clonadine, a selective adrenergic agonist, showed usefulness in

treatment for disruptive behavior disorders with comorbid ADHD and resulted in a reduced side effect profile as compared to psychostimulants. The authors emphasize that more research is needed in this area.

Interventions in the School-wide Environment

Successful behavior change in children may begin in the school environment. Walker et al. (2006) described a three-tier model of school-wide discipline strategies to address disruptive behavior. These are (1) universal/primary prevention, (2) selected/secondary prevention, and (3) indicated/tertiary intervention. Universal prevention techniques are designed for all students to prevent the development of serious disruptive behaviors. These techniques are aimed at the general student population. George, White, and Schlaffer (2007) discuss examples of this level of intervention, such as integration of brief slogans representing school rules, modeling of desired behaviors by teachers and staff, providing opportunities for students to practice rules and expectations, and recognition of children for doing well through various forms of reinforcement. George et al. (2007) found these strategies successful in effecting school-wide behavior change in an urban elementary school and an alternative school for students with challenging behaviors. Hahn and colleagues (2007) found that universal school-based programs directed at the entire student population decreased violent behavior at all grade levels (Hahn et al., 2007).

Linking the Interests of Families and Teachers (LIFT) is another universal or primary prevention school-based program designed to address conduct problems. Hunter (2003) described the program, which targets both the home and school settings. School personnel conduct components of the program over twenty one-hour sessions in

10 weeks. Sessions include social skills training, social skills practice, daily rewards and free play. Parental components are delivered through six weekly group sessions focusing on parenting skills and effective discipline. Regular interactions between the parents and the teachers are encouraged. Reid, Eddy, Fetrow and Stoolmiller (1999) found that participation in the LIFT program resulted in significant improvement in child behaviors as compared to a control group.

The second level, or selected prevention, is directed at students at-risk for developing problem behaviors. These involve individualized, one-on-one interventions. Bierman, Miller and Stabb (1987) found success with a second tier prevention strategy, social skills training for peer-rejected boys. A total of 32 boys in grades 1-3 were identified via negative social behavior and nominations from peers and provided with 10 half-hour school play sessions. A combination of instructions and prohibitions, along with a cost being associated with negative behaviors, led to the most significant reduction of negative behaviors as compared with promoting solely positive social behavior, solely prohibiting negative behavior, or no treatment at all.

Indicated or tertiary interventions are reserved for students with diagnosed behavioral disorders, including connection of families to community-based services, drug and alcohol counseling, or alternative placements. Walker et al. (2006) advocated this method as a public health approach to screen and address problems in identified children. Support for the public health approach has been positive, but Kern and Manz (2004) pointed out that further experimental study is needed to make a firm judgment on its effectiveness.

Interventions in the Classroom

There can be no doubt that the teacher's behavior within the classroom has important effects on students' overall achievement and behavior. A teacher's control over their classroom is impacted by use of classroom management strategies. Oliver, Wehby, and Reschly (2011) define classroom management as "a collection of classroom procedures implemented by teachers in classroom settings with all students for the purposes of supporting prosocial behavior and preventing and reducing inappropriate behavior" (pp A-2). However, there is some inconsistency between what teachers reported they prefer and find important in classroom management and what they actually do. Studies show that educators know the importance of effective behavior management, and generally rate positive interventions, such as praise and reinforcement, as preferred strategies (Rosen, Taylor, O'Leary, & Sanderson, 1990). In contrast, however, research has shown that teachers commonly give low rates of praise (Gunter & Jack, 1994; Hardman & Smith, 1999). Much of the data on the topic shows that students with problematic behavior have many negative interactions with their teachers (including receiving a high number of reprimands), and the management strategies implemented by teachers are often punitive, including removal of privileges and implementation of restraint (Jack et al., 1996; Nungesser & Watkins, 2005; Rosen et al., 1990). Additionally, when positive strategies are used to encourage appropriate behavior while discouraging negative behavior, they are often used in a very general, blanket manner, such as behavior report cards sent home for each member of the class, generally defining their overall behavior (Chafouleas, Riley-Tillman, & Sassu, 2006; Schottle & Peltier, 1991). Behavior report cards can be a positive tool for

communication about child behavior between teachers and parents. However, when a report card does not provide detail about the problematic aspects of behavior, it is not a useful method to communicate the need for behavioral change to parents.

Beaman and Wheldall (2000) examined teacher's use of approval and disapproval in the classroom. They found that teachers attended far more often to children's negative behaviors, rather than the positive ones. Further, they hypothesized that by failing to respond to appropriate behaviors, teachers discourage appropriate behavior, most especially social behavior. Strain, Lambert, Kerr, Stagg and Lenkner (1983) found that teachers rarely utilized positive social consequences, responding to appropriate behavior only 10% of the time. After grouping the children according to teacher ratings of competency and number of positive behavioral descriptors (i.e., "low-rated" children received fewer than 9 positive behavioral descriptors, whereas "high-rated" children received 15 or 16 positive behavioral descriptors), researchers found significant differential treatment between low-rated and high-rated children. A majority of low-rated children (82%) never received any positive social consequences for compliance, whereas only 27% of high-rated children never received any positive social consequences for compliance. Furthermore, the authors found a .14 probability that the teacher would offer reinforcing social consequences following an inappropriate behavior, thus encouraging its continuation. In a more recent study, Akin-Little, Little, and Laniti (2007) showed a significant increase in the amount of positive reinforcement used in the classroom, with ratings of use ranging from 53-97%. However, it should be noted that Strain and colleagues (1983) gathered their data through direct observation of classroom interactions, while Akin-Little and colleagues relied on teacher report to

identify the methods the teacher utilized in their classroom. Therefore, the increase may reflect a reporting bias. There is also a high likelihood of variability between classes, teachers, and school districts.

Kayikci (2009) found that multiple dimensions of teachers' classroom management skills are predictors for student misbehavior. The likelihood of a teacher to refer a child for special education seems to be moderated by the teacher's perceived effectiveness in managing the student behavior, as well as variables unrelated to the specific difficulties experienced by the student (Podell & Soodak, 1993). Kayikci (2009) found that weak classroom management skills as reported by the teacher, combined with low rates of praise from the teacher, were associated with teacher ratings of children's levels of rejection and aggression in the classroom. This may indicate that teachers who are not confident in their ability to manage a classroom provide less praise to students they perceive as aggressive or rejected. As previously discussed, these variables in the classroom environment influence the development and progression of individual children's behavior problems. Aggressive children are often removed from their classrooms or sent to the school office for long periods of time, and this classroom exclusion only makes their social and academic problems worse (Stage & Quiroz, 1997). This indicates that further training in helping teachers to handle problem behavior may be effective in boosting teacher confidence and improving child behavior.

Training in classroom or behavior management. Teachers receive varying levels of training in classroom or behavior management. Students in teacher education undergraduate programs may have taken a course including an introduction to the field

of classroom management, but this is not standard practice (Emmer & Stough, 2001; Garrett, 2014), and Jones (1996) found that only 37% of teacher education programs included a course in classroom management. The curriculum at Indiana University of Pennsylvania, for example, offers a course on classroom management, entitled *Introduction to Classroom and Behavior Management* (Indiana University of Pennsylvania, 2013); however, this course is only offered to and required for those students in the Early Childhood/Special Education track. Therefore, students in other tracks do not take courses in the management of behavior of older students or students without special needs.

Laws that dictate the content of teacher education programs vary from state to state (National Council on Teacher Quality, n.d.). This creates significant diversity in teacher training depending upon the state in which the teacher matriculated, as well as the age group the teacher was prepared to teach. For example, in Pennsylvania, while teachers are required to take child development courses, there is no requirement for courses in classroom management (Pennsylvania Department of Education, 2009b). It is recommended by the Pennsylvania Department of Education that education students have a course such as “Effective Instructional Strategies and Positive Behavioral Interventions for Inclusive Classrooms and the Developing Child,” (p. 48), but this is not a requirement of accreditation for teacher education programs. Additionally, candidates for teaching certification must demonstrate the ability to “individualize behavior support including the use of prompting, environmental arrangements, scheduling, visual supports, involving families and outside resources,” as well as “establish and maintain fair and consistent standards for classroom behavior” (Pennsylvania Department of

Education, 2009b, p. 34). However, courses that explicitly address classroom management are not required for certification. The requirements for secondary education teachers (defined by Pennsylvania as seventh through twelfth grades) also do not include a classroom management component in the coursework, but do require that beginning teachers are able to "demonstrate effective adolescent behavior strategies for the classroom" (Pennsylvania Department of Education, 2009c, p. 15).

Only the requirements for teachers of grades four through eight mandate that the educational core include "effective classroom management strategies" (Pennsylvania Department of Education, 2009a, p. 6). Teachers are then expected to "hold high, realistic expectations for the learning and behavior of all young adolescents" (p. 17) and "demonstrate effective adolescent behavior strategies for the classroom" (p. 18). This information suggests that there is wide variability in teacher education on classroom management, even within the state of Pennsylvania.

Further, Freeman and colleagues (2015) found that there is a significant gap between teacher training requirements and current research in classroom management. The authors found that, although 95.8% of responding programs included content on classroom management, only 65.6% of their sample included evidence-based practices. Berliner (1988) argued that classroom management skills are developed over the course of years of teaching experience as teachers encounter new obstacles and settings. As managing behavior problems is a likely part of teaching, the research suggests that teachers, especially new ones, are in need of information about how to manage their classrooms.

Formal programs for classroom management. There are many formal programs that can help teachers to manage their classroom. The Incredible Years® Program (IYP) is one such program with substantial evidence of efficacy (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton, & Hammond, 2003; Webster-Stratton, Reid, & Hammond, 2004; Webster-Stratton, Reid, & Stoolmiller, 2008). Delivered in 4 full-day sessions, the teacher program focuses on topics like the significance of positive attention and teacher praise, supporting positive student-teacher relationships, promoting cooperation between parents and teachers, using tangible reinforcement, developing proactive strategies to prevent problems before they start, limit setting and time-out, and overall classroom management approaches (Reid & Webster-Stratton, 2001). It is recommended that the teacher IYP be used concurrently with the parent and child components (Reid & Webster-Stratton, 2001), and combination of the three has been proven cost effective (Foster, Olchowski, & Webster-Stratton, 2007). Further, data has shown that teacher involvement significantly increases long-term treatment outcomes past those obtained with the child and parent treatment components alone (Reid, Webster-Stratton, & Hammond, 2003). Baker-Henningham, Walker, Powell and Gardner (2009) found that the IYP improved teacher positive behavior and increased appropriate child behavior, interest, enthusiasm, and opportunities for children to help each other. Further study indicates that IYP resulted in increased use of positive classroom management strategies by teachers, as well as increases in children's emotional regulation and social competence, reduction of conduct problems (Webster-Stratton, Reid, & Stoolmiller, 2008), and an increase in child compliance (Hutchings, Daley, Jones, Martin, Bywater, & Gwyn, 2007).

Adapted from the previously described Parent-Child Interaction Therapy is an approach called Teacher-Child Interaction Therapy, or TCIT (McIntosh, Rizza, and Bliss, 2000; Gershenson, Lyon, & Budd, 2010). As a one-on-one interaction between the teacher and the student, it has been found to be effective in reducing disruptive child behavior and increasing teacher skills (McIntosh et al., 2000). Lyon, Gershenson, Farahmand, Thaxter, Behling, and Budd (2009) adapted this model further into what they termed Teacher-Child Interaction Training, meant to be directed at all children, not just those with pathological behavior difficulties. For adaptation of PCIT to a teacher-student relationship, the model was changed to accommodate group training and multiple children involved at once, as well as to incorporate the natural environment of the teacher – the classroom. Teacher-Child Interaction training as defined by Lyon and colleagues (2009) limits training to 8 sessions and alters the interactions taught to allow for the teaching role and its need for questions and commands. Additionally, the teacher model allows for in-room coaching, verbal and written feedback, and a collaborative discipline design so that teachers can adapt the program to fit their specific needs. Results showed that the program significantly increased the amount of positive teacher attention, with the largest improvement in the area of praise.

Guiding Responsibility and Expectations for Adolescents Today and Tomorrow (GREAT) is a program to help teachers reduce aggressive behaviors in their students (Orpinas, Home, & Multisite Violence Prevention Project, 2009). Developed from social cognitive theory, GREAT aims to increase teacher awareness of different types of aggression, risk factors for aggression, the influence of the school environment on child behavior, and the role of the teacher in the classroom. Application of the program

involves a twelve-hour workshop and ten support group sessions for teachers. However, literature could not be found on the effectiveness of this program.

A meta-analysis of school-based intervention programs found that interventions were moderately effective when introduced in children age 5 and below (preschool and kindergarten) and 14 and over (Wilson, Lipsey, & Derzon, 2003), and were mildly effective in other age ranges. As previously discussed, by the age of 14, numerous negative consequences are likely to have taken effect. Therefore, it seems most logical to intervene when a child is very young to both change their behavior and prevent future negative consequences associated with behavior problems. The same meta-analysis demonstrated that effect sizes for behavioral classroom management interventions in a school setting are in the moderate range, matching the effectiveness of therapy/counseling (Wilson, Lipsey & Derzon, 2003). Additionally, intervention administered to children by teachers (as would be the case in classroom management) was associated with greater effectiveness.

Many formal teacher training programs have found success in helping teachers to better manage the behavior of their students. However, the most evidence-based interventions are costly and time consuming. For example, to participate in The Incredible Years® teacher training program, instructors are $1,500 - $2000 per day and at least 3 days are required to cover the entire curriculum (FAQs. n.d.). This could be problematic for smaller, more rural schools with few resources.

Informal classroom management strategies. One simple way that teachers can reinforce desired behaviors is detailed by Alber and Heward (2001), who advocated teaching students to recruit positive attention. The authors elaborated that the

consequences of reprimanding a child are immediate, but the consequences of praising a child take more time to become apparent. If the teacher reprimands a child for speaking out of turn, this immediately results in their quieting. However, although praising a child for completing their work individually encourages that behavior in the future, it does not provide an immediate reward to the teacher for providing that praise and thus, may discourage teachers from using praise on a regular basis. The authors provided recommendations for training, including guided selection of target behaviors or skills that will elicit praise and attention for the student, as well as teaching self-assessment skills to the student so they may recruit attention for higher quality work and therefore, likely recruit more praise. Specific recruiting behaviors are also addressed, so the student learns how to signal the teacher appropriately and at a rate that is not off-putting. Lastly, the students are able to role-play these lessons to practice for experiences in the classroom. This training can be adapted for students from preschool to high school, as well as students with mild or moderate disabilities. Students taught to recruit positive attention receive both more praise and more instructional assistance from teachers (Alber & Heward, 2001), and students who receive more praise reduce their problem behaviors (Stormont, Smith & Lewis, 2007). The same effects have been found for students with emotional and behavioral disorders (Sutherland, Wehby & Copeland, 2000), although the effect of praise may be more significant for younger children than older children (Swinson & Harrop, 2001).

Relatedly, students who receive specific praise, as opposed to just positive praise, display more on-task behaviors and have an increased academic self-concept (Chalk & Bizo, 2004). Hester, Hendrickson and Gable (2009) identified 8 key aspects of

praise: (a) contingency, or the relationship between the target behavior and a praise statement; (b) immediacy, or how quickly following the desired behavior praise is delivered; (c) consistency, or how regularly desired behaviors are followed by praise; (d) effect on the behavior, or whether or not praise is reinforcing for the individual child; (e) proximity, or how physically close the teacher is to the student; (f) specificity, or how well praise related to a specific behavior; (g) opportunities to respond, or how often a student is given a response opportunity; and (h) characteristics of the consequence, or what results from the praise. By utilizing these aspects when delivering praise, teachers can make it effective and reinforcing for students, and thus, see improvement in their behavior.

In addition to teaching students to recruit positive attention, teachers may be able to improve on-task behavior by greeting students. Allday and Pakurar (2007) found that when students were greeted by the teacher as they entered the classroom, their on-task behavior within the first ten minutes of class was significantly increased. However, it is important to note that use of all-positive interventions is not effective on its own (Pfiffner & O'Leary, 1987). Negative consequences must be initiated along with the positive ones, and the negative consequences may be gradually phased out while the positive reinforcement is retained. Some behaviors will always require disciplinary action (e.g., aggression); however, positive and negative consequences should be used concurrently at the start of intervention, with negative consequences phased out over time and used only for select behaviors.

Antecedent strategies, or preventive interventions aimed at the circumstances that immediately precede problematic behavior, have increased in popularity as

methods of changing child problem behaviors and have several advantages over reactive strategies (Bambara & Kern, 2005). Kern and Clemens (2007) detailed several examples of effective antecedent strategies, including clear rules and expectations, increased predictability, praise, opportunity to respond, and effective instructions and commands. Antecedent strategies are intended to reduce or eliminate the likelihood of a problematic behavior occurring and tend to be fast-acting. These strategies also provide the opportunity to fix an environment that may be contributing to a problem behavior. By implementing any of the suggested interventions, teachers can work to prevent problem behavior from occurring in the first place and thereby enhance the learning environment.

Fields (2004) advocated the use of Defensive Management (DM) in the classroom, a set of tools designed to avoid inappropriate teacher responses to challenging or defiant behavior, as well as teacher-student confrontation and power struggles. Although DM is not a formal program, the overall goal is to increase teacher competence in handling student misbehavior and reduce the number of office referrals. Fields (2004) described six stages: (1) preparation, in which the teacher observes and records problem behaviors and their antecedents; (2) positive contact, in which the teacher seeks out opportunities for positive interaction with the student throughout the lesson; (3) warning signs, in which the teacher remains alert to signs of oncoming problem behavior, such as complaints or agitation; (4) emotional control, in which the teacher actively seeks to notice and control their own emotional and behavioral responses to the child's problem behavior; (5) defuse, in which the teacher responds in a way that de-escalates the situation; and (6) re-connection, in which the teacher

initiates positive interaction with the student following the misbehavior. Although Fields' (2004) study did not show significant improvement in behavior following implementation of the program, the author hypothesized that the lack of effect was due to the participants being student teachers, and believed that the effect would have been more significant with experienced teachers learning the program.

Summary

Many studies have shown that disruptive behavior in children is one of the predominant reasons for involvement in mental health services (Keenan & Wakschlag, 2000; Robins, 1991). Although there are multiple diagnoses in the DSM-5 for disruptive behavior, this literature review focuses on the two most likely to affect young children: Attention Deficit/Hyperactivity Disorder (ADHD) and Oppositional Defiant Disorder (ODD). Within these diagnoses, it is important to determine the difference between normative childhood misbehavior and clinically significant behavior. Wakschlag and colleagues (2007) provided a conceptual framework to differentiate between normative and clinical behavior, specifying that pervasiveness of problematic behavior is the most important aspect to evaluate. It is also important to consider that children with clinically significant disruptive behavior do not outgrow it; this is one of the hallmarks of behavior that is not normative.

It is important to consider environmental variables in the development of disruptive behavior. Child risk factors should not be overlooked. These may include characteristics of a difficult temperament such as excessive crying, negative mood, inflexibility, problems adaptive, and more difficulty managing behavior (Stormont, 2002). Age and gender are also important variables to consider, as age and developmental

level are determinants of whether the behavior is normative, and males are consistently found to have higher rates of conduct problems and hyperactivity (Huselid & Cooper, 1994). Sociocultural factors include harsh parental discipline, poverty, patterns of parental violence, and parental substance abuse/pathology (Fitzgerald, 2003; Loeber & Farrington, 2000; Youngstrom, Weist & Albus, 2003). Stormont (1998) also identified maternal depression, marital conflict, family/parenting stress and low maternal educational level as predictors of preschool problem behaviors. All of these variables interact with each other to predict outcomes for the child (Deater-Deckard, Dodge, Bates, & Pettit, 1998; Stormont, 2002; Bradley & Corwyn, 2008).

The classroom environment should also be examined when tracking the development of child problem behavior. Of the time teachers spend with children exhibiting disruptive behavior, less than 5% is spent in positive interactions, while more than 20% is spent in negative interactions (Jack et al., 1996). Additionally, children with problem behavior are not reinforced for positive behavior; for instance, Shores et al. (1993) found that when aggressive children raised their hands, teachers responded only 20% of the time. Negative effects have also been found from aggressive classrooms, with children more likely to be rated as aggressive later in their schooling after being placed in an aggressive classroom (Kellam et al., 1998; Thomas, Bierman, and The Conduct Problems Prevention Research Group, 2006). It is important to note, however, that the majority of children are receiving their sole mental health care within the academic setting (Farmer, 2003; Burns, 1995). Therefore, it is important to consider educators as an important source of help for students with disruptive behavior.

When parents are attempting to manage child problem behavior, a common approach is parent training programs. Many models include modification of a child's behavior through the use of positive and negative reinforcement, more effective commands, positive interactions between the parent and child, consistent rule enforcement, and/or a token economy (Lundahl, Risser & Lovejoy, 2006). That same meta-analysis found that parent training programs are moderately effective just after treatment and effects remain, though to a smaller degree, up to a year following completion. However, it is important to consider that despite these encouraging results, parent training faces significant obstacles in clinical implementation. Kazdin (1996) found that 40-60% of families that start therapy with a child or teen as the identified client terminate services prematurely. Further, many factors that are correlated with disruptive behavior may also be risk factors for dropping out of treatment (Kazdin et al., 1994). In addition to these concerns about parent training, many studies have found that improvements do not generalize to problems with peers and in the academic setting (Taylor & Biglan, 1998; Webster-Stratton & Hammond, 1997).

Teacher behavior should not be overlooked as a major factor in child problem behavior. Children described by the teacher as not competent and receiving few positive behavioral descriptors were unlikely to receive any positive social consequences for compliance with the teacher (Strain, Lambert, Kerr, Stagg, & Lenkner, 1983). There is also significant disagreement between what techniques teachers report using, and what they have been observed using. Teachers report preferences for positive interventions such as praise and reinforcement, but often use low rates of praise in their classrooms (Rosen, Taylor, O'Leary, & Sanderson, 1990;

Gunter & Jack, 1994; Hardman & Smith, 1999). Kayicki (2009) found that several aspects of a teacher's skills in classroom management predict student misbehavior. Weak classroom management skills are associated with higher levels of aggression in the classroom (Kellam, Link, Merisca, Brown & Ialongo, 1998).

Confidence teachers have in their ability to manage a classroom is important (Martin, Linfoot, & Stephenson, 1999), as is teacher attribution of child misbehavior. Teachers who feel confident in classroom management skills are more likely to choose positive interventions (Andreou & Rapit, 2010). The same study, along with Alderman and Nix (1997), found that teachers are more likely to choose a positive intervention when they have an explanation for a child's behavior, and are more likely to help students when they view the student as a victim of circumstance. Poulou and Norwich (2002) found that the behavioral and cognitive responses of the teacher to problem behavior are predicted by the teacher's causal attributions of that behavior. A teacher is more likely to take action in response to misbehavior when they perceive higher levels of responsibility and efficacy in dealing with it. Teachers are also lacking in information about common childhood behavioral disorders. Arcia, Frank, Sanchez-LaCay and Fernandez (2000) found that teachers do not have information about the presentation of ADHD, and also have no knowledge about how to adjust their classroom management problems to accommodate these students. Given the relationship between teachers' perceived competence and overall efficacy as well as their lack of knowledge relating to childhood behavior disorders, specialized training for teachers with information on common child problem behaviors and how to handle that behavior in the classroom may

to result in an overall increase in teacher competence and success in classroom management.

There are many methods available to teachers to address problem behavior, including teaching students to recruit positive attention (Alber & Heward, 2001), increasing use of specific positive praise (Chalk & Bizo, 2004), greeting students as they enter class (Allday & Pakurar, 2007), and antecedent strategies to prevent problematic behavior altogether (Bambara & Kern, 2005). In addition to these methods, there are also more formal programs. These include The Incredible Years® Program (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton, & Hammond, 2003; Webster-Stratton, Reid, & Hammond, 2004; Webster-Stratton, Reid, & Stoolmiller, 2008), Teacher-Child Interaction Therapy (McIntosh, Rizza, and Bliss, 2000; Gershenson, Lyon, & Budd, 2010), and the GREAT program (Orpinas, Home, & Multisite Violence Prevention Project, 2009). School-based intervention programs have been found to have moderate effect sizes when used with children in preschool and kindergarten (ages 5 and below), which is a greater effect than that found with older age groups (Wilson, Lipsey, & Derzon, 2003). The same meta-analysis found that effects of behavioral classroom management in the academic setting are in the moderate range, which matches the effectiveness of therapy.

Purpose and Overview of the Proposed Research

Overall, disruptive child behavior is a major problem in the classroom with which teachers have significant difficulty dealing. Teachers' approaches to disruptive behavior have many different facets, including the teacher's belief in their own effectiveness, attributions for child behavior, and intervention selection. This complex issue warrants

further study, as it has important implications for children's educational achievement. Therefore, this study examined the effect of psychoeducation about ADHD and ODD on education students' reactions to hypothetical child misbehavior in their future classrooms.

Teacher education in childhood behavioral disorders has been shown to be minimal (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000). The combination of this lack of knowledge with a lack of faith in their own abilities to manage their classroom places teachers in a position of escalating misbehavior they cannot control. Jones and Chronis-Tuscano (2008) found that teacher in-service training consisting of psychoeducation on ADHD was successful in increasing teacher knowledge of ADHD and increased the rate with which special education teachers used recommended behavioral modification methods. The proposed study aimed to test the effectiveness of psychoeducation related to ADHD as well as ODD with undergraduate education students, and included measurement of teacher attributions, self-perception of efficacy in the classroom, and selection of interventions.

Hypotheses

Given teachers' current overall lack of information about childhood behavior disorders (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000), the first hypothesis was that participants would demonstrate an increase in knowledge related to both ADHD and ODD following the intervention.

The second hypothesis was that participants would report increased levels of efficacy in managing their classrooms following the intervention. This was interrelated with the third hypothesis, that participants would increase their attributions for child

misbehavior to disorder factors, and decrease their attributions to child factors at post-intervention. Research has shown that an increase in teacher's perceived efficacy results in fewer child-based attributions of their misbehavior (Anderou & Rapti, 2010). It was expected that psychoeducation about ADHD and ODD would increase participants' perception of efficacy in the classroom and lead to more accurate attributions for child misbehavior.

Together with previously described research, low self-efficacy for classroom management predicts the use of negative interventions (Andreou & Rapti, 2010). Therefore, the fourth hypothesis was that participants would show an increased preference for positive interventions in the classroom following the intervention. Teachers with high levels of self-efficacy in the classroom are more likely to choose positive interventions, whereas teachers who do not feel competent to manage a classroom are more likely to respond in a neutral or punitive manner to student misbehavior.

CHAPTER III

METHOD

This research study investigated the impact of education regarding psychological disorders common in children on teachers' perceived efficacy in classroom management, attributions for misbehavior, and intervention selection. Specifically, the study investigated whether increased knowledge about Attention Deficit Hyperactivity Disorder (ADHD) and Oppositional Defiant Disorder (ODD) influenced the way in which a teacher or education student makes attributions for, chooses to manage, and feels confident in managing the problem behaviors symptomatic of those disorders. A pilot study was conducted to test the feasibility and effectiveness of the psychoeducational intervention, and resulting changes to methodology are described below.

General Method

Participants

Components of the current study were conducted using three different participant groups. For the pilot study, declared education majors of any discipline (i.e., elementary, secondary or music education) were recruited from introductory psychology courses at Indiana University of Pennsylvania during the Spring 2015 academic semester. A total of 11 students, all male, participated and received research participation credit for their introductory psychology course. The majority of the sample (n = 9) reported an age between 18 and 29 years; 1 participant was between 30 and 39 years old, and 1 participant was between 40 and 49 years old.

Study 1. Study 1 included approximately 30 Kindergarten, first- and second-grade teachers from Purchase Line Elementary School in Commodore, Pennsylvania. The experimenter contacted the school principal and arranged to provide the educational session as an in-service training that teachers were required to attend. The principal gave consent for, and assisted in, recruiting teachers from his school to participate by distributing the recruitment letter (Appendix A) to the teachers via email. Teachers were offered a $10 gift card to Walmart for completing study measures. However, only one teacher consented and completed pre-treatment measures online, and no teachers completed post-treatment measures. Approximately half of the teachers who attended the educational session (n = 14) completed the Teacher Satisfaction Survey. Age, ethnicity, and gender were not recorded, as teachers did not complete the measure of demographic data.

Study 2. For Study 2, education majors of any discipline (i.e., elementary, secondary or music education) were recruited from introductory psychology courses at Indiana University of Pennsylvania during the Fall 2015 and Spring 2016 academic semesters. Introductory psychology students were eligible to participate if they had declared any education major, as this sample was considered most representative of the target sample of this study (i.e., practicing teachers), and received research participation credit for their course. A total of 27 participants attended the education sessions, but the data of 3 participants was incomplete or deemed invalid due to biased responding (i.e., answering too many questions in a row in the same way). Therefore, data from 24 participants was analyzed for the current study. Of the 24 participants, 14 (58.3%) were female, and all (n = 24) reported being within the 18-29 year age bracket.

Design

The overall design of this study was repeated measures. Participants first completed baseline measures of perceived efficacy in classroom management, knowledge of childhood behavior disorders including both Attention Deficit Hyperactivity Disorder (ADHD) and oppositional defiant disorder (ODD), attributions for problem behavior, and preferred method of intervention. The principal investigator presented a psychoeducational session addressing the symptomology and classroom presentation of ADHD and ODD, as well as classroom interventions that could be utilized in response. Immediately following the psychoeducational session, participants completed the same measures a second time, along with a satisfaction survey.

Measures

Attention Deficit Hyperactivity Disorder knowledge. The untitled scale created by Kos, Richdale, and Jackson (2004) was used to measure participants' knowledge of ADHD. This measure includes 27 statements about ADHD with response options of true, false, and "don't know." A knowledge score is calculated by adding the number of correct answers. The majority of items on the scale were created by the authors (Kos et al., 2004), but the authors also took several items from two well-known ADHD knowledge scales: the Knowledge of Attention Deficit Disorders Scale (KADDS; Sciutto et al., 2000) and the ADHD Knowledge Scale (Jerome et al., 1994). Subject matter experts were used by the authors to judge the validity of this measure during its development. The authors did not provide instructions for interpreting scores. However, scores reported during measure validation may be useful. In-service teachers were found to have a mean score of actual knowledge on the scale of 16.4 (*SD* = 4.0), and

pre-service teachers were found to have a mean score of actual knowledge on the scale of 14.2 (*SD* = 4.6). In the current study, statements identified correctly were assigned 1 point, and "don't know" responses were treated as wrong answers, worth 0 points. Possible scores on this measure thus range from 0 to 27. In the pilot sample, the mean pre-test score was 15.27, and the mean post-test score was 17.09. Internal consistency calculated from the pilot sample is .79. The knowledge scale may be found in Appendix B.

Oppositional Defiant Disorder knowledge. A measure of knowledge about Oppositional Defiant Disorder was created for this study by the primary investigator, as no formal measures of ODD knowledge were found in the existing literature. This scale was based on the ADHD scale found in Appendix B, but adapted for the ODD diagnosis. Questions on the scale were created based on DSM V criteria (American Psychiatric Association, 2013), as well as on the field's current understanding of etiology (McKinney & Renk, 2007). Possible scores on this measure range from 0 to 18; participants were given 1 point for each correctly identified statement, and "don't know" responses were treated as wrong answers. In the pilot sample, the mean pre-test score was 5.45, and the mean post-test score was 9.73. Internal consistency calculated from the pilot sample on this measure is .90. This scale may be found in Appendix C.

Teacher efficacy. The Teachers' Sense of Efficacy Scale (short form; Tschannen-Moran & Woolfolk Hoy, 2001) is comprised of 12 questions that assess teachers' perceptions of their own efficacy in the classroom as it relates to areas such as controlling disruptive behavior, using classroom management techniques, and calming individual students who are noisy or disruptive. Responses are provided on a

Likert-type scale ranging from 1 (“nothing”) to 9 (“a great deal”), with higher scores indicating a higher level of self-efficacy. Three subscales measure efficacy in student engagement, instructional strategies, and classroom management, with the unweighted mean of the items on that scale comprising the score on each scale. Duffin, French, and Patrick (2012) found this 3-factor structure to be valid for teachers with teaching experience. For pre-service teachers, a 1-factor model, utilizing only the total average score, was found to better fit the data because preservice teachers do not appear to differentiate between the various aspects of teaching measured by each scale, which is reflected in the .95 internal consistency coefficient for the total scale score, as measured with pre-service teachers (Fives & Buehl, 2010). For this reason, the total scale score was utilized as a measure of teacher efficacy in Study 2. Internal consistency calculated from the pilot sample on this measure is .88. The measure was found to be positively related to existing measures of teacher efficacy, suggesting good construct validity (Tschannen-Moran & Hoy, 2001; Klassen et al., 2008). See Appendix D for this measure.

Attribution of problem behavior and preferred interventions. A questionnaire created by Poulou and Norwich (2002) was used to measure teacher attributions for problem behavior, as well as preferred interventions (Appendix E). The survey includes vignettes depicting children with mild to severe conduct and/or emotional problems and assesses respondents’ views on the causes of the child’s misbehavior, choice of intervention for misbehavior, and perceptions of the effectiveness of the chosen intervention, which correspond to the measure’s three scales. Additional questions were added by the authors to measure how much the

participant attributed misbehavior to a disorder (an external factor) as opposed to the child's disposition (an internal factor), as well as family, teacher, and school factors. Internal consistency coefficients for the attribution scales ranged from .59 to .88 (Poulou & Norwich, 2000), and varied as a function of the severity level of the behavior reported in the vignette, as well as whether the child was reported to have conduct problems, emotional problems, or both. Two vignettes were adapted for the current study to clearly depict a child with a diagnosis of ADHD and a child with a diagnosis of ODD, rather than nonspecific emotional or conduct problems. The original vignette closest in content to the ADHD vignette was mild conduct problems, and the severe conduct and emotional problems vignette was adapted for the ODD vignette.

Data from the pilot study resulted in internal consistencies for the attribution scales ranging from .68 to .92. Internal consistency analyses for the pilot study for positive and negative intervention scales resulted in internal consistency coefficients of .29 for the positive intervention scale and -.68 for the negative intervention scale, the latter due to a negative average covariance among items. As a result, significant changes were made to this questionnaire for studies 1 and 2, as pilot data showed that several items regarding positive and negative interventions were not clearly considered "positive" or "negative" as intended. The measure was edited to clarify specific items, as well as to create an even number of positive and negative interventions to be rated (see Appendix F for the edited version of this measure; Appendix G includes both vignettes).

Teacher satisfaction questionnaire. After completion of the psychoeducational session, a survey measuring the participants' opinions of the psychoeducational session was administered (see Appendix H). Participants were asked to rate using a Likert scale

their view of the usefulness of the information, as well as whether they enjoyed participating, wanted additional information, and would consider attending additional sessions. The measure also includes 2 open-ended questions asking what subjects they would like addressed in any additional sessions, and what obstacles they foresaw in implementing any of the recommended interventions.

General Procedure

Psychoeducation development. ADHD and ODD were selected as the target diagnoses because of their prevalence and potential for disruption in the classroom setting. A curriculum was created by the primary investigator to educate teachers about not only the criteria for each disorder, but also the identified causes, prevalence, possible presentations of each disorder in the classroom, and methods of managing such behavior. Specific methods described included antecedent strategies, consequences, positive and negative interventions, token economies, and appropriate use of time-out. During development, study procedures were made available to the elementary school principal and he was given the opportunity to provide feedback. Based on the pilot study, all but two instances of prompted participant involvement in the session were removed, as the session was longer than the allotted time and removing prompts for participation appeared to be the most efficient way to save time without sacrificing educational content. However, participants were told before the start of the session that they could ask questions at any time. Secondly, information was added by the experimenter to more clearly define positive and negative interventions, why a teacher may choose one over the other, and to add the positive intervention of talking with the child. These changes were made because pilot data indicated an

increased preference for negative interventions following the psychoeducational session, which was an unintended outcome. Review of the curriculum revealed that there was no explicit explanation of positive or negative interventions or why a positive intervention would be preferable, so these points were clarified in the revised curriculum. The original curriculum used in the pilot study can be found in Appendix I. The revised psychoeducation curriculum, utilized for Studies 1 and 2, can be found in Appendix J.

Study procedure. For Study 1, a digital Qualtrics link to the measures was sent to the principal, who distributed the recruitment letter (Appendix A) and the study link to all Kindergarten, first-, and second-grade teachers. Teachers interested in participation found the informed consent form upon clicking the study link; after providing consent, participants were directed to the study measures. Due to an unanticipated change to the teachers' schedule, the intervention presentation was moved to an earlier date, which gave teachers approximately 1 week (instead of the expected 2 weeks) to complete the measures; one teacher completed the pre-test measures by the date of the educational session. The researcher visited the teachers at their workplace, and reiterated the goals of the study, while requesting participation from teachers who were interested, but had not yet completed the pre-test measures. The goal of this visit was to complete the psychoeducational session for those teachers who had completed the pre-test measures, and to continue recruitment in-person for others. Teachers were told that if they were interested in participating, they could complete the measures and the researcher would return to deliver another session at a later date. Although teachers were offered compensation for completing the pre-test measures, no additional teachers

were willing to do so. As previously agreed upon with the principal, the researcher conducted the single psychoeducational session (as outlined in Appendix J) as an in-service training and distributed the Satisfaction Survey when it was complete. Approximately one-half of the participants (n = 14) completed the Satisfaction Survey. The researcher sent a Qualtrics link to post-intervention measures to the one participant who completed the pre-test measures, but the measures were not completed.

For Study 2, participants signed up for research participation through an online system. Sessions were held in Uhler Hall at Indiana University of Pennsylvania, with group sizes ranging from one to twelve participants. The sessions varied significantly in length (between 60 and 105 minutes) based upon the number of participants involved. In larger groups, participants seemed to take longer to complete the pre-test surveys, and had more questions, which both resulted in a longer overall session length. When subjects arrived in Uhler Hall, they were given an informed consent form to read, and asked if they had any questions. The researcher then briefly reviewed informed consent to ensure understanding. Students who agreed to participate signed the form and completed the four study measures in the following sequence: ADHD Knowledge Scale, ODD Knowledge Scale, Teachers' Sense of Efficacy Scale (short form), and Survey of Attribution and Preferred Interventions. Participants were then given an outline of the psychoeducation curriculum, and were told that they could take notes if they liked, but were not required to do so. The principle investigator conducted the psychoeducational session and participants were encouraged to ask questions about the information provided. After the session, participants completed the same four measures again, in the same order, but with the Teacher Satisfaction Questionnaire added to the end.

When the scales were completed, participants were asked if they had any questions, and given the Debriefing Form (Appendix J). Participants in the pilot study and Study 2 received credit for research participation in their introductory psychology course at Indiana University of Pennsylvania.

CHAPTER IV

RESULTS

With the exception of the Teacher Satisfaction Survey, all quantitative data was collected from a sample of undergraduate education majors of any discipline (n = 24) at Indiana University of Pennsylvania. All students fell within the 18-29 age bracket, and 14 (58.3%) were female. Responses to the Teacher Satisfaction Survey were also collected from 14 in-service teachers, for whom demographic data was not obtained. The primary method of analysis was paired samples t-tests to compare pre- and post-intervention means. The means and standard deviations of each dependent measure administered before and after the intervention was conducted, along with the significance values produced by the paired-samples t-tests, are presented in Table 1. Two-way mixed ANOVAs were conducted to examine gender differences in pre- and post-intervention scores (see Table 2). Finally, Cronbach's alpha was calculated to examine the internal consistency of each measure.

Hypothesis 1

The first hypothesis was that participants would demonstrate a statistically significant increase in knowledge of attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). To test this hypothesis, a paired samples t-test was conducted to compare the total pre-intervention scores on the ADHD and ODD knowledge scales with the total post-intervention scores on each knowledge measure. Participants showed significant variability in ADHD knowledge prior to the intervention, with scores ranging from 0 to 23 out of 27 possible points, and also evidenced by the large standard deviation. Internal consistency for the ADHD knowledge scale fell in the

good range at .85. As predicted, there was a statistically significant difference in mean ADHD knowledge scores from pre- (M = 14.46, SD = 5.004, range: 0-23) to post-intervention (M = 17.75, SD = 2.801, range: 12-22); t(23)=-3.618, p = .001. Participants showed a pre-intervention level of knowledge consistent with that found in pre-service teachers by Koss, Richdale, and Jackson (2004), and scores were increased after the intervention to a level consistent with in-service teachers with extensive experience (Kos et al., 2004). This suggests that a short psychoeducational session is effective in communicating factual information about ADHD and increasing participants' level of knowledge.

Mean scores for males (M = 12.50, SD = 6.21) and females (M = 15.86, SD = 3.55) on the pre-test measure of ADHD knowledge prompted further analysis; thus, a 2-way mixed ANOVA was conducted to test for interactions between gender and ADHD knowledge scores. There was a statistically significant interaction between gender and time on ADHD Knowledge scores, F(1,22) = 11.309, p = .003, partial η^2 = .340, suggesting that males significantly increased in ADHD knowledge, while females did not. However, there were no main effects for gender prior to, F(1,22) = 2.835, p = .106, partial η^2 = .114, or following the intervention, F(1,22) = 2.573, p = .123, partial η^2 = .105. There was a statistically significant main effect for time on ADHD total score for males, F(1,9) = 18.595, p = .002, partial η^2 = .674, but not for females, F(1,13) = 2.167, p = .165, partial η^2 = .143. These results indicate that, while females did not experience a significant improvement in knowledge, at post-intervention, males and females had a comparable level of knowledge about ADHD.

There was also a significant difference in mean ODD knowledge scores from before (*M* = 5.29, *SD* = 3.884, range: 0-13) and after the intervention (*M* = 10.75, *SD* = 3.054, range 5-16); t(23)= -6.528, *p* = .000. There were no differences between males and females at either point of data collection. As the measure utilized was created for this study, there are no comparison data to determine the level of participant knowledge in a qualitative manner. However, it may be useful to compare the level of ODD knowledge to the level of ADHD knowledge in the same sample. Post-intervention, participants correctly answered 60% of the questions on the ODD scale. At the same data collection point, participants were able to correctly answer 66% of the questions on the ADHD scale. Additionally, it is noteworthy that participants' scores doubled from pre- to post-intervention. These results suggest that a psychoeducational session can significantly increase participants' knowledge of ODD in a short period of time. Internal consistency for the ODD knowledge scale was excellent at .90.

Hypothesis 2

The second hypothesis was that after the intervention, participants would endorse increased confidence in their ability to handle problematic behaviors in the classroom. This was tested by examining mean self-efficacy ratings from pre- to post-intervention. Internal consistency for this measure was excellent at .90. A paired samples t-test was conducted to compare scores on the self-efficacy measure at pre- and post-intervention. There was a significant difference in mean ratings made before (*M* = 6.88, *SD* = 1.04) and after the intervention (*M* = 7.44, *SD* = 1.03); t(23)=-2.895, *p* = .008). These results suggest that the intervention increased participant ratings of self-efficacy, indicating increased confidence in dealing with problematic classroom

behaviors. The mean score at post-intervention in the current study was comparable to that found by the authors of the measure in the validating study with pre-service and in-service teachers (*M* = 7.1, *SD* = 0.98; Tschannen-Moran & Hoy, 2001).

Hypothesis 3

The third hypothesis was that participants would be less likely to make dispositional attributions for a hypothetical child's misbehavior following the intervention, as well as more likely to make disorder-related attributions for the child's behavior. Ratings of attributions for child misbehavior to family, child, teacher, school, and disorder factors were measured and indicated where participants were most likely to place blame for child misbehavior. Pairwise comparisons within a one-way ANOVA were examined to determine the relationships among the attribution categories at Time 1. For the ADHD vignette, participants made the fewest attributions for behavior to family (*M* = 2.82, *SD* = .99), followed by teacher (*M* = 3.29, *SD* = 1.04), school (*M* = 3.34, *SD* = .97), child (*M* = 3.35, *SD* = .64), and disorder (*M* = 4.04, *SD* = .75); see Table 3 for further data. Family was rated significantly lower than child (*p* = .028), school (*p* = .005), and disorder (*p* = .001) attributions. Further, participants rated the child attribution significantly lower than the disorder attribution (*p* = .001). Therefore, participants identified the family as the least likely cause for the behavior of a child with ADHD, while characteristics of the disorder, teacher, and school were rated as equally likely to cause their disruptive behavior.

For the ODD vignette, the lowest-rated attribution was teacher (*M* = 3.21, *SD* = .96), followed by family (*M* = 3.26, *SD* = .71), child (*M* = 3.40, *SD* = .78), school (*M* = 3.46, *SD* = .77), and disorder (*M* = 3.60, *SD* = .98). However, the pairwise comparisons

within the one-way ANOVA found no significant differences between the ratings; therefore, statistically, all attributions for ODD behaviors were rated equally. Comparing the attribution ratings for both disorders, attribution to the family was significantly higher for ODD behaviors (M = 3.26, SD = .71) than ADHD behaviors (M = 2.82, SD = .99); t(23)=-3.27, p = .003. No other differences in attributions between ADHD and ODD behaviors were found. Internal consistencies for these scales ranged from fair to excellent (.79 to .91) for the ADHD attribution scales, as well as for the ODD attribution scales (.73 to .91).

A two-way repeated measures ANOVA was conducted to compare mean attribution ratings for the hypothetical child's misbehavior in the ADHD vignette by time as well as attribution category. There were no outliers, as assessed by examination of studentized residuals for values greater than ± 3. ADHD behavior attribution ratings were normally distributed (p > .05) except for the pretest child attribution (p = .027), as assessed by Shapiro-Wilk's test of normality on the studentized residuals. Mauchly's test of sphericity indicated that the assumption of sphericity was met for the two-way interaction, $X^2(9) = 14.174$, p = .117. There was a statistically significant interaction between time and attribution, F(4, 92) = 4.327, p = .003, partial η^2 = .158. This means that there was a significant change in attribution ratings from pre- to post-intervention.

A statistically significant main effect for time was found on the disorder attribution specifically, F(1, 23) = 12.940, p = .002. Participants' disorder-related attribution ratings were significantly higher following the intervention. As predicted, information about ADHD resulted in an increased attribution for misbehavior to disorder elements such as a family history of disruptive behavior, dysfunctions in the brain, and a lack of

medication prescribed for the problem following the intervention. No significant main effects for time were found in relation to the other attribution categories ($p > .250$). Therefore, contrary to prediction, participants' attributions for the child's behavior to the child's characteristics such as personality, control over the behavior, intelligence, and dislike for school (i.e., internal attributions for the child's misbehavior) did not change following the intervention.

The main effect for attribution ratings was also investigated at pre- and post-intervention. Mauchly's test of sphericity indicated that the assumption of sphericity had been violated for both pre- ($X^2(9) = 23.799$, $p = .005$) and post-test ($X^2(9) = 26.974$, $p = .001$) ratings. Therefore, epsilon (ε) was calculated according to Greenhouse and Geisser (1959), and was used to correct the one-way repeated measures ANOVAs utilized to investigate main effects. There was a statistically significant main effect for attributions, for both pre- ($F(2.792, 64.224) = 3.080$, $p = .037$, $\varepsilon = .698$) and post-test ($F(2.880, 66.251) = 9.643$, $p = .000$, $\varepsilon = .720$) ratings in response to the ADHD vignette. Participants' ratings significantly differed based on attribution type (family, child, teacher, school, or disorder) at both pre- and post-intervention.

Another two-way repeated measures ANOVA was conducted to compare mean attribution ratings for the behavior of the child in the ODD vignette by time and attribution category. There were no outliers, as assessed by examination of studentized residuals for values greater than ± 3. ODD behavior attribution ratings were normally distributed as assessed by Shapiro-Wilk's test of normality on the studentized residuals ($p > .05$). Mauchly's test of sphericity indicated that the assumption of sphericity was met for the two-way interaction, $X^2(9) = 15.939$, $p = .069$. There was no statistically

significant interaction between time and ratings of ODD vignette attributions, F(4, 92) = .887, p = .475, partial η^2 = .114. Contrary to prediction, there was no significant difference between mean attribution ratings made for the child or the disorder following the intervention. Additionally, there were no significant main effects of time on any of the five attribution categories (*p* > .118). Main effects of the attribution ratings at pre- and post-test were also investigated, and no significant results were found (p > .283). Attributions for misbehavior in the ODD vignette did not change after the intervention was conducted.

The potential influence of gender on attribution ratings was examined and one significant result was obtained. A 2-way mixed ANOVA revealed a statistically significant interaction between gender and attributions related to disorder for the ODD vignette, F(1,22) = 10.289, p = .004, partial η^2 = .319. A statistically significant effect of time on ODD disorder attribution was found for females, F(1,13) = 10.338, p = .007, partial η^2 = .443, but not for males, F(1,9) = 2.104, p = .181, partial η^2 = .189. Female participants' ratings of attributions related to disorder increased from pre- to post-intervention, but males' ratings did not change. This suggests that gender had a mediating influence on disorder-related attribution ratings for ODD. However, there was no statistically significant difference between males and females in mean ratings of attribution for ODD-like misbehavior to the disorder prior to, F(1,22) = .536, p = .472, partial η^2 = .024, or following the intervention, F(1,22) = 3.640, p = .070, partial η^2 = .142.

Hypothesis 4

The fourth hypothesis was that, following the psychoeducational session, participants would show an increased preference for positive interventions and a decreased preference for negative interventions to address classroom misbehavior. At both time points (i.e., before and after the psychoeducational session), participants rated the extent to which they believed the stated intervention was effective and what interventions they expect to use when they are in the classroom. No differences were found between ratings of effectiveness for various interventions and which interventions participants expected to use in their future classrooms for the ADHD vignette. Therefore, participants' ratings of which interventions they expect to use, or their preference for particular interventions, will be described.

A paired samples t-test was conducted to compare participant ratings of positive intervention preference for the hypothetical child with ADHD at Time 1 and at Time 2 (i.e., before and after the intervention, respectively). There was a significant difference found in mean ratings made at Time 1 (M = 3.86, SD = .505) and at Time 2 (M = 4.25, SD = .428); t(23)= -3.982, p = .001. These results suggest that participants started with a high preference for positive interventions in dealing with misbehavior related to ADHD that significantly increased following the psychoeducational session.

A second paired samples t-test was conducted to compare positive intervention preference for the ODD vignette before and after the intervention. There was a significant change in mean ratings of positive interventions thought to be effective made at Time 1 (M = 3.87, SD = .669) and at Time 2 (M = 4.20, SD = .508); t(23)=-2.594, p = .016. These results indicate that participants rated positive interventions as more

effective with a vignette displaying ODD-type behaviors following the intervention. However, contrary to expectations, there was no corresponding increase in mean ratings for expected use of positive interventions with the ODD vignette. This suggests that while participants rated positive interventions as more effective at Time 2, that did not result in a corresponding change in expectations for intervention use.

A paired samples t-test was conducted to compare negative intervention preference with the ADHD vignette before and after the intervention. There was no significant change in mean ratings made before (M = 2.93, SD = .724) and after the intervention (M = 2.69, SD = .857); t(23)=1.443, p = .163. The psychoeducational intervention did not change the level of preference for negative interventions with children exhibiting ADHD behaviors.

A fourth paired samples t-test was conducted to compare negative intervention preference with the ODD vignette before and after the intervention. There was no significant change in mean ratings made before (M = 2.91, SD = .691) and after the intervention (M = 2.67, SD = .851); t(23)=1.563, p = .132. Again, there was no change in participants' preference for negative interventions for ODD-type behaviors after the psychoeducational session.

Teacher Satisfaction Questionnaire

Responses on the Teacher Satisfaction Questionnaire were collected from participants in both studies. Questions regarding participants' reactions to the psychoeducational intervention were answered on a scale of zero (nothing gained/very poor opinion) to four (very many useful techniques).

Overall, teachers in Study 1 indicated their feelings regarding the intervention were “neutral,” as demonstrated by mean ratings of the question, “My general feeling about the program I participated in is…” (*M* = 2.14, *SD* = .864). Further quantitative data from this questionnaire is shown in Table 4. In open-ended responses, teachers stated that “time” and “too many students in the classroom” were obstacles to utilizing the techniques discussed in the intervention. Two participants from Study 1 reported interest in further sessions; one teacher stated they would like assistance with development and maintenance of parent-teacher relationships, as they felt that the home environment was where the “follow up on rewards tends to break down.” In general, teachers’ responses suggested that they did not perceive the information presented as new or particularly helpful in addressing problem behaviors in the classroom.

In contrast, students in Study 2 reported their feelings regarding the intervention as “I liked it very much” (*M* = 3.63, *SD* = .647). Further quantitative data from this questionnaire is shown in Table 4. Participants’ qualitative responses suggested lack of experience and low self-confidence to be obstacles to using these techniques in their classrooms, including lack of practice or “not knowing enough,” being afraid to try the techniques at first, and questioning themselves as teachers, in addition to obstacles also facing more experienced teachers, such as severity of the child’s disorder, having more than one disruptive student at a time, lack of time in the classroom, and lack of parental involvement. More than half of the participants (n = 13) were interested in further sessions. Requests for session content included more scenarios, ways to help students with special needs, ways to solve problems in the classroom, keeping students

focused or gaining their attention, adapting and transitioning, and simply more information on the disorders presented (ADHD and ODD).

A one-way ANOVA was conducted to compare mean satisfaction ratings by sample. Education majors provided significantly higher ratings on each question on the satisfaction survey, including overall satisfaction ratings, $F(1,37) = 36.157$, $p = .000$ (see Table 4). These results indicate that students in Study 2 felt they learned more from, and were more satisfied with, the psychoeducation program. Additionally, they were significantly more likely to ask for further sessions to address additional concepts, $F(1, 37) = 6.599$, $p = .014$.

Table 1

Pre- and Post-Test Measure Comparisons Obtained With Paired-samples t-tests

Scale	Score range	Pre-test mean (SD)	Post-test mean (SD)	*p*-value
ADHD Knowledge Scale	0-27	14.46 (5.00)	17.75 (2.80)	0.001**
ODD Knowledge Scale	0-18	5.29 (3.88)	10.75 (3.05)	0.000***
Teachers' Sense of Efficacy Scale	1-9	6.88 (1.03)	7.44 (1.03)	0.008**
Survey of Attributions and Preferred Interventions				
ADHD Actual Positive Intervention Use	1-5	3.86 (.51)	4.25 (.43)	0.001**
ADHD Actual Negative Intervention Use	1-5	2.94 (.72)	2.69 (.86)	0.163
ADHD Effective Positive Interventions	1-5	3.78 (.65)	4.26 (.46)	0.000***
ADHD Effective Negative Interventions	1-5	2.77 (.64)	2.68 (.88)	0.444
ODD Actual Positive Intervention Use	1-5	3.94 (.61)	4.14 (.58)	0.120
ODD Actual Negative Intervention Use	1-5	2.91 (.69)	2.67 (.85)	0.132
ODD Effective Positive Interventions	1-5	3.87 (.67)	4.20 (.50)	0.016*
ODD Effective Negative Interventions	1-5	3.00 (.92)	2.69 (.91)	0.103

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 2

Significant Pre- and Post-Measure Comparisons by Gender, Obtained With a 2-Way Mixed ANOVA

Scale	Score range	Male (n=10)		Female (n=14)			
		Pre-test mean (SD)	Post-test mean (SD)	Pre-test mean (SD)	Post-test mean (SD)	F (df)	*p*-value
ADHD Knowledge Scale	0-27	12.50 (6.21)	18.80 (2.44)	15.86 (3.55)	17.00 (2.88)	11.31 (1, 22)	0.003**
Survey of Attributions and Preferred Interventions							
ODD Causes of Behavior – Disorder	1-5	3.48 (.57)	3.18 (.83)	3.20 (1.10)	3.91 (.99)	10.29 (1, 22)	0.004**

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 3

Attribution Ratings Pre- and Post-Test Obtained With a 1-Way ANOVA

Attribution	Score range	Pre-test mean (SD)	Post-test mean (SD)	F (df)	*p*-value
ADHD					
Family	1-5	2.98 (.73)	2.82 (.98)	1.395 (1, 23)	0.250
Child	1-5	3.24 (.55)	3.36 (.64)	1.226 (1, 23)	0.280
Teacher	1-5	3.15 (.99)	3.29 (1.04)	.683 (1, 23)	0.417
School	1-5	3.29 (.71)	3.35 (.97)	.141 (1, 23)	0.711
Disorder	1-5	3.51 (.75)	4.04 (.75)	12.940 (1, 23)	0.002**
ODD					
Family	1-5	3.27 (.62)	3.26 (.71)	.010 (1, 23)	0.923
Child	1-5	3.30 (.70)	3.40 (.78)	1.191 (1, 23)	0.286
Teacher	1-5	3.07 (.96)	3.21 (1.04)	2.134 (1, 23)	0.158
School	1-5	3.28 (.76)	3.46 (.77)	2.643 (1, 23)	0.118
Disorder	1-5	3.31 (.91)	3.60 (.98)	2.493 (1, 23)	0.128

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 4

Teacher Satisfaction Questionnaire Results Obtained With a 1-Way ANOVA

Survey Question	Study 1 (n = 14)		Study 2 (n = 24)			
	Mean	Standard Deviation	Mean	Standard Deviation	F (df)	*p*-value
Regarding techniques of rewarding, I feel I have learned…	1.64	.633	3.04	.624	43.95 (1,37)	0.000***
Regarding techniques for teaching my future students new skills, I feel I have learned…	1.57	.646	3.12	.797	38.31 (1, 37)	0.000***
Regarding my confidence in my ability to reward my students, I feel….	2.50	.650	3.54	.509	30.14 (1, 37)	0.000***
I feel the type of program that was used to help me improve the behavior of my students was…	2.33[a]	.778[a]	3.42	.654	19.35 (1, 37)	0.000***
My general feeling about the program I participated in is…	2.14	.864	3.63	.647	36.16 (1, 37)	0.000***
Would you request more sessions?	.14[b]	.363	.54[b]	.509	6.60 (1, 37)	0.014*

[a]n = 12 due to missing data

[b]This question was coded categorically, 0 = no, 1 = yes.

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

CHAPTER V

DISCUSSION

Many studies have demonstrated the impact of a teacher's beliefs and behavior on the disruptive behavior of children in the classroom (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2007; Hamre & Pianta, 2001; Pace, Mullins, Beesley, Hill, & Carson, 1999). When teachers feel efficacious in their classrooms, they are more likely to choose positive interventions (Andreou & Rapit, 2010), which are shown by research to be most effective for handling child misbehavior within the school setting (Lundahl, Risser & Lovejoy, 2006; Chalk & Bizo, 2004). Additionally, the teacher's greater objective knowledge of a psychological disorder, and subsequent attributions for a child's behavior to the disorder instead of the child's disposition, results in the use of more positive behavioral interventions (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000; Andreou & Rapti, 2010; Alderman & Nix, 1997; Poulou and Norwich, 2002). Despite these clear associations, teachers are often not trained in the use of effective interventions (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000; Freeman, Simonsen, Briere, & MacSuga-Gage, 2014), and such interventions are implemented inconsistently, if at all (Rosen, Taylor, O'Leary, & Sanderson, 1990; Debnam, Pas, Bottiani, Cash & Bradshaw, 2015). Strongly validated teacher-training programs, such as The Incredible Years® Program (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton & Hammond, 2003; Webster-Stratton, Reid & Hammond, 2004; Webster-Stratton, Reid, & Stoolmiller, 2008), tend to be expensive for schools and time-consuming for teachers, taking four full days to complete and costing $1,500 - $2,000 per day (The Incredible Years®, Inc.). The fiscal and time demands of this program are

prohibitive for many educators, and this creates a need for more accessible and economical alternatives.

The proposed study aimed to develop and evaluate an intervention in a manner that could be easily implemented in real classrooms. The primary goal of the study as it was originally proposed was to assess the impact of one short educational session on multiple areas relating to child classroom misbehavior. This specifically included common childhood disorder knowledge, classroom self-efficacy, attributions for student misbehavior, and intervention choice. However, this study could not be carried out as proposed; the recruitment phase was unsuccessful, and an insufficient number of in-service teachers were willing to participate in the study despite a small offer of compensation.

There are multiple reasons that may explain why teachers were not interested in participation. The first, and most likely explanation, was that teachers believed they did not have the time to complete the study measures. One teacher reported this concern to the researcher after the intervention was introduced. Unfortunately, this is not an uncommon obstacle to this line of research. Zhou (2012) attempted to help teachers in China improve school-based research programs, develop new curriculum, and progress as researchers within the classroom environment. Teachers at one school, after working with the author for months, informed her that they would no longer participate because they did not have the time. In an international study, Geldenhuys and Ooshuizen (2015) similarly identified lack of planning by management, and therefore, a lack of time, as a barrier to effective use of professional development. Participants in this study reported that the school's management did not set aside in-school time for professional

development, and subjects did not want to use after school, weekend, or school holidays for this purpose. In the United States, schools have designated in-service training days, but completion of research study measures would take up teachers' free time. Given the numerous demands on teachers' time, the addition of research participation to professional development requirements may represent a time commitment that teachers are not able or willing to make.

It is also possible that the teachers did not think that mental health or behavior management was an area in which they needed continuing education. There is conflicting data on how important teachers find these topics within the scope of their profession. The Coalition for Psychology in Schools and Education (2006) found that behavior management is the first or second highest professional development need endorsed by teachers, depending on teaching experience. However, this is not a universal finding. In an international study conducted in Singapore, Tan, Chang, and Teng (2015) interviewed teachers about their reasons for participating in professional development activities. Responses included: "1) keeping their discipline knowledge current, 2) staying abreast of the latest changes in [the] educational landscape through networking, 3) role modelling life-long learning, 4) motivating themselves to stay passionate in teaching, and 5) fulfilling their responsibility of being professional" (Tan, Chang, & Teng, 2015, pp. 1587 – 1588). Clearly, classroom management is not included in these areas thought to be important. It should be noted that this is an international study and therefore, educational policy differences may limit generalizability of results; however, minimal research has evaluated teacher attitudes toward professional development.

Geldenhuys and Ooshuizen (2015) found that teachers wanted workshops to be focused on the curriculum, practically oriented, and relevant to their educational needs. These goals do not overlap with behavior management. Curriculum focus does not include behavior management, practically-oriented workshops require more time of the teachers than didactic programs, and studies have found that teachers have differential preferences for professional development format and content based upon teaching experience (Mahmoudi & Ozkan, 2015).

It is also important to explore possible reasons why the teachers who did attend and completed the Satisfaction Survey did not find it useful. Mahmoudi and Ozkan (2015) found that attitudes regarding professional development, or in-service training, differed between in-service teachers and novice teachers. Specifically, they investigated how much "impact" various professional development activities had on the teachers based on self-report. Interestingly, in multiple categories, novice and experienced teachers expressed opposite opinions. This included the designation of "courses/workshops (e.g. on subject matter or methods and/or other education-related topics)," which 81% of the experienced teachers responded had "no impact" or "little impact." In contrast, 75% of novice teachers endorsed "some impact" or "large impact" for the same item. This indicates a clear delineation of continuing education needs based upon the experience of the teacher. Experienced teachers endorsed mentoring/peer observation, peer coaching, and education conferences/seminars as being the most useful to them professionally, while novice teachers endorsed courses/workshops and a teacher network with the purpose of professional development as the most useful. Geldenhuys and Ooshuizen (2015) found that older

teachers, such as those nearing retirement, “did not see the need for them to participate” (p. 210). The students in Study 2, for whom complete data was collected, are most similar to novice teachers in experience and knowledge. It would then follow, based on this research, that the education students found the workshop more helpful than the teachers with experience. This was reflected in the findings of this study, which indicated that the students were more satisfied with the educational session than were in-service teachers. Further, the students also reported that they learned more and experienced a greater increase in their confidence than did in-service teachers in Study 1. However, the in-service teachers may have already received professional development on these topics or have had sufficient experience to resolve confidence issues.

It is also possible that the teachers began with a high level of knowledge regarding disorders and classroom interventions; as they did not complete questionnaires for the study, no information was obtained about their base knowledge level or whether the intervention resulted in any change. However, research has shown that factual knowledge does not necessarily transfer directly into practice for teachers (Wiliam, 2010). This was part of the rationale for measuring both a change in factual information, as well as attitude change. Research shows that experienced teachers prefer collaboration with their peers, and behaviors such as observation and consultation, rather than a course or workshop (Mahmoudi & Ozkan, 2015). Further, engagement with the material and information learned in a practical, experiential way increases the likelihood that the teacher will introduce new techniques into their classroom and continue to use them over time (Girvan, Conneely, & Tangney, 2016). It

is possible that the intervention would have been better received if it included a component that required teachers to work together and help each other implement classroom management strategies with integrated consultation, in addition to the educational component. The same study showed that teachers reported that these activities are the least utilized in continuing education or professional development (Mahmoudi & Ozkan, 2015). This may be because, in order to include such intensive support, the intervention becomes more similar to previously described programs such as the Incredible Years® (Reid & Webster-Stratton, 2001; Reid, Webster-Stratton & Hammond, 2003; Webster-Stratton, Reid & Hammond, 2004; Webster-Stratton, Reid, & Stoolmiller, 2008), with the same previously discussed problems with time and money.

Because in-service teachers were not interested in participation, an alternative study was developed and implemented to target a more receptive audience for the information provided in the intervention. Given the lack of pre-service teacher training on the subjects of disorder criteria and classroom management (Arcia, Frank, Sanchez-LaCay & Fernandez, 2000; Garrett, 2014; Jones, 1996), as well as feedback provided during the pilot study, the researcher predicted that college students majoring in education would be more interested in and open to the psychoeducational session, and would benefit from it as well. The primary goals of the completed study were to instruct education students on common behavioral disruptions in the classroom, and give an overview of effective classroom management techniques. Following from past research, it was expected that an increase in teachers' (or in this case, future teachers') disorder knowledge and classroom management skills would result in an increase in

self-efficacy and a change in behavioral attributions, as well as an increased preference for positive interventions in the classroom.

Although not all hypotheses were confirmed, significant changes were found following the intervention. Participants showed significant improvements in ADHD and ODD knowledge, as well as increased self-efficacy in the hypothetical classroom. Additionally, participants showed an increase in attributions for child misbehavior to ADHD-related factors. Lastly, participants reported an increased preference for positive interventions for managing ADHD-related behaviors. However, some results differed by gender of the participants.

Participants increased in both ADHD and ODD disorder knowledge, but their pre-test level of ADHD knowledge was already quite high, leaving little room for improvement before achieving scores commensurate with individuals currently in their intended profession. Participants' scores on the ADHD knowledge scale can be most directly compared to data acquired in the validating study (Kos et al., 2004). Results from the current project were consistent with the validation study, as participants showed a pre-test knowledge consistent with the pre-service teachers, and a post-test knowledge consistent with the in-service teachers (Kos et al., 2004).

Further analyses revealed that gender moderated the increase in ADHD knowledge. Although males and females had a comparable level of ADHD knowledge after the intervention, only males significantly increased in knowledge as a result of the intervention. The reason for this discrepancy is unknown, as a literature search did not show any consistent differences between male and female teachers in education or training that might explain a pre-existing difference in ADHD knowledge. However, there

are more female than male teachers, by a significant margin (Mistry & Sood, 2015). If these results are representative of the larger teacher population, they suggest that male teachers may experience greater benefit from educational programs of this nature.

Participants started the study with less knowledge about ODD than ADHD, which is not unexpected, given the general public's increased awareness of ADHD in recent years (Bussing, et al., 2012). This may also be related to prevalence rates of these disorders, as ADHD is considered to be more prevalent than ODD (American Psychiatric Association, 2013). However, participants did show statistically significant improvement in ODD knowledge, as baseline knowledge scores doubled after the intervention. This indicates that the educational intervention was effective in improving participants' knowledge of ODD.

Participants also reported a significant increase in post-intervention self-efficacy, with ratings comparable to those made by pre- and in-service teachers in the measure's validating study (Tschannen-Moran & Hoy, 2001). Self-efficacy in classroom management is described as the teacher's beliefs in their competency in helping students reach instructional goals, sustaining order in the classroom, and the recruitment and maintenance of student attention and participation (Emmer & Hickman, 1991). The psychoeducational intervention addressed all three of these elements: classroom management techniques that are helpful in maintaining order and recruiting student attention were presented, as was information about ADHD and ODD that may lead to a greater understanding of students' difficulties, both of which aid the teacher in helping the student reach instructional goals. That such a short program resulted in increased feelings of self-efficacy is encouraging. However, the participants in this study

had not managed their own classroom, and thus, the participants provided prospective ratings of what they thought they *would be* able to do in the future, rather than ratings of what they feel they are currently able to do. It is certainly possible, and even likely, that their beliefs and sense of efficacy will change throughout their teaching careers as a result of actual classroom experiences.

Participants made more attributions for hypothetical classroom misbehavior to the child's disorder in the ADHD vignette after the intervention, but attributions to dispositional, family-, school-, and teacher-related factors remained the same. This has the potential to influence classroom management, as teachers are more likely to be punitive with a child they believe is behaving disruptively intentionally (Andreou & Rapti, 2010). The intervention contributed to attribution change in several ways: as previously discussed, the psychoeducational program addressed multiple areas of information that lead to an increase in self-efficacy, which include increasing disorder knowledge and providing intervention techniques (Emmer & Hickman, 1991). Increased knowledge leads to an increased understanding of how the disorder affects behavior, which may lead teachers to feel that they can better handle and control the behavior (thus increasing self-efficacy) because misbehavior is not simply based on the child's whims. The increased understanding also creates a change in attribution, as teachers learn that the child is not purposefully acting inappropriately, and that disorder factors are relevant (Andreou & Rapti, 2010). These changes in attribution may then result in an increased preference for positive interventions because teachers are less likely to feel that the child is acting out or being disruptive intentionally (Alderman & Nix, 1997; Andreou &

Rapti, 2010; Poulou & Norwich, 2002). Further study could clarify these complex relationships.

Further analysis also suggested that gender may mediate attributional choices, such that females rated attributions for problem behaviors depicted in the ODD vignette to disorder factors at a significantly higher rate after the intervention, but males did not. This raises questions about the differential effects of the psychoeducational session by gender. Although males made more improvements than females in ADHD knowledge, it appears that the increase in knowledge did not translate into a change in attributions. Given that males and females had similar scores post-intervention, this may suggest that females started out with higher knowledge. Although a significant pre-test difference in ADHD knowledge was not found in the current study, it is certainly possible that the low sample size prevented detection of this difference. Lower pre-intervention scores likely contributed to the finding that male participants made significant improvement in ADHD knowledge while female participants did not. It is possible that females had a firmer grasp on their ADHD knowledge that allowed them to more flexibly apply their knowledge or make more connections between the knowledge and behavior.

A potential explanation for this gender difference was found within the literature. Data show that men are less represented than women in the teaching occupation, making up 23.9% of the teaching population as a whole (United States Department of Education, 2012). Further, the ratio of male to female teachers depends upon the teaching level. The same report found that, during the 2011-2012 school year, males made up only 14.0% of the teacher population at the elementary level, but 44.4% at the secondary level (United States Department of Education, 2012). As previously

discussed, education in topics such as classroom management and developmental disorders varies depending upon the age of student that the future teacher intends to instruct. Therefore, it is possible that this gender difference in knowledge is the result of the higher concentration of female teachers in the K-8 grades, as these education students receive more training in classroom management and developmental disorders. Overall, it is encouraging that disorder elements (such as a family history of disruptive behavior, dysfunctions in the brain, and a lack of medication prescribed for the problem) were more highly rated in explaining ADHD- and ODD-related misbehavior, as this suggests that participants recognized the disorder as contributing to the child's misbehavior, rather than the child's dispositional characteristics.

Additional influences on attribution ratings are also possible. It may have been confusing to participants to have both Attention Deficit Hyperactivity Disorder and Oppositional Defiant Disorder presented in the same session. Though they both present and cause problems within the classroom setting, students with little prior knowledge of these disorders may have had difficulty making a significant distinction between them, which may have influenced their attribution ratings at post-intervention.

Participants showed a significant increase in their preference for positive interventions in response to behavior depicted in the ADHD vignette from pre- to post-intervention. However, it is important to note the pre-existing high preference for positive interventions. As research suggests, positive interventions are strongly preferred by teachers, although observational studies show this does not always translate into their actual use in the classroom (Rosen, Taylor, O'Leary, & Sanderson, 1990; Debnam, Pas, Bottiani, Cash & Bradshaw, 2015). Participants also endorsed a significant

increase in the effectiveness of positive interventions when dealing with ODD behaviors. However, there was no corresponding change in the measure of interventions participants thought they would actually use. These results indicate that positive interventions were rated as more effective with students displaying ODD-type behaviors following the intervention, but the results further suggest that this would not necessarily carry over into action in the classroom. It is important to consider the difference between recognizing an appropriate plan of action and feeling confident in or able to enact that plan. The current study attempted to delineate the differences between these two related concepts by measuring them separately. It was surprising that participants demonstrated differences in these constructs in a self-report survey, as research indicates teacher self-reports are more likely to endorse use of effective behavior techniques, while independent behavior observations are necessary to determine what teachers actually do (Debnam, Pas, Bottiani, & Cash, 2015). Education students may have been more introspective about their possible limitations than experienced teachers, as indicated by the students' numerous concerns regarding why the suggested techniques may not be successful. As evidenced by their qualitative responses, education students were concerned that the recommended techniques would not work or that they would be unable to implement them at all. Lortie (2002) and Mayher (1990) found that pre-service teachers are more likely to use interventions that they experienced as a student themselves, even if they know that there are other, more effective choices. Furthermore, novice teachers find guidance or instruction in the areas of classroom and behavior management to have more impact than more experienced teachers (Mahmoudi & Ozkan, 2015), indicating the complexity of transitioning from

theoretical knowledge to practical application (Laframboise & Shea, 2009; van Ingen & Ariew, 2015).

Limitations

A significant limitation of this research is the use of a convenience sample of university subject pool students, rather than working teachers. This significantly limits the generalization of findings to in-service teachers. Multiple studies have found differences between the educational and professional needs of teachers at different levels (i.e., education students, pre-service teachers, in-service teachers, and in-service teachers with significant experience). Therefore, results are not likely to generalize beyond education students to current, in-service teachers with their own classrooms.

Students participating in the current study have not been in a real-world classroom; therefore, it is logical to question the validity of their reports. Given the original intention of the researcher to recruit in-service teachers, the measures used in this study were aimed at practicing teachers, rather than education students. The participants' ratings and results from the current study cannot be generalized to other groups, as participants' lack of classroom management experience influenced their responses. It is certainly possible that students overestimated their feelings of efficacy or likelihood of using an intervention.

Another limitation of this study is that long-term retention of disorder knowledge and attitude change were not investigated. The literature indicates that participants generally retain information well in the short-term, as required for study participation (i.e., Aguiar et al., 2014; Jones & Chronis-Tuscano, 2008); however, whether these changes are maintained over time is not commonly investigated. In the current study, it

is possible that participants forgot the information soon after leaving the research session, and that it will have little impact on their progress through their teaching program and eventual teaching assignment. Long-term retention of the information conveyed in this program is necessary to ensure that it results in the desired change in attributions and intervention choice in applied settings.

The effectiveness of education in various forms to increase teacher knowledge has been established, but the literature often rests solely on self-report to evaluate results and seldom expands to observations. This limits the validity of the findings, as there is often discrepancy between the two reporting methods (Debnam, Pas, Bottiani, Cash, & Bradshaw, 2015; Rosen, Taylor O'Leary, & Sanderson, 1990; Gunter & Jack, 1994; Hardman & Smith, 1999). The reluctance of teachers to participate in observational research is a significant barrier to identifying areas for intervention, especially given the existing research showing differences in study conclusions when teacher reports are compared to teacher observations (see prior discussion of Rosen, Taylor, O'Leary & Sanderson, 1990; Gunter & Jack, 1994; Hardman & Smith, 1999). The lack of teacher participation significantly hinders the generalization of research findings to real-world classrooms. This limitation carries over into the current study, which was dependent upon the self-reports of education students.

Another limitation of this study was the small sample size, which may have limited the power to detect significant differences. Additionally, two gender interactions were found in this study. These may be genuine findings, but they may also be artifacts of the small sample size that would disappear within the context of a larger sample.

Furthermore, although statistically significant differences were found between some pre- and post-intervention measures, whether these represent meaningful differences is unknown. For example, a change of one point in participants' ratings of self-efficacy was found from pre- to post-intervention. While this was a statistically significant result, it may not be clinically relevant. Small, but statistically significant, results were obtained in several analyses, and the potential lack of meaningful change should be considered a limitation to this study that impacts the generalizability of the findings to real-world situations.

Lastly, it is important to consider that the intervention may not have been powerful enough to result in attributional change. Once made, attributions are resistant to change (Duffy, 2003). A one-time, brief intervention is not likely to create enough impact to substantially change the way a person thinks. This is important to consider both in terms of limitations of the current study and in future study directions, as researchers may want to explore how much intervention is necessary to create lasting attributional change.

Future Directions

There is a significant need for researchers to be creative in designing studies aimed at in-service teachers to ensure investment and perceived, as well as actual, benefits on the part of the participants. Given the reluctance of teachers to participate in this study, researchers may wish to target education students who receive the information on childhood disorders and classroom management techniques, potentially following them through the start of their teaching careers to determine long-term effects. As previously discussed, education students' training in classroom management while

in school is varied. Yet, they do start obtaining classroom teaching experience while in college, so this information is relevant to them. If, as the data from this study suggest, students are more open to and have a greater perceived need for this type of information than established teachers, it seems vitally important to ensure a proper foundational knowledge in classroom management and common behavioral disorders before students leave their educational program for their first classroom.

Moldavsky and Sayal (2013) reviewed the literature and found that short educational programs, flyers, and web seminars are effective in various international and domestic settings in increasing teacher knowledge about childhood disorders and treatments. However, there is no evidence of research examining the long-term maintenance of this knowledge, or a change in behaviors of professionals. Therefore, future research should include measurement not only of teacher knowledge, but also their attitudes and behaviors, using multiple methods of measurement including observation and self-report.

Knowledge generated by research was described by Cain (2015) as theoretical, generalized, abstract, impersonal, and narrowly focused. In contrast, Cain described teachers' pedagogical knowledge as procedural and practical, concept-specific, values-based, and broadly focused. Cain's (2015) study created a program for teachers aimed to ease the transition between the two through three types of teacher thinking: conceptual development (modifying concepts from research and transforming them based on experiences), reflection on cases taken from personal experience (relating the knowledge gained from research to specific, personalized cases), and diffusing research knowledge into areas beyond its narrow scope (extending research knowledge

imaginatively to interrelated topics). The program helped the teachers to take research information and apply it to their specific context. Academia commonly discusses the use of evidence-based practice, but there needs to be further investigation into how to help teachers most effectively translate research into practice. van Ingen and Ariew (2015) similarly addressed this question in relation to pre-service teachers, and concluded that teachers are not taught foundational literacy steps in linking research to practice. Pre-service teachers, and perhaps in-service teachers as well, may benefit from support in articulating their teaching problems and subsequently searching for and selecting appropriate research literature to address the problem. This support and skill development helps the teachers to rely on their own ability to recognize and then meet the needs of each student they teach.

Along the same lines, research has shown that experiential or teamwork components in professional development activities may be helpful in both engaging teachers and helping them to retain what they learn (Girvan, Conneely, & Tangney, 2016; Mahmoudi & Ozkan, 2015). To make the interventions more appealing to teachers, one might include teachers providing responses to vignettes based upon their experiences and then receiving immediate feedback, discussing vignettes and potential interventions with other teachers, or creating their own vignettes based upon personal experience. Further teamwork might include peer mentoring or observation, in which teachers help each other to consistently integrate new interventions within their classrooms. This would be especially useful for experienced teachers, who report a preference for a more hands-on professional development orientation, as compared to novice teachers (Mahmoudi & Ozkan, 2015). The addition of these components,

however, increases the complexity of the intervention; as previously discussed, programs such as the Incredible Years® have been shown to be effective, but their cost and time commitment continue to be barriers to their wide-spread implementation.

Mulholland, Cumming, and Jung (2015) found that, as teaching experience increased, teachers were more likely to endorse negative attitudes towards students who exhibit ADHD-type behaviors. It is possible, if not likely, that more experienced teachers received less formal training in disorders and/or classroom management because their training occurred less recently than novice teachers. For example, in Australia, only 10% of experienced teachers reported receiving comprehensive training in ADHD, and no education students reported such comprehensive training (Bekle, 2004). However, in that same study, almost all education students (95%) endorsed "some form of [brief] training regarding ADHD" as compared to 33% of experienced teachers (Bekle, 2004). Given the lesser degree of formal instruction, it would then follow that the attitudes of experienced teachers were formed affectively in response to students in the classroom. Affectively-based attitudes rely upon the feelings and emotions associated with the "attitude object," such that something that makes us happy is good, and something that makes us upset or frustrated is bad (Breckler & Wiggins, 1991). In contrast, less-experienced teachers are more likely to receive didactic training during their education on behavioral disorders due to increases in interest and prevalence (Bekle, 2004), and therefore, may have formed their attitudes cognitively instead. Cognitively-based attitudes rely more on beliefs and judgments about the "attitude object," such as something that works well is good, and something that works badly, or below expectations, is bad. In the classroom setting, this allows for

teachers to have adjusted expectations, and therefore, more positive attitudes relating to children with behavioral problems.

If teachers are forming their attitudes about children with disruptive behavior through different means, methods of persuasion may be differentially effective in changing the opinions of teachers with varying levels of experience. Teachers with affectively-formed attitudes regarding students with disruptive behavior that were created out of frustration with students in the classroom may respond more favorably to affective messages (Fabrigar & Petty, 1999). That is, not through a didactic seminar, but by creating an emotional appeal, such as gathering perspectives of past or current students with behavioral problems on their experiences in the classroom – how they feel academically and socially, how they perceive the teacher, if they feel supported, etc. Presentation of an affective argument is more effective at changing attitudes that were formed affectively (Fabrigar & Petty, 1999). Younger teachers, whose attitudes were formed cognitively, should respond more favorably to the currently popular didactic, cognitively-focused style of professional development programming (Fabrigar & Petty, 1999).

It is clear that the management of disruptive behavior in the classroom is a complex problem, and there is no solution that will work for every teacher and every classroom. This is a difficult area in which to conduct research due to the many demands that are placed on teachers. Teachers value participation and teamwork in their professional development activities, and to include those activities requires an investment of time. It is possible that the existing programs with strong empirical support, such as the Incredible Years®, represent the best methods of influencing

classroom management despite being expensive and time-consuming, and that shorter, more easily implemented interventions lack the power to make meaningful differences in teacher behavior. If this is the case, research efforts may be better spent reducing the barriers to implementation of the existing validated program, rather than changing the program itself.

Results of the current study suggest policy recommendations that may increase accessibility of the Incredible Years® and other, similarly validated programs. Those responsible for teacher-training curriculum might consider creating a course for the teaching curriculum that includes the Incredible Years® program in its entirety, which would make this program more manageable in both time and cost. Integrating a teacher training program into education curriculum means each teacher would emerge from their undergraduate teacher education program with their diploma and a strongly validated skill set to manage their classroom. Pennsylvania curriculum requirements have some designated “wiggle room” that would allow programs to insert such a course while still meeting accreditation requirements (Pennsylvania Department of Education, 2009a; 2009b; 2009c), or it could simply be incorporated into an existing behavior or classroom management course. Alternatively, state or federal governments could offer incentives to school districts to require this training, to encourage use of validated programs. As previously discussed, the IY program is considered to be cost-effective over time, but present a significant initial financial investment. Financial rebates or incentives may help smaller or more rural school districts to gain access to an effective program that would have previously been out of reach.

With more directive research and efforts to be attentive to teachers' varied preferences and needs, significant improvement can be made in teachers' confidence in and ability to manage their classrooms. Moving forward, further investigation can delineate whether that takes the form of developing a new program or removing the substantial barriers to access for effective, existing programs.

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Appendix A

Recruitment Letter

Dear Educator,

My name is Melissa Webb, and I will be providing an educational presentation on common childhood disorders in the classroom during a faculty meeting at your school. I am a graduate student at Indiana University of Pennsylvania, and within that role I am conducting research for my doctoral dissertation under the supervision of Dr. Laura Knight.

I am attempting to evaluate the effectiveness of the educational program I will provide, and you are therefore invited to take part in a research study about common childhood disorders and methods to help children with these disorders function better in the classroom. You are being invited to participate because you are a teacher of grades K-6 at Purchase Line Elementary School in Commodore, Pennsylvania. The purpose of this study is to investigate the impact of a brief educational program about psychological disorders common in children on teachers' thoughts about and reactions to children's misbehavior in the classroom.

It is your choice if you would like to take part in this research and you do not have to participate. Your principal may require your attendance at the brief educational program, but you can still participate in the program even if you decide that you don't want to participate in this study.

If you decide that you would like to take part in this study, I will:

- Collect information about your attitudes and reactions to child misbehavior before and after the educational program, as well as once more after time has passed since the program took place. I will collect this information a total of three times, and each time it will be a digital survey.
- Deliver an educational program regarding childhood disorders and methods to handling these behaviors in the classroom.
- Provide each participant who completes the third set of questionnaires with a $10 gift card to Walmart.

Your participation in this study will be kept confidential. All information collected for this research study will be locked in my office at IUP and will not be included in a personnel file; no one from Purchase Line Elementary will have access to any of the information that you provide for this study.

By attending the educational workshop, you may learn new ways to help manage problem behaviors in the classroom and improve overall classroom functioning. By participating in the study, you will help with the development of educational

programming for teachers that will enable them to manage their classrooms more effectively. There is no cost to participate in the study.

If you have questions about this study, I can be reached by phone or by email, listed below. You may also call me if you have any questions as your read over the questionnaires. I am happy to review any of it with you and answer any questions you may have. If you would like to speak with me, please either call me at (314) 323-0383 or email me at melissa.webb@iup.edu.

Again, please understand that taking part in research is voluntary and it is up to you to decide if you want to do it. You may choose not to participate in this study, and your decision will have no effect on your employment.

If you decide to take part in the study, the link to begin the pretest questionnaires is included below, and needs to be completed before I arrive to deliver the educational program on <date> at <time>. Thank you for your time.

<Qualtrics link>

Sincerely,

Melissa Webb, M.A.
Graduate Student
Principle Investigator
Indiana University of Pennsylvania

Laura Knight, Ph.D.
Assistant Professor
Faculty Advisor
Indiana University of Pennsylvania

Appendix B

ADHD Knowledge Scale

1. There are a greater number of boys than girls with ADHD.	T	F	IDK
2. There is approximately 1 child in every classroom with a diagnosis of ADHD.	T	F	IDK
3. If medication is prescribed, educational interventions are often unnecessary.	T	F	IDK
4. ADHD children are born with biological vulnerabilities toward inattention and poor self-control.	T	F	IDK
5. If a child responds to stimulant medication (e.g., Ritalin) then they probably have ADHD.	T	F	IDK
6. A child who is not overactive, but fails to pay attention, may have ADHD.	T	F	IDK
7. ADHD is often caused by food additives.	T	F	IDK
8. ADHD can be diagnosed in the doctor's office most of the time.	T	F	IDK
9. Children with ADHD always need a quiet environment to concentrate.	T	F	IDK
10. Approximately 5% of American school-aged children have ADHD.	T	F	IDK
11. ADHD children are usually from single-parent families.	T	F	IDK
12. Diets are usually not helpful in treating most children with ADHD.	T	F	IDK
13. ADHD can be inherited.	T	F	IDK
14. Medication is a cure for ADHD.	T	F	IDK
15. All children with ADHD are overactive.	T	F	IDK
16. There are subtypes of ADHD.	T	F	IDK
17. ADHD affects male children only.	T	F	IDK
18. The cause of ADHD is unknown.	T	F	IDK
19. ADHD is the result of poor parenting practices.	T	F	IDK
20. If a child can play Nintendo for hours, then he/she probably doesn't have ADHD.	T	F	IDK
21. Children with ADHD cannot sit still long enough to pay attention.	T	F	IDK
22. ADHD is caused by too much sugar in the diet.	T	F	IDK
23. Family dysfunction may increase the likelihood that a child will be diagnosed with ADHD.	T	F	IDK
24. Children from any walk of life can have ADHD.	T	F	IDK
25. Children with ADHD usually have good peer relations because of their outgoing nature.	T	F	IDK
26. Research has shown that prolonged use of stimulant medications leads to increased addiction (i.e., drug, alcohol) in adulthood.	T	F	IDK

27. Children with ADHD generally display an inflexible adherence to specific routines and rituals	T F IDK

Appendix C

ODD Knowledge Scale

1. There are a greater number of boys than girls with ODD.	T	F	IDK
2. There is approximately 1 child in every classroom with a diagnosis of ODD.	T	F	IDK
3. If medication is prescribed, educational interventions are often unnecessary.	T	F	IDK
4. ODD children are born with biological vulnerabilities toward defiance and oppositionality.	T	F	IDK
5. A child who is not aggressive, but often argumentative or defiant, may have ODD.	T	F	IDK
6. Approximately 15% of children below age 18 may display symptoms of ODD at some point.	T	F	IDK
7. ODD children are usually from single-parent families.	T	F	IDK
8. ODD can be inherited.	T	F	IDK
9. Medication is a cure for ODD.	T	F	IDK
10. All children with ODD are vindictive.	T	F	IDK
11. There are subtypes of ODD.	T	F	IDK
12. ODD affects male children only.	T	F	IDK
13. The cause of ODD is unknown.	T	F	IDK
14. ODD is the result of poor parenting practices.	T	F	IDK
15. Family dysfunction may increase the likelihood that a child will be diagnosed with ODD.	T	F	IDK
16. Children from any walk of life can have ODD.	T	F	IDK
17. Children with ODD have control over their behaviors.	T	F	IDK
18. There is a minimum amount of time that a child must display behaviors of ODD in order to receive a diagnosis.	T	F	IDK

Appendix D

Teachers' Sense of Efficacy Scale (short form)

Teacher Beliefs Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	**How much can you do?**				
	Nothing	Very Little	Some influence	Quite a bit	A great deal
1. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
2. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
3. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
4. How much can you do to help your students value learning?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
5. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
6. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
7. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
8. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
9. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
10. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
11. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)
12. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4) (5) (6) (7)	(8) (9)

(Tschannen-Moran & Hoy, 2001)

Appendix E

Survey of Attribution and Preferred Interventions, Pilot Version

Please, read carefully, and base all your answers on the following vignette:

Kathy fidgets much of the time during lessons. She talks without having your permission, and fools around instead of working in her seat work. Kathy often leaves her seat during class time, and distracts the rest of the students. She tends to interrupt you when you are talking, and tries to answer questions before you finish asking them. Kathy often fails to turn in work, and when she does there is clearly no attention paid to details. You find her to be very easily distracted while in class, and her behavior significantly disrupts classroom functioning.

CAUSES

1. Please indicate whether each of the following items is likely to be the cause of the problem or not.

Please circle the number that best represents your opinion for each item:

	Very unlikely to be a cause				Most likely to be a cause
Family Environment					
1. Poor attachment between parents and child (i.e., parents' lack of time to be with their child, parents' indifference, etc.)	1	2	3	4	5
2. Parental conflicts/marital problems	1	2	3	4	5
3. Parents' low educational background	1	2	3	4	5
4. Parents' inability to help their child	1	2	3	4	5
5. Excessively strict parental demands	1	2	3	4	5
6. Lenient parental discipline (spoiling the child)	1	2	3	4	5
7. Many members in the family	1	2	3	4	5
8. Parents' low income	1	2	3	4	5
Child Factors					
1. Innate personality/temperament	1	2	3	4	5

2. The child wants to attract others' attention	1	2	3	4	5
3. The child cannot control her behavior	1	2	3	4	5
4. The child does not know what is expected from her	1	2	3	4	5
5. Child's low intelligence level	1	2	3	4	5
6. The child is unable to cope with school's demands	1	2	3	4	5
7. Child's health problems	1	2	3	4	5
8. The child dislikes school (or schoolwork)	1	2	3	4	5
9. The child competes with other children (or siblings)	1	2	3	4	5
Teacher Factors					
1. Your teaching style (i.e., authoritarian, democratic, indifferent)	1	2	3	4	5
2. Your personality (i.e., distant, friendly)	1	2	3	4	5
3. Your inappropriate manner towards the child (i.e., reject the child)	1	2	3	4	5
4. Inappropriate manner towards the child of previous teachers	1	2	3	4	5
5. Inadequate teaching method for the child	1	2	3	4	5
6. Poor classroom management	1	2	3	4	5
7. Climate of excessive demands in class	1	2	3	4	5
School Factors					
1. Lack of services for children with emotional or behavioral disorders in schools	1	2	3	4	5
2. Irrelevant curricula for the child's interest	1	2	3	4	5
3. Poor school organization and management	1	2	3	4	5

4. Bad school experiences of the child (i.e., rejection by peers)	1	2	3	4	5
5. Class size too large	1	2	3	4	5
6. Socio-economic level of the school area	1	2	3	4	5
Disorder Factors					
1. Child's inability to control their behavior	1	2	3	4	5
2. The child is not prescribed medications for their behavior	1	2	3	4	5
3. A family history of disruptive behavior	1	2	3	4	5
4. Dysfunction in the child's brain	1	2	3	4	5

2. Is there anything else that may be the cause of the behavior?

_____

_____

_____

_____

_____

3. For the problem as described in the vignette, what are your views about external support (i.e. working with a special teacher, psychologist, etc.)?

Please tick only one box:

☐ Is always available ☐ Is usually available ☐ Is never available ☐ Not known of services ☐ Does not exist

4. For the problem as described in the vignette, what do you think of the quality of available support services?

Please tick only one box:

☐ Very good ☐ About average ☐ Very poor ☐ Cannot judge

5. How likely is it that this behavior will change?

Please tick only one box:

☐ Not at all ☐ Somewhat likely ☐ Pretty likely ☐ Definitely

6. What would you actually do for the student in the vignette if she was in your classroom?

Please circle the number that best represents your opinion for each item:

	Very unlikely to do				Most likely to do
You as the teacher:					
1. Use rewards and positive incentives	1	2	3	4	5
2. Use punishments	1	2	3	4	5
3. Use threats (i.e., send the child to the principal)	1	2	3	4	5
4. Supportive behavior towards the child	1	2	3	4	5
5. Use counselling the child	1	2	3	4	5
6. Explain to the child the way school functions (rules of behavior)	1	2	3	4	5
7. Individualized teaching with the child	1	2	3	4	5
8. Keep records of the child's behavior	1	2	3	4	5
9. Involve the child in classroom activities	1	2	3	4	5
10. Pointing out the problem in specific situations	1	2	3	4	5
11. Gain child's confidence and trust	1	2	3	4	5
12. Personal interest in learning to cope with EBD (i.e., self education)	1	2	3	4	5

What else might you do for the child in the vignette?

_____

_____

_____

_____

_____

7. Which of the following factors would you consider to be the most effective in working with the kind of child described in the vignette?

   Please circle the number that best represents you for each item:

	Ineffective				Effective
You as the teacher:					
1. Use rewards and positive incentives	1	2	3	4	5
2. Use punishments	1	2	3	4	5
3. Use threats (i.e., send the child to the principal)	1	2	3	4	5
4. Supportive behavior towards the child	1	2	3	4	5
5. Use counseling the child	1	2	3	4	5
6. Explain to the child the way school functions (rules of behavior)	1	2	3	4	5
7. Individualized teaching with the child	1	2	3	4	5
8. Keep records of the child's behavior	1	2	3	4	5
9. Involve the child in classroom activities	1	2	3	4	5
10. Pointing out the problem in specific situations	1	2	3	4	5
11. Gain child's confidence and trust	1	2	3	4	5

12. Personal interest in learning to cope with emotional and behavioral disorders (i.e., self-education)	1	2	3	4	5
School policy					
1. Use of separate special classes for children with emotional and behavioral disorders	1	2	3	4	5
2. Greater emphasis on personal and social learning process	1	2	3	4	5
3. Less academic demands on learning process	1	2	3	4	5
4. Reduction of class size	1	2	3	4	5

What else might be effective with the child in the vignette?

_____

_____

_____

_____

_____

Finally, I would ask you to complete the following:

AGE *(tick the appropriate box)*

☐ 20-29 y ☐ 30-39 y ☐ 40-49 y ☐ over 50 y

MARITAL STATUS (tick the appropriate box)

Married ☐ Single ☐

TEACHING EXPERIENCE (tick the appropriate box)

1-4y ☐ 5-9y ☐ 10-14y ☐ 15-19y ☐

20-24y ☐ 25-29 y ☐ 30-34 y ☐ over 35 y ☐

EXPERIENCE IN SPECIAL EDUCATION (tick more than one box if necessary)

No experience ☐

Seminars in special education ☐

Teaching in special schools ☐

Other ☐ (give details)

_____

_____

_____

_____

_____

_____

Appendix F

Survey of Attributions and Preferred Interventions, Revised Version

Please, read carefully, and base all your answers on the following vignette:

Jamie fidgets much of the time during lessons, talks without having your permission, and fools around instead of working on seat work. This child often leaves their seat during class time, and distracts the rest of the students. Jamie tends to interrupt you when you are talking, and tries to answer questions before you finish asking them. This student often fails to turn in work, and when it is submitted there is clearly no attention paid to details. You find them to be very easily distracted while in class, and their behavior significantly disrupts classroom functioning.

CAUSES

1. Please indicate whether each of the following items is likely to be the cause of the problem or not.

Please circle the number that best represents your opinion for each item:

	Very unlikely to be a cause				Most likely to be a cause
Family Environment					
1. Poor attachment between parents and child (i.e., parents' lack of time to be with their child, parents' indifference, etc.)	1	2	3	4	5
2. Parental conflicts/marital problems	1	2	3	4	5
3. Parents' low educational background	1	2	3	4	5
4. Parents' inability to help their child	1	2	3	4	5
5. Excessively strict parental demands	1	2	3	4	5
6. Lenient parental discipline (spoiling the child)	1	2	3	4	5
7. Many members in the family	1	2	3	4	5
8. Parents' low income	1	2	3	4	5
Child Factors					
1. Innate personality/temperament	1	2	3	4	5

2. The child wants to attract others' attention	1	2	3	4	5
3. The child cannot control her behavior	1	2	3	4	5
4. The child does not know what is expected from her	1	2	3	4	5
5. Child's low intelligence level	1	2	3	4	5
6. The child is unable to cope with school's demands	1	2	3	4	5
7. Child's health problems	1	2	3	4	5
8. The child dislikes school (or schoolwork)	1	2	3	4	5
9. The child competes with other children (or siblings)	1	2	3	4	5
Teacher Factors					
1. Your teaching style (i.e., authoritarian, democratic, indifferent)	1	2	3	4	5
2. Your personality (i.e., distant, friendly)	1	2	3	4	5
3. Your inappropriate manner towards the child (i.e., reject the child)	1	2	3	4	5
4. Inappropriate manner towards the child of previous teachers	1	2	3	4	5
5. Inadequate teaching method for the child	1	2	3	4	5
6. Poor classroom management	1	2	3	4	5
7. Climate of excessive demands in class	1	2	3	4	5
School Factors					
1. Lack of services for children with emotional or behavioral disorders in schools	1	2	3	4	5
2. Irrelevant curricula for the child's interest	1	2	3	4	5
3. Poor school organization and management	1	2	3	4	5

4. Bad school experiences of the child (i.e., rejection by peers)	1	2	3	4	5
5. Class size too large	1	2	3	4	5
6. Socio-economic level of the school area	1	2	3	4	5
Disorder Factors					
1. Child's inability to control their behavior	1	2	3	4	5
2. The child is not prescribed medications for their behavior	1	2	3	4	5
3. A family history of disruptive behavior	1	2	3	4	5
4. Dysfunction in the child's brain	1	2	3	4	5

2. Is there anything else that may be the cause of the behavior?

_____

_____

_____

_____

_____

3. For the problem as described in the vignette, what are your views about external support (i.e. working with a special teacher, psychologist, etc.)?

Please tick only one box:

☐ Is always available

☐ Is usually available

☐ Is never available

☐ Not known of services exist

☐ Does not

4. For the problem as described in the vignette, what do you think of the quality of available support services?

Please tick only one box:

☐ Very good

☐ About average

☐ Very poor

☐ Cannot judge

5. How likely is it that this behavior will change?

Please tick only one box:

☐ Not at all ☐ Somewhat likely ☐ Pretty likely ☐ Definitely

6. What would you actually do for the student in the vignette if she was in your classroom?

Please circle the number that best represents your opinion for each item:

	Very unlikely to do				Most likely to do
You as the teacher:					
1. Use rewards and positive incentives for appropriate behavior.	1	2	3	4	5
2. Use punishments such as removal from the classroom or loss of free time for the rest of the day.	1	2	3	4	5
3. Use time out as a way to remove reinforcement from the child after behaving inappropriately.	1	2	3	4	5
4. Take away recess as a consequence for classroom disruption.	1	2	3	4	5
5. Give the child a stern look so the child realizes that he/she is not behaving appropriately.	1	2	3	4	5
6. Threaten to send the child to the principal if their behavior does not improve.	1	2	3	4	5
7. Send the child to the principal immediately after the disruptive behavior occurs.	1	2	3	4	5
8. Ignore the child's excuses for the problem, because they are trying to avoid punishment.	1	2	3	4	5

9. Move the child to a different location in the classroom so he/she cannot distract other students.	1	2	3	4	5
10. In full view of the rest of the class, tell the child that his/her behavior is negatively impacting the entire class, and that he/she needs to behave so that everyone can learn.	1	2	3	4	5
11. Supportive behavior towards the child, such as additional attention when they behave appropriately, or asking if they want to talk with you about what's bothering them.	1	2	3	4	5
12. Privately and quietly, explain to the child the way school functions, so they know what rules of behavior they are expected to follow	1	2	3	4	5
13. Keep records of the child's behavior where the child can see, such as writing their name on the board as a warning.	1	2	3	4	5
14. Involve the child in classroom activities	1	2	3	4	5
15. Give the child a prompt to point out the problem in specific situations	1	2	3	4	5
16. Gain child's confidence and trust	1	2	3	4	5

What else might you do for the child in the vignette?

_____

_____

_____

_____

_____

7. Which of the following factors would you consider to be the most effective in working with the kind of child described in the vignette?

Please circle the number that best represents you for each item:

	Very unlikely to do				Most likely to do
You as the teacher:					
1. Use rewards and positive incentives for appropriate behavior.	1	2	3	4	5
2. Use punishments such as removal from the classroom or loss of free time for the rest of the day.	1	2	3	4	5
3. Use time out as a way to remove reinforcement from the child after behaving inappropriately.	1	2	3	4	5
4. Take away recess as a consequence for classroom disruption.	1	2	3	4	5
5. Give the child a stern look so the child realizes that he/she is not behaving appropriately.	1	2	3	4	5
6. Threaten to send the child to the principal if their behavior does not improve.	1	2	3	4	5
7. Send the child to the principal immediately after the disruptive behavior occurs.	1	2	3	4	5
8. Ignore the child's excuses for the problem, because they are trying to avoid punishment.	1	2	3	4	5
9. Move the child to a different location in the classroom so he/she cannot distract other students.	1	2	3	4	5
10. In full view of the rest of the class, tell the child that his/her behavior is negatively impacting the entire class, and that he/she needs to behave so that everyone can learn.	1	2	3	4	5

11. Supportive behavior towards the child, such as additional attention when they behave appropriately, or asking if they want to talk with you about what's bothering them.	1	2	3	4	5
12. Privately and quietly, explain to the child the way school functions, so they know what rules of behavior they are expected to follow	1	2	3	4	5
13. Keep records of the child's behavior where the child can see, such as writing their name on the board as a warning.	1	2	3	4	5
14. Involve the child in classroom activities	1	2	3	4	5
15. Give the child a prompt to point out the problem in specific situations	1	2	3	4	5
16. Gain child's confidence and trust	1	2	3	4	5

What else might be effective with the child in the vignette?

_____

_____

_____

_____

_____

Finally, I would ask you to complete the following:

AGE *(tick the appropriate box)*

☐ 18-29 y ☐ 30-39 y ☐ 40-49 y ☐ over 50 y

Appendix G

Alternative Vignettes for Attribution/Intervention Survey

ADHD Vignette

Jamie fidgets much of the time during lessons, talks without having your permission, and fools around instead of working on seat work. This child often leaves their seat during class time, and distracts the rest of the students. Jamie tends to interrupt you when you are talking, and tries to answer questions before you finish asking them. This student often fails to turn in work, and when it is submitted there is clearly no attention paid to details. You find them to be very easily distracted while in class, and their behavior significantly disrupts classroom functioning.

ODD Vignette

Sam never seems to finish an assignment. At the slightest opportunity, this student hinders their classmates, and there are times when they refuse to follow directions. They often deny any wrongdoing, even if you witnessed their inappropriate action. Sam is defiant, and often vindictive towards you and other students. The student often comes to class in an irritable mood, and argues with you on a daily basis. Sam displays this disruptive behavior often, and it interferes with the learning of other students.

Appendix H

Teacher Satisfaction Questionnaire

Adapted from Eyberg (1974)

Please circle your response.

1. Regarding techniques of rewarding, I feel I have learned

a. Nothing b. Very little c. A few new techniques d. Several useful techniques e. Very many useful techniques

2. Regarding techniques for teaching my future students new skills, I feel I have learned

a. Nothing b. Very little c. A few new techniques d. Several useful techniques e. Very many useful techniques

3. Regarding my confidence in my ability to reward my students, I feel

a. Much worse than before b. Somewhat worse than before c. The same as before d. Somewhat better than before e. Very much better than before

4. I feel the type of program that was used to help me improve the behavior of my students was

a. Very poor b. Poor c. Adequate d. Good e. Very good

5. My general feeling about the program I participated in, is

a. I disliked it very much b. I disliked it somewhat c. I feel neutral d. I liked is somewhat e. I liked it very much

6. Would you request more sessions?

Y N

7. If so, how many sessions would you want?

_____

8. What subjects would you want to be addressed in those sessions?

_____

_____

_____

_____

9. What could stand in the way of your integrating the discussed interventions in your classroom?

Appendix I

Psychoeducation Curriculum, Pilot Version

Questions in bold will be aimed at eliciting responses and stimulating discussion with/between teachers.

- Behavior Problems **(What behaviors do you find most problematic in the classroom?)**
    - The DSM-5 includes 3 diagnoses addressing problem behaviors in kids; all can seriously interfere with the child's functioning
    - These disorders include:
        - Attention-deficit hyperactivity disorder (ADHD)
        - Conduct disorder (CD)
        - Oppositional defiant disorder (ODD)
- Differentiating normal and abnormal behavior **(How do you differentiate between normal and abnormal behavior in the classroom?)**
    - We must consider a child's:
        - Age
        - Gender
        - Family background
        - Cultural background
        - Developmental level
    - What questions should we be asking?
        - Does the behavior resist ordinary efforts to change it?
            - Are the methods you usually use to change student behavior working or is the behavior still a problem?
        - How frequently is it displayed?
            - Some amount of disruptive behavior, while problematic in the classroom setting, is appropriate for the child's age.
                - Losing focus, talking with friends, getting off-task
        - Does the behavior interfere with school
            - Is the child interrupting learning opportunities for themselves or others?
- Attention-Deficit Hyperactivity Disorder (American Psychiatric Association, 2013, pp. 59-63)
    - <u>Attention-deficit hyperactivity disorder (ADHD)</u> –characterized by excessive motor activity and inability to focus one's attention.
        - Inattention
            - i.e., failing to pay attention to details, not listening when spoken to, trouble holding attention on tasks or play activities, fails to finish tasks due to being sidetracked or losing focus, easily distracted
        - <u>Hyperactivity</u> – An abnormal behavior pattern characterized by extreme restlessness.

                - i.e., squirming, leaving seat, excessive running or climbing, difficulty engaging in quiet leisure activities, excessive talking
                - also includes impulsivity
                    - i.e., blurting out answers before the question is complete, difficulty waiting their turn, interrupting or intruding on others
    - ADHD affects between 7% and 9% of school-age children, or 2 million American kids total; 15.7% total prevalence
    - ADHD is divided into three subtypes:
        - a predominantly inattentive type
        - a predominantly hyperactive or impulsive type
        - a combination type characterized by high levels of both inattention and hyperactivity–impulsivity
    - Usually first diagnosed during elementary school, when problems with attention or hyperactivity–impulsivity make it difficult for the child to adjust to school.
- Theoretical Perspectives **(According to what you have read, heard, learned, etc., what is the cause of ADHD?)** (American Psychiatric Association, 2013, pp. 59-63)
    - Genetic contributions?
        - ADHD tends to run in families
        - More direct evidence comes from findings of a higher concordance rate for the disorder among monozygotic (MZ) twins than among DZ (dizygotic) twins
    - Rapidly accumulating evidence from brain-imaging studies of children with ADHD shows dysfunctions in parts of the brain, especially the prefrontal cortex, that regulate attention and impulsive behavior
- Treatment **(According to what you've read, heard, learned, etc., how is ADHD treated?)** (American Psychiatric Association, 2013, pp. 59-63)
    - Many of the drugs used to help ADHD children calm down and attend better in school are actually stimulants:
        - Ritalin
        - Concerta
        - Vyvanse
        - Adderall
        - Focalin
    - Stimulant drugs activate the prefrontal cortex, the part of the brain that regulates attentional processes and control over impulsive, acting-out behaviors associated with ADHD
        - Newer studies have found that those with ADHD have underdeveloped prefrontal cortexes; after a longer period of treatment with stimulants, their development matches that of other children
- Oppositional Defiant Disorder **(This is less well-known than ADHD – what have you heard about ODD?)** (American Psychiatric Association, 2013, pp. 462-465)

- Oppositional defiant disorder (ODD) – A psychological disorder in childhood and adolescence characterized by excessive oppositionality or tendencies to refuse requests from parents and others.
    - Children with ODD tend to be negativistic or oppositional.
    - They defy authority by arguing with parents and teachers and refusing to follow requests or directives.
- DSM-5 Diagnostic Criteria
    - Pattern of oppositional behavior lasting at least 6 months, with at least 4/8 items in the following categories:
        - Angry/Irritable Mood
        - Argumentative/Defiant Behavior
        - Vindictiveness
- Lifetime prevalence is 13.4% in those under 18

- Theoretical Perspectives on ODD
    - Some theorists believe that oppositionality is an expression of an underlying temperament described as the "difficult-child" type
    - Others believe that unresolved parent–child conflicts or overly strict parental control lie at the root of the disorder.
- What adjustments need to be made to classroom management skills for these children?
    - Antecedent strategies **(What do you do to *prevent* disruptive behavior before it occurs?)**
        - Seat children with ADHD close to the teacher and/or in front of the room (Cook, 2005)
        - Reduce clutter in the classroom, in work spaces, and on walls (Brennan & Parsons, 2014)
        - Create a predictable routine in the classroom, as children are more comfortable when they know what is expected (Brennan & Parsons, 2014).
        - When rules are broken, reiterate expectations to children (Brennan & Parsons, 2014).
        - Keep instructions brief, and break up assignments into workable steps (Cook, 2005)
        - The child should be asked to repeat instructions to demonstrate clear understanding, and written instructions as well as visual aids should be provided whenever possible (Comfort, 1994; Cook, 2005)
        - Children with ADHD learn better in spurts (i.e., twelve 5 minute assignments will achieve more than two 30 minute assignments) (Cook, 2005)
        - A child with ADHD is helped by frequent breaks, and could be invited to run errands or erase the board (Cook, 2005). It may be helpful to establish a schedule that builds in frequent and physically active breaks (Comfort, 1994)
        - Use of praise
            - 8 Key Aspects (Chalk & Bizo, 2004)

- *Contingency* – the relationship between the target behavior and a praise statement
- *Immediacy* – how quickly following the desired behavior praise is delivered
- *Consistency* – how regularly desired behaviors are followed by praise
- *Effect on behavior* – whether or not praise is reinforcing for the individual child
- *Proximity* – how physically close the teacher is to the student
- *Specificity* – how well praise is related to a specific behavior
    - Define the appropriate behavior while giving praise (Fullerton, Conroy & Correa, 2009).
        - General versus specific praise
            - "You're so well behaved!"
            - "You were a nice friend when you gave a hug."
        - **What are situations in which you may use specific praise to encourage appropriate behavior?**
- *Opportunities to respond* – how often a student is given a response opportunity
- *Characteristics of the consequence* – what results from the praise

- Vary the statements given as praise.

- Consequences **(What do you do to prevent a behavior from *recurring*?)**
    - Contingent teacher attention
        - The combination of praising appropriate behavior while ignoring inappropriate behavior could successfully reduce classroom disruptiveness (Abramowitz & O'Leary, 1991; Cook, 2005)
            - Some behaviors need responses (such as talking with a friend), because they are already reinforcing. Other behaviors aimed at gaining your attention should be ignored.
        - "Prudent" reprimands (calm, firm, consistent and immediate) are superior to those that are overly emotional and/or delayed (Abramowitz & O'Leary, 1991)
    - Classroom Token Economies/Behavioral Contracts
        - Points or tokens are earned for positive or desired behavior, and taken away for aggressive or disruptive behavior (Abramowitz & O'Leary, 1991; Harlacher, Roberts & Merrell, 2006)

- Clearly and positively state rules, as well as clear expectations and guidelines (Harlacher, Roberts, & Merrell, 2006)
- Key components are (Cook, 2005):
    - Identifying specific target behaviors
        - "Keep your hands and feet to yourself" is better than "don't hit," because it tells the child what is expected (i.e., what to do, rather than what not to do)
    - Tracking behavior
        - Stickers or tokens may work
        - Ensure that at the start, the focus of the program is on finding good behaviors, not punishing bad behaviors
    - Rewards
        - You may develop this yourself, or have the children help you come up with a list of rewards
        - Should be specific
            - Can be material or immaterial
        - Rewards should be available at different point values so the child can spend or save for different rewards

- Home-School Contingencies **(What is your communication with parents like?)**
    - Teachers complete a brief (3 to 5 item) daily checklist indicating whether the child met specified behavioral goals for that day. This report is sent home with the child, signed by the parent and returned. The parents provide appropriate consequences at home by applying contingencies developed in advance. (Abramowitz & O'Leary, 1991)
        - Advantages:
            - Establishes and maintains communication between the teacher and the parent
            - No major alterations of teaching style are required
            - Tasks for the teacher are not time consuming, and it isn't costly
            - Eliminates concerns of one child receiving rewards that others do not
            - Parents often have access to a wider range of reinforcers than are available in the academic setting
            - Generalization of treatment may be enhanced because of the requirement that the child wait until the end of the day

- Time Out from Positive Reinforcement **(Do you currently use time out in the classroom? If so, how?)**
  - Time out from positive reinforcement is a well-documented and effective technique, but has been controversial because of its potential for misuse. However, time-out does not necessarily employ exclusion or seclusion. Time-out procedures range from minimally to highly restrictive. (Abramowitz & O'Leary, 1991)
  - Sit & Watch system (Gershenson, Lyon, & Budd, 2010, p. 276)

Sit & Watch Element	Examples
Behaviors for which Sit & Watch will be used	Fighting – hitting, kicking, or biting another child or the teacher
Brief statement at beginning of Sit & Watch of what the child did	"Because you threw a block, you have to sit and watch how the other children play," or "We don't throw toys. You need to go Sit and Watch."
Location for child to be seated for Sit & Watch	Approximately 5 feet outside the activity area, facing the activity
Time length for Sit & Watch and requirement to end	One minute in chair, with five seconds of quiet at end
Procedure for handling if child gets out of chair or misbehaves during Sit & Watch	a. Return child to the chair ("Stay here until I tell you Sit & Watch is over") and restart time b. If child gets up more than two times, move chair to a quiet corner of the room c. Extend time by one to two minutes if needed d. Then have child return to Sit & Watch chair and sit for one minute
Brief statement at end of Sit & Watch	"You may come back to the activity now."

Teacher attention when child returns to activity and begins to behave appropriately	Labeled praise of child's appropriate behavior

Participant Handout

- Behavior Problems
    - The DSM-5 includes 3 diagnoses addressing problem behaviors in kids:
        - Attention-deficit hyperactivity disorder (ADHD)
        - Conduct disorder (CD)
        - Oppositional defiant disorder (ODD)
- Differentiating normal and abnormal behavior
    - What questions should we be asking?
        - Does the behavior resist ordinary efforts to change it?
        - How frequently is it displayed?
        - Does the behavior interfere with school
- Attention-Deficit Hyperactivity Disorder (American Psychiatric Association, 2013, pp. 59-63)
    - Attention-deficit hyperactivity disorder (ADHD) –characterized by excessive motor activity and inability to focus one's attention.
    - Three subtypes:
        - a predominantly inattentive type
        - a predominantly hyperactive or impulsive type
        - a combination type characterized by high levels of both inattention and hyperactivity–impulsivity
- Theoretical Perspectives (American Psychiatric Association, 2013, pp. 59-63)
    - Genetic contributions
    - Brain dysfunction

- Treatment (American Psychiatric Association, 2013, pp. 59-63)
    - Stimulants (i.e., Ritalin, Concerta, Adderall)
- Oppositional Defiant Disorder (American Psychiatric Association, 2013, pp. 462-465)
    - Oppositional defiant disorder (ODD) – A psychological disorder in childhood and adolescence characterized by excessive oppositionality or tendencies to refuse requests from parents and others.
        - They defy authority by arguing with parents and teachers and refusing to follow requests or directives.
    - DSM-5 Diagnostic Criteria
        - Pattern of oppositional behavior lasting at least 6 months, with at least 4/8 items in the following categories:
            - Angry/Irritable Mood
            - Argumentative/Defiant Behavior
            - Vindictiveness
- Theoretical Perspectives on ODD
    - The “difficult-child” type
    - Unresolved parent–child conflicts, overly strict parental control
- What adjustments need to be made to classroom management skills for these children?
    - Antecedent strategies
        - Seat children with ADHD close to the teacher and/or in front of the room

- Reduce clutter in the classroom, in work spaces, and on walls
- Create a predictable routine in the classroom, as children are more comfortable when they know what is expected
- When rules are broken, reiterate expectations to children
- Keep instructions brief, and break up assignments into workable steps
- The child should be asked to repeat instructions to demonstrate clear understanding, and written instructions as well as visual aids should be provided whenever possible
- Children with ADHD learn better in spurts (i.e., twelve 5 minute assignments will achieve more than two 30 minute assignments)
- A child with ADHD is helped by frequent breaks, and could be invited to run errands or erase the board. It may be helpful to establish a schedule that builds in frequent and physically active breaks
- Use of praise
    - Define the appropriate behavior while giving praise
        - General versus specific praise
            - "You're so well behaved!"
            - "You were a nice friend when you gave a hug."
        - What are situations in which you may use specific praise to encourage appropriate behavior?

        - What are specific statements that you could use to encourage a child in your class?
    - Give praise immediately.
    - Vary the statements given as praise.
    - Be consistent and sincere.
- Consequences
    - Contingent teacher attention
        - The combination of praising appropriate behavior while ignoring inappropriate behavior
        - “Prudent” reprimands (calm, firm, consistent and immediate) are most effective
    - Classroom Token Economies/Behavioral Contracts
        - Points or tokens are earned for positive or desired behavior, and taken away for aggressive or disruptive behavior
        - Clearly and positively state rules, as well as clear expectations and guidelines
        - Key components are:
            - Identifying specific target behaviors
                - “Keep your hands and feet to yourself” is better than “don’t hit,” because it tells the child what is expected
            - Tracking behavior
                - Stickers or tokens may work

        - Ensure that at the start, the focus of the program is on finding good behaviors, not punishing bad behaviors
    - Rewards
        - You may develop this yourself, or have the children help you come up with a list of rewards
        - Should be specific
- Home-School Contingencies
    - Teachers complete a brief (3 to 5 item) daily checklist indicating whether the child met specified behavioral goals for that day. This report is sent home with the child, signed by the parent and returned. The parents provide appropriate consequences at home by applying contingencies developed in advance.
- Time Out from Positive Reinforcement
    - Time out from positive reinforcement is a well-documented and effective technique.
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Teacher attention when child returns to activity and begins to behave appropriately	Labeled praise of child's appropriate behavior

Appendix J

Psychoeducation Curriculum, Revised Version

Questions in bold will be aimed at eliciting responses and stimulating discussion with/between teachers.

- Behavior Problems **(What behaviors do you find most problematic in the classroom?)**
    - The DSM-5 includes 3 diagnoses addressing problem behaviors in kids; all can seriously interfere with the child's functioning
    - These disorders include:
        - Attention-deficit hyperactivity disorder (ADHD)
        - Conduct disorder (CD)
        - Oppositional defiant disorder (ODD)
- Differentiating normal and abnormal behavior **(How do you differentiate between normal and abnormal behavior in the classroom?)**
    - We must consider a child's:
        - Age
        - Gender
        - Family background
        - Cultural background
        - Developmental level
    - What questions should we be asking?
        - Does the behavior resist ordinary efforts to change it?
            - Are the methods you usually use to change student behavior working or is the behavior still a problem?
        - How frequently is it displayed?
            - Some amount of disruptive behavior, while problematic in the classroom setting, is appropriate for the child's age.
                - Losing focus, talking with friends, getting off-task
        - Does the behavior interfere with school
            - Is the child interrupting learning opportunities for themselves or others?
    - These diagnoses are not exhaustive; many problematic behaviors are sub-clinical in nature
- Attention-Deficit Hyperactivity Disorder (American Psychiatric Association, 2013, pp. 59-63)
    - <u>Attention-deficit hyperactivity disorder (ADHD)</u> –characterized by excessive motor activity and inability to focus one's attention.
        - Inattention
            - i.e., failing to pay attention to details, not listening when spoken to, trouble holding attention on tasks or play activities, fails to finish tasks due to being sidetracked or losing focus, easily distracted

        - Hyperactivity – An abnormal behavior pattern characterized by extreme restlessness.
            - i.e., squirming, leaving seat, excessive running or climbing, difficulty engaging in quiet leisure activities, excessive talking
            - also includes impulsivity
                - i.e., blurting out answers before the question is complete, difficulty waiting their turn, interrupting or intruding on others
    - ADHD affects between 7% and 9% of school-age children, or 2 million American kids total; 15.7% total prevalence
    - ADHD is divided into three subtypes:
        - a predominantly inattentive type
        - a predominantly hyperactive or impulsive type
        - a combination type characterized by high levels of both inattention and hyperactivity–impulsivity
    - Usually first diagnosed during elementary school, when problems with attention or hyperactivity–impulsivity make it difficult for the child to adjust to school.
    - Many children have sub-clinical levels of attention difficulty – paying attention and/or sitting still for long periods is very hard for some children, even if it is not severe enough to impact learning
- Theoretical Perspectives (American Psychiatric Association, 2013, pp. 59-63)
    - Genetic contributions?
        - ADHD tends to run in families
        - More direct evidence comes from findings of a higher concordance rate for the disorder among monozygotic (MZ) twins than among DZ (dizygotic) twins
    - Rapidly accumulating evidence from brain-imaging studies of children with ADHD shows dysfunctions in parts of the brain, especially the prefrontal cortex, that regulate attention and impulsive behavior
- Treatment
    - Many of the drugs used to help ADHD children calm down and attend better in school are actually stimulants:
        - Ritalin
        - Concerta
        - Vyvanse
        - Adderall
        - Focalin
    - Stimulant drugs activate the prefrontal cortex, the part of the brain that regulates attentional processes and control over impulsive, acting-out behaviors associated with ADHD
        - Newer studies have found that those with ADHD have underdeveloped prefrontal cortexes; after a longer period of treatment with stimulants, their development matches that of other children

- Oppositional Defiant Disorder (American Psychiatric Association, 2013, pp. 462-465)
    - Oppositional defiant disorder (ODD) – A psychological disorder in childhood and adolescence characterized by excessive oppositionality or tendencies to refuse requests from parents and others.
        - Children with ODD tend to be negativistic or oppositional.
        - They defy authority by arguing with parents and teachers and refusing to follow requests or directives.
    - DSM-5 Diagnostic Criteria
        - Pattern of oppositional behavior lasting at least 6 months, with at least 4/8 items in the following categories:
            - Angry/Irritable Mood
            - Argumentative/Defiant Behavior
            - Vindictiveness
    - Lifetime prevalence is 13.4% in those under 18
    - Many children display occasional defiance or oppositionality; this is a normal part of development. More concern is warranted when the child's behavior interferes with their overall functioning.
- Theoretical Perspectives on ODD
    - Some theorists believe that oppositionality is an expression of an underlying temperament described as the "difficult-child" type
    - Others believe that unresolved parent–child conflicts or overly strict parental control lie at the root of the disorder.
- What adjustments need to be made to classroom management skills for these children? (*Remember, although these strategies are aimed at children with noticeable behavior problems, they are applicable to the entire class!*)
    - Antecedent strategies
        - Seat children with ADHD close to the teacher and/or in front of the room (Cook, 2005)
        - Reduce clutter in the classroom, in work spaces, and on walls (Brennan & Parsons, 2014)
        - Create a predictable routine in the classroom, as children are more comfortable when they know what is expected (Brennan & Parsons, 2014).
        - When rules are broken, reiterate expectations to children (Brennan & Parsons, 2014).
        - Keep instructions brief, and break up assignments into workable steps (Cook, 2005)
        - The child should be asked to repeat instructions to demonstrate clear understanding, and written instructions as well as visual aids should be provided whenever possible (Comfort, 1994; Cook, 2005)
        - Children with ADHD learn better in spurts (i.e., twelve 5 minute assignments will achieve more than two 30 minute assignments) (Cook, 2005)
        - A child with ADHD is helped by frequent breaks, and could be invited to run errands or erase the board (Cook, 2005). It may be

helpful to establish a schedule that builds in frequent and physically active breaks (Comfort, 1994)

- Use of praise
  - 8 Key Aspects (Chalk & Bizo, 2004)
    - *Contingency* – the relationship between the target behavior and a praise statement
    - *Immediacy* – how quickly following the desired behavior praise is delivered
    - *Consistency* – how regularly desired behaviors are followed by praise
    - *Effect on behavior* – whether or not praise is reinforcing for the individual child
    - *Proximity* – how physically close the teacher is to the student
    - *Specificity* – how well praise is related to a specific behavior
      - Define the appropriate behavior while giving praise (Fullerton, Conroy & Correa, 2009).
        - General versus specific praise
          - "You're so well behaved!"
          - "You were a nice friend when you gave a hug."
    - *Opportunities to respond* – how often a student is given a response opportunity
    - *Characteristics of the consequence* – what results from the praise
  - Vary the statements given as praise.

- Positive interventions (i.e., rewards, incentives, explaining rules of behavior) are very important, and for several reasons:
  - It helps to build a positive student-teacher relationship
    - Just improving this relationship can help the child's behavior
    - The child is more likely to comply with requests for behavior change when they perceive a good relationship with their teacher
    - The student understands that they can talk to their teacher about struggling with a bad day or skills they don't have
  - It is a more positive experience for the child, which promotes their learning of the proper behavior
  - In many cases, it is more likely to improve their behavior than punishment, or negative interventions
    - The child is more motivated to perform a good behavior again to get a reward rather than discontinue a bad behavior to stop punishment
  - **Keep in mind here that praise and positive attention (think "thank you for helping your classmate!" and "you're doing so great at staying on task today!") are just as rewarding as objects.

- Negative interventions (i.e., extensive removal of privileges, threats)
    - Far more common
    - Can lead to a lack of recognition of what the child is doing well
    - May be confusing for the child to understand what they are *supposed to do*, rather than what they are *not supposed to do* (i.e., saying "stop talking to your neighbor" when the desired behavior is for the child to work on their math homework)
    - Negatively impacts the teacher-student relationship
    - Depending on the intervention, may teach the child that when they misbehave they can be removed from the situation (which may be rewarding), or that when they are having a bad day, they cannot expect any support from adults
- Consequences
    - Talk with the child
        - Children have their own experience of their behavior; perhaps they're acting up because they're upset about something else that happened that day. Without talking with them, you won't be aware of this external trigger for their behavior.
        - Include in this talk their concerns and your concerns. For example, Jimmy is upset about having to wear a "stupid" shirt to school today, and you are concerned about his disruptive behavior.
        - Ask them to help you brainstorm what would help them to act better (problem solving). Their concerns may have a direct impact on their behavior, leading to a solution that you may not have thought of, such as turning his shirt inside out.
    - Contingent teacher attention
        - The combination of praising appropriate behavior while ignoring inappropriate behavior could successfully reduce classroom disruptiveness (Abramowitz & O'Leary, 1991; Cook, 2005)
            - Some behaviors need responses (such as talking with a friend), because they are already reinforcing. Other behaviors aimed at gaining your attention should be ignored.
        - "Prudent" reprimands (calm, firm, consistent and immediate) are superior to those that are overly emotional and/or delayed (Abramowitz & O'Leary, 1991)
    - Classroom Token Economies/Behavioral Contracts
        - Points or tokens are earned for positive or desired behavior, and taken away for aggressive or disruptive behavior (Abramowitz & O'Leary, 1991; Harlacher, Roberts & Merrell, 2006)

- Clearly and positively state rules, as well as clear expectations and guidelines (Harlacher, Roberts, & Merrell, 2006)
- Key components are (Cook, 2005):
    - Identifying specific target behaviors
        - "Keep your hands and feet to yourself" is better than "don't hit," because it tells the child what is expected (i.e., what to do, rather than what not to do)
    - Tracking behavior
        - Stickers or tokens may work
        - Ensure that at the start, the focus of the program is on finding good behaviors, not punishing bad behaviors
    - Rewards
        - You may develop this yourself, or have the children help you come up with a list of rewards
        - Should be specific
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- Home-School Contingencies
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- Time out from positive reinforcement is a well-documented and effective technique, but has been controversial because of its potential for misuse. However, time-out does not necessarily employ exclusion or seclusion. Time-out procedures range from minimally to highly restrictive. (Abramowitz & O'Leary, 1991)
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Teacher attention when child returns to activity	Labeled praise of child's appropriate behavior

and begins to behave appropriately	

(*Remember, although these strategies are aimed at children with noticeable behavior problems, they are applicable to the entire class!*)

Teacher Handout

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