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Effects of Collaborative Problem Solving Training for Parents of Children with Challenging Behavior in a Public School Setting

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EFFECTS OF COLLABORATIVE PROBLEM SOLVING TRAINING FOR PARENTS OF CHILDREN WITH CHALLENGING BEHAVIOR IN A PUBLIC SCHOOL SETTING

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Abstract

The intent of the Think:Kids Collaborative Problem Solving (CPS) Parent Group Therapy curriculum is to help parents recognize the underlying skill deficits contributing to their child's challenging behavior, identify pathways leading to the behavior, and make environmental changes to prevent problem behavior. This quasi-experimental study assessed the effects of implementing a 6-week, 12-hour Think:Kids CPS parent curriculum in a public school setting with an intervention group compared to a non-random waitlist group. Data was collected for both groups at pre-, post-and one-month follow-up on the following measures: the Parent Child Relationship Inventory (PCRI); the Parenting Stress Index, 4th edition, Short Form (PSI-SF); the Eyberg Child Behavior Inventory (ECBI); and the Think:Kids Parent Group Therapy Questionnaire. Data was collected weekly and at one-month follow-up on the Think:Kids - Change Over Time (TK-COT) and the Goal Attainment Scale (GAS). Seven parents participated in the intervention group and four parents participated in the waitlist comparison group. Attrition was low as all intervention group parents completed the class. Results on the PSI-SF did indicate statistically significant improvement in parent-child interactions for the intervention group compared to the waitlist group and in parent perception of their child's behavior for both groups, warranting further study of the Think:Kids Parent Group Therapy with larger sample sizes and a randomized control design. Results indicated the Think:Kids Change Over Time (TK:COT) shows promise as an outcome

measure for measuring adherence to the CPS philosophy. Mixed results on the PCRI could indicate issues with its use in applied settings. Implications of these findings and further research directions of the Think:Kids CPS parent curriculum are discussed.

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I want to express my deepest appreciation for the eleven parents who participated in this study. I greatly value their willingness to be open and vulnerable to improve the lives of other parents and families of children with special needs.

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Chapter 1: Introduction

Children exhibit challenging behavior to varying degrees and for a variety of reasons (Kail, 2011). There are numerous routes that can lead to challenging behavior in children, including general difficulties in learning, emotional regulation and social skills or, in some cases, trauma and/or mental illness (Patterson, 1982). Children who exhibit challenging behaviors are often labeled as oppositional, explosive, defiant, difficult or aggressive (Pollastri, Epstein, Heath, & Ablon, 2013). The current challenge is developing, implementing and evaluating the effectiveness of various interventions to address these behaviors across settings.

Challenging behavior is defined as any behavior that interferes with children's learning or development, is potentially harmful to themselves or others, or puts them at social and academic risk, and it can assume many forms with wide ranging etiologies (Kaiser & Rasminsky, 2012). Demographic information on challenging behavior reveals it can occur in individuals regardless of various demographic factors, including race or socio-economic status (Bernstein, 2006). As Dr. Jeffrey Bernstein describes:

> I have seen defiant children come from both intact homes and broken homes. Some defiant children have been star athletes, musical virtuosos, and even honor students. Of course, many of the defiant children I have seen have struggled with school grades, friends and family relationships. The point here is that there is no one family mold or background circumstance that fosters defiant children. Children with defiant behavior are found in families of all income levels and walks of life. As a society we have a huge need for the tools and strategies to guide and help them. (2006, pp.7-8).

Challenging behavior can range in both form and severity, and could be due to emotional regulation difficulties, trauma or possibly mental illness.

In regards to mental illness, the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) prevalence data indicates that approximately 13% of children ages 8 to 15 had a diagnosable mental disorder within the previous year (NIMH, 2014). Possible childhood disorders that could be causing or contributing to challenging behavior in children include, but are not limited to: attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), conduct disorder (CD), intermittent explosive disorder, a mood disorder, an autism spectrum disorder, and a tic disorder (APA, 2013).

Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) combined represent over 50% of the referrals to inpatient and outpatient child mental health clinics (Kazdin, 1995). Even more concerning is that outcomes for individuals with these diagnoses are not positive. ODD-related behaviors have been shown to have extremely negative effects on relationships between those children and their caregivers (Stormshak, Speltz, Deklyen, & Greenberg, 1997). Challenging behavior in children is powerful, and can result in negative actions by other family members (Reid, Patterson & Snyder, 2002). More-stressed parents are less likely to praise and more likely to punish and react in a negative manner (Kazdin & Rotella, 2008). Children with challenging behavior tend to evoke harsh disciplinary responses from adults, which then in turn causes more challenging behavior in the child, leading to an unending cycle of conflict (Shonkoff & Phillips, 2000).

In addition, the impact of these challenging behaviors reaches beyond the immediate family. When children engage in challenging behavior to control the behavior of those around them, whether intentional or not, they can be viewed as manipulative or coercive. Patterson, DeBaryshe and Ramsey report that coercive child behaviors have been found to be associated with two outcomes: rejection by members of the peer group and academic failure (1990).

These outcomes of peer rejection and academic failure should be concerning to public schools, and they highlight a need for schools to support parents of children with challenging behavior. Further, with the passage of No Child Left Behind (NCLB) in 2002, school districts are faced with even more pressure to have students meet state standards for achievement (Schaubman, Stetson, & Plog, 2011). Under this legislation, schools are required to use only evidence-based interventions to improve student academic achievement (NCLB, 2002). Historically, most parent training programs considered to be evidence-based operate from a behavioral framework (Barkley, 2013; Forehand & Long, 2010; Kazdin, 2001), which may not be effective in all family situations.

Parent training programs for managing children's behavior have a relatively short history as a form of intervention. In 1964 at the University of Oregon, Dr. Constance "Connie" Hanf developed and evaluated one of the first behavioral parent training (BPT) programs to teach parents to modify their own behavior to increase their child's compliance (Reitman & McMahon, 2013). Behavioral parent training programs have been offered since then to help support parents of children displaying challenging behavior (Kazdin, 2001). These training programs are manualized, short-term group

interventions that teach parents how to manage their child's misbehavior by managing their own. While these programs can be very effective, some situations warrant a different approach.

In contrast to behavioral programs, Collaborative Problem Solving (CPS) is a relational model based on the principle that a child's behavior is a product of the compatibility between the child and the adult (Greene & Ablon, 2006; Greene, 2010). The central philosophy of CPS is "Children do well if they can" (Greene & Ablon, 2006). CPS emphasizes the role of the adult as helping the child learn new skills and generate better solutions to problems (Greene & Ablon, 2006). Lagging skills in the areas of language and communication, attention and working memory, emotion- and self-regulation, cognitive flexibility and/or social thinking are the reasons behind a child having difficulty responding appropriately to a given situation (Pollastri, Epstein, Heath, & Ablon, 2013). Thus, challenging or oppositional behavior is viewed as the result of a developmental delay or learning disability which is preventing the child from being able to respond in an adaptive, compliant way (Greene & Ablon, 2006).

In families trained in CPS, challenging child behavior has been found to continue to decrease even after professional intervention has ended (Greene et al., 2004). This study compared the intervention effects of Parent Management Training (PMT) (Barkley, 1997) and CPS. The study found that while both programs improved behavior during treatment, only CPS had lasting effects after treatment ended (Greene et al., 2004). CPS has also been shown to reduce challenging behavior and the use of restraints in clinical and school settings (Greene, Ablon, & Goring, 2003; Greene, Ablon, & Martin, 2006; Martin, Krieg, Esposito, Stubbe, & Cardona, 2008). Implementation of CPS at an in-

patient child psychiatric unit in Massachusetts decreased the number of restraints dramatically (Greene, Ablon, & Martin, 2006). These results are thought to be due to the acquisition of skills, including the children being more flexible, tolerant, and better able to solve problems (Schaubman, Stetson, & Plog, 2011).

Over the last decade, CPS has gained popularity as an approach to reduce challenging behavior in children and adolescents by building an empathic relationship between adults and children as well as promoting and teaching problem-solving skills (Pollastri, Epstein, Heath, & Ablon, 2013). Research has shown that effective parent training not only leads to improvement in the child's behavior but also to increased competence in social interactions, enabling positive relationships with not only family members but individuals outside the family as well (Kazdin & Rotella, 2008). While improvement in the parent-child relationship is an indirect goal of many behavioral parent training programs, for CPS it is the primary focus (Greene, 2010).

CPS was chosen for the current study due to its demonstrated effectiveness, empathic way of conceptualizing challenging behavior, proactive parenting approach, and focus on adult-child relationships. CPS was originally developed by Ross Greene at Massachusetts General Hospital (MGH) in the early 1990s and was published for the first time in his book *The Explosive Child* (1998) (Greene, 2015). In 2005, Ross Greene and Stuart Ablon co-authored a follow-up book, *Treating Explosive Kids*. Ross Greene co-founded the CPS Institute (now called Think:Kids) at MGH and was Director of that program until he left MGH in 2008 (Greene, 2015). After leaving MGH, Ross Greene created Lives in the Balance, and re-named CPS: "Collaborative & Proactive Solutions" (Greene, 2015). Stuart Ablon is the current Director of Think:Kids at MGH, which

includes a team of psychologists and researchers who continue to provide training in Collaborative Problem Solving (CPS) and to conduct research about its effectiveness. While these two programs are similar in their philosophy, they differ operationally. Think:Kids Parent Group Therapy was utilized for the treatment group in this study. Research questions were developed after a literature review indicated a need to explore the effects of CPS group parent training in a public school setting.

Statement of the Problem

The ability for children to exhibit positive behavior is critical for relating to their peers and achieving academically. When children exhibit challenging behaviors, it takes a considerable toll on their parents and caregivers (Shonkoff & Phillips, 2000). Parents experiencing stress are less likely to praise their children and more likely to punish and react in a negative manner (Kazdin & Rotella, 2008). However, with effective parent training, improvement in the child's behavior also leads to increased competence and demonstration of socially acceptable habits that enable positive relationships not only with family members but everyone (Kazdin & Rotella, 2008). Child problem behaviors, including conduct, internalizing and externalizing behaviors are negatively associated with teacher-child relationships (Pianta & Steinberg, 1992). Public schools should be concerned with these outcomes and interested in using group parent intervention as a viable solution, as parent trainings are the most widely researched and effective interventions for not only the treatment and but also the prevention of conduct disorders in young children (Hutchings & Lane, 2005).

Preliminary research suggests CPS group parent training has a positive impact on parent stress and child problem behavior in clinical settings (Epstein & Saltzman-

Benaiah, 2010); however, the research base needs to be broadened to include studies conducted in other educational and therapeutic settings, including public schools. For these reasons, research is needed to examine the effects of CPS parent training in a public school setting.

Statement of the Purpose

The purpose of this study was to investigate the effects of utilizing the Think:Kids Parent Group Therapy as a group parent training in a public school setting. Although CPS research has been conducted in outpatient, inpatient and residential settings, only one study has been completed in a public school setting, and it examined teacher training, not parent training (Schaubman, Stetson, & Plog, 2011). Preliminary research suggests CPS group parent training has a positive impact on parent stress and child problem behavior in clinical settings (Epstein & Saltzman-Benaiah, 2010). These preliminary findings warranted additional research to examine the effects of parent training in a public school setting.

Although the program was designed to address challenging behavior in children, children were not directly involved in the data collection of this study. Study participants were the parents and/or caregivers of children ages 3-8 attending public school in a large, metro/suburban district. School mental health providers and parents who had previously attended the Think:Kids Parent Group Therapy parent class referred parents of students with challenging behavior for the parent class. Parents interested in the class called the primary investigator. Parents were asked a series of intake questions to determine if inclusionary criteria were met and then invited to participate in the study. The first

parents to respond were placed in the intervention group. Once the class was considered full, the rest of the parents were placed in the waitlist comparison group.

Intervention and waitlist group participants completed a series of surveys pre- and post-intervention and at 1-month follow-up, including the Parent-Child Relationship Inventory (PCRI), Parent Stress Index-Short Form (PSI-SF), Eyberg Child Behavior Inventory (ECBI), Think:Kids Parent Group Therapy Questionnaire and a Goal Attainment Scale (GAS). In addition, the Think:Kids-Change Over Time (TK-COT) was collected weekly and at 1-month follow-up. Parents in the intervention group attended weekly 2-hour sessions for six weeks and were assigned homework activities between sessions. Attendance at 5 of the 6 sessions was considered completion.

Research Question

The research question was developed after an extensive literature review indicated a need to explore the effects of CPS group parent training in a public school setting. This study of the Think:Kids Parent Group Therapy curriculum intends to address one research question:

(1) Do parents in the Think:Kids Parent Group Therapy curriculum group differ from parents in the waitlist comparison group on parent ratings of:

   a. the parent-child relationship,

   b. parent stress, or

   c. parent perceptions of a child's problem behaviors at home?

Researching this question will help inform public schools and add to the literature about the effects of the Think:Kids Parent Group Therapy curriculum on the parent-child relationship, parent stress and child problem behavior.

Research Hypotheses

The intent of this study was to determine if participation in the Think:Kids Parent Group Therapy class significantly altered the parent-child relationship, parent stress and parent perception of child problem behavior in comparison to a waitlist comparison group. This study examined the following quantitative research hypotheses:

(1) There was a significant change in scores from pre-test to post-test with maintenance of change through the 1-month follow-up for the intervention group in comparison with the waitlist comparison, which was expected to show no change in scores from pre-test through 1-month follow-up. Therefore, a significant interaction between group and time was hypothesized because the pattern of change over time was expected to differ for the two groups.

(2) There was a statistically significant main effect of time for the intervention group on subscale scores on the PCRI, PSI-SF and ECBI from pre-test to post-test with maintenance of change through 1-month follow-up, as well as for the TK-COT from session to session through 1-month follow-up.

A quantitative, quasi-experimental design was utilized to examine the effects of the Think:Kids Parent Group Therapy curriculum.

Summary

Parents of children with challenging behavior need strategies to decrease their child's negative behavior and, consequently, decrease their own stress related their child's behavior. Collaborative Problem Solving (CPS) is relatively new intervention used with parents of children with challenging behavior with a growing base of research

(Pollastri, Epstein, Heath, & Ablon, 2013). This study used a quantitative, quasi-experimental design to examine the effects of the Think:Kids Parent Group Therapy curriculum in a public school setting.

Chapter 2: Literature Review

Challenging behavior in children is displayed at varying levels of frequency and intensity (Kail, 2011). There are multiple factors, both biological and environmental, that can lead to challenging behavior in children (Shonkoff & Phillips, 2000). Parents of children with challenging behavior need knowledge and skills to reduce their child's problem behavior and, subsequently, to reduce family stress. Many strategies previously and currently taught in parenting classes are intended to change behavior through strategies based on social learning theory and operant conditioning (Kazdin, 2001). Although behavioral programming can be effective in altering behavior, it has been challenged based on its reported lack of applicability, efficiency and long-term effectiveness in changing children's behavior (Mohr & Pumariega, 2004; VanderVen, 1995, 2000, 2009).

Over the last decade, collaborative problem solving (CPS) has gained popularity as an approach to reduce challenging behavior in children and adolescents by building an empathic relationship between adults and children as well as promoting and teaching problem-solving skills (Pollastri, Epstein, Heath & Ablon, 2013). In contrast with behavioral programming, CPS is a relational model that focuses on identifying and treating lagging cognitive skills preventing the child from being able to meet adult expectations (Greene & Ablon, 2006; Greene, 2010).

Challenging Behavior

Discrete instances of challenging behavior in children, including tantrums, aggression, property destruction and defiance are common and likely during certain phases of development (Kail, 2011). Development may be viewed as having an increased ability to display self-regulation skills to function independently within social contexts (Shonkoff & Phillips, 2000). A behavior that is considered typical at one age may not be considered typical at another age (Shonkoff & Phillips, 2000). For example, fear of strangers is typical for infants and toddlers, but it usually diminishes in elementary-age children as they grow cognitively and better understand social cues (Kail, 2011).

Kaiser and Rasminksy (2012) define challenging behavior as any behavior that interferes with learning and development, is potentially harmful to self or others, and puts the child at risk for social or academic problems. According to collaborative problem solving (CPS) philosophy, challenging behavior occurs when the expectations of a given situation are greater than the individual's skills in meeting them (Greene, 2010). Behavior becomes a concern when it is exhibited on a consistent basis and to a heightened level. Children who exhibit challenging behaviors regularly are often labeled as oppositional, explosive, defiant, difficult or aggressive (Pollastri, Epstein, Heath, & Ablon, 2013).

At heightened levels, challenging behavior could be indicative of a childhood mental disorder and can be incredibly difficult for parents to understand and to manage. According to recent prevalence data, a considerable number of families are living with a child with mental illness. The Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) provides prevalence data for children ages 8 to 15. These data show that approximately 13 percent of children ages 8

to 15 had a diagnosable mental disorder within the previous year (NIMH, 2014) many of which have behavioral links. The most common disorder among this age group is attention-deficit/hyperactivity disorder (ADHD), which affects 8.5 percent of this population (NIMH, 2014). This is followed by mood disorders broadly at 3.7 percent, and major depressive disorder specifically at 2.7 percent (NIMH, 2014). Even more concerning is that some mental illnesses appear to be on the rise. "The signs are showing up early: levels of depression and anxiety are at an all-time high and continuing to rise. Nearly a third of high school students report feeling sad or hopeless" (Race, 2013, p. 15). A significant number of families are facing the reality of a child having a mental illness, and that number may be even higher in the future.

Possible childhood disorders that could be causing or contributing to challenging behavior in children include, but are not limited to: attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), conduct disorder (CD), intermittent explosive disorder, a mood disorder, an autism spectrum disorder, and/or a tic disorder (APA, 2013). Attention deficit hyperactivity disorder (ADHD) is the most common neurobehavioral disorder diagnosed in U.S. children (Pastor, Reuben, Duran & Hawkins, 2015). The primary symptom of ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that disrupts functioning or development (APA, 2013). Inattention might present as being off task, having trouble maintaining focus, disorganization and difficulty with persistence (APA, 2013). Hyperactivity manifests as high levels of movement or activity, including fidgeting, tapping or talkativeness, whereas impulsivity is acting without forethought or being socially intrusive, such as interrupting others frequently (APA, 2013).

As previously noted, ADHD is the most common disorder diagnosed in children in the U.S. Information from the National Center for Health Statistics indicated for children aged 4-5, prevalence of ADHD was 2.7%; 9.5% for children aged 6-11; and 11.8% for those aged 12-17 (Pastor, Reuben, Duran, & Hawkins, 2015). Among all age groups, prevalence was twice as high in males as in females (Pastor, Reuben, Duran, & Hawkins, 2015). Outcomes associated with ADHD are poor grades, poor reading and math standardized test scores, increased grade retention, as well as increased use of school-based services, increased rates of suspension and expulsion and ultimately with relatively low rates of high school graduation and postsecondary education (Loe & Feldman, 2007). Studies have found a high rate of overlap between attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) and conduct disorder (CD) (Biederman et al., 1996).

The American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V)* defines disruptive, impulse-control and conduct disorders as conditions that involve problems in the self-control of emotions and behaviors (APA, 2013). This classification of disorders is unique in that the behaviors exhibited violate the rights of others and/or bring the individual into substantial conflict with societal norms or authority figures (APA, 2013). Included in this classification are: oppositional defiant disorder, intermittent explosive disorder, conduct disorder, antisocial personality disorder, pyromania, kleptomania, and other specified and unspecified disruptive, impulse-control and conduct disorders (APA, 2013).

Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) tend to be more common in males than females, although rates differ both across disorders and

within a disorder at different ages (APA, 2013). It is important to note that ODD and CD alone represent over 50% of the referrals to inpatient and outpatient child mental health clinics (Kazdin, 1995). The disorders in this group tend to have first onset in childhood or adolescence, and they have a high level of comorbidity with substance use disorders and antisocial personality disorder (APA, 2013).

Research shows that outcomes for individuals with diagnoses of Oppositional Defiant Disorder (ODD) and/or Conduct Disorder (CD) are not positive. When children engage in challenging behavior to control the behavior of those around them, whether intentional or not, they can be viewed as manipulative or coercive. Coercive child behaviors have been found to be associated with two outcomes: rejection by members of the peer group and academic failure (Patterson, DeBaryshe & Ramsey, 1990). Generally, predicting future behavior based on earlier behavior in youth is difficult, as most adolescent-onset deviance ends at the end of the teenage years. That said, individuals who exhibited conduct problems in childhood are more likely to engage in "life-course-persistent" (LCP) antisocial behavior into adulthood (Moffitt, 1993). According to a study by Odgers et al., at age 32, women and men on the LCP pathway were engaging in serious violence and experiencing significant mental health, physical health and economic difficulties. Although more males than females followed the LCP pathway, findings support similarities across gender (2008).

Another area of mental illness that can contribute to challenging behavior in children is mood disorders. Many children with ADHD and/or CD have elevated rates of mood disorders (Biederman et al., 1996). The common feature of depressive disorders is the presence of sad, empty or irritable mood in combination with somatic and cognitive

changes that disrupt an individual's capacity to function (APA, 2013). Depression is associated with higher rates of chronic disease, increased use of health care and impaired functioning (Pratt & Brody, 2014). According to Pratt & Brody's research, females had higher rates of depression than males in every age group, and depression increased with age, from 5.7% among youth aged 12-17 to 9.8% among adults aged 40-59 (2014). Children with mental illness, whether it be a mood disorder, ADHD, ODD/CD, or something else, need adults in their lives to be supportive and understanding. However, the child's level of challenging behavior often leads to parent stress and strain on the parent-child relationship. Regardless of whether a child's behavior meets criteria for a formal diagnosis of mental illness, challenging behaviors can lead to increased stress in the entire family (Pearl, 2009).

Parent Stress

The concept of stress is an umbrella term that spans a large body of research but has not been well integrated, particularly with families with children with conduct problems (Webster-Stratton, 1990). We do know that when children exhibit challenging behaviors, it takes a considerable toll on their parents and caregivers (Shonkoff & Phillips, 2000). Carolyn Webster-Stratton describes the struggles these families face:

> In my studies, families talk about associated hardships, such as their child's repeated expulsion from day care centers and schools; frequent distressful communication with frustrated teachers who are having difficulty managing their children; the isolation and rejection these parents feel from friends and neighbors who do not want the conduct-problem child to play with their own children; the difficulties involved in getting any leisure time away from the child because of limited child care possibilities – burned-out sitters and family members; the fear of going out in public to restaurants or grocery shopping because of the embarrassment if the child is disruptive; restricted options for family vacations; sibling competition for equal parental time and attention; and increased marital conflict. (1990, p. 306)

Lazarus (1993) defined stress as a state of anxiety produced when events and responsibilities exceed one's coping abilities. Having a child with challenging behavior presents frequent stress-inducing situations in daily life and can influence parenting practices and parent mental health.

Influence on parenting practice.

More-stressed parents are less likely to praise and more likely to punish and react in a negative manner (Kazdin & Rotella, 2008). Challenging behavior in children is powerful, and results in negative actions by other family members (Reid, Patterson, & Snyder, 2002). Webster-Stratton and Eyberg (1982) found that mothers who reported that their preschool children had difficult temperaments were more likely, based on independent observations, to be negative toward their children; additionally, their children were more likely to have challenging behavior. ODD-related behaviors have been shown to have extremely negative effects on relationships between those children and their caregivers (Stormshak, Speltz, Deklyen, & Greenberg, 1997). In addition, challenging behavior in children can have an impact on parent mental health (Webster-Stratton, 1990).

Influence on parent mental health.

The stress of having a child with challenging behavior can lead to serious psychological stress and, if not addressed, can escalate into mental illness, particularly depression (Webster-Stratton, 1990). The National Center for Health Statistics describe serious psychological distress as a display of mental health problems causing moderate to severe impairment in at least one if not several areas of functioning, including social,

occupational or educational, and that require treatment (Wiessman, Pratt, Miller, & Parker, 2015). In every age group, women were more likely to have severe psychological distress than men (Wiessman, Pratt, Miller, & Parker, 2015). Outcomes for adults with serious psychological distress were more likely to see an impact on their health, such as chronic obstructive pulmonary disease, heart disease and diabetes, than adults without serious psychological distress (Wiessman, Pratt, Miller, & Parker, 2015).

At times the stress of the child's behavior, even if within the realms of typical development, in combination with a parent's predisposition can contribute to depression in parents (Kazdin & Rotella, 2008). Approximately 1 in 10 women with young children experience depression, and these rates can double for mothers living in poverty (Shonkoff & Phillips, 2000). Depression is a fluid state and fluctuates over time, which results in disrupted patterns of parent interactions with their children (Shonkoff & Phillips, 2000). Research also suggests that parents' level of psychological functioning can influence their interactions with their children, with more psychologically vulnerable parents having more maladaptive responses to their child's behavior (Webster-Stratton, 1990).

When caregivers start showing signs of stress in the form of depressive symptoms, their ability to function may also be impaired. According to the National Center for Health Statistics Data Brief, almost 43% of individuals with severe depressive symptoms reported serious difficulties in work, home and social activities (Pratt & Brody, 2014). Pratt and Brody also reported:

> Rates of any difficulty with work, home, or social activities related to depressive symptoms increased as the severity of those symptoms increased, from 46% among persons with mild depressive symptoms to 88% among those with severe depressive symptoms. (2014, p.4)

Females had higher rates of depression than males in every age group, and even more concerning, of those individuals having severe depressive symptoms, only 35% reported seeing a mental health professional in the previous year (Pratt & Brody, 2014). In summary, child behavior problems, parent stress and parental depression are enmeshed (Kazdin & Rotella, 2008).

Research on stress has attempted to determine how specific parent attitudes and behaviors influence the development of conduct problems in children; however, comparatively less research has been dedicated to understanding the factors that influence parents' perceptions of their children or that change the way parents interact with their children (Webster-Stratton, 1990). The way a parent perceives a stressful situation will influence the degree to which that stress interrupts his or her parenting practices and consequently will influence the degree of risk that the child or children will develop conduct problems (Webster-Stratton, 1990). Further, the impact of challenging behavior in children reaches beyond the immediate family.

Relationships

"Children grow and thrive in the context of close and dependable relationships that provide love and nurturance, security, responsive interaction, and encouragement for exploration" (Shonkoff & Phillips, 2000, p. 7). However, children with challenging behavior tend to evoke harsh disciplinary responses from adults, which then in turn cause more challenging behavior in the child (Shonkoff & Phillips, 2000).

Clinical experience in treating families of preadolescent boys with antisocial behaviors suggested that parents of these children displayed certain patterns of relating that perpetuate negative outcomes: not monitoring the child's whereabouts, using

ineffective discipline, difficulty problem-solving and not supporting development of prosocial skills (Patterson, 1982). Patterson, DeBaryshe, and Ramsey report that coercive child behaviors have been found to be associated with two outcomes: rejection by members of the peer group and academic failure (1990). In contrast, with effective parent training, improvement in the child's behavior also leads to increased competence and demonstration of socially acceptable habits that enable positive relationships not only with family members but everyone (Kazdin & Rotella, 2008).

Schools

When students have warm and trusting relationships with their teachers, they are more likely to have positive school outcomes (Schaubman, Stetson, & Plog, 2011). Child problem behaviors, including conduct, internalizing and externalizing behaviors are negatively associated with teacher-child relationships (Pianta & Steinberg, 1992). Research by Patterson and colleagues found that coercive child behaviors are associated with rejection by members of the peer group and academic failure (Patterson, DeBaryshe, & Ramsey, 1990). Additionally, longitudinal studies show that the academic underperformance and poor educational outcomes associated with ADHD are persistent (Loe & Feldman, 2007). Public schools should be concerned with these outcomes and interested in using group parent intervention as a viable solution, as parent trainings are the most widely researched and effective interventions for not only the treatment and but also the prevention of conduct disorders in young children (Hutchings & Lane, 2005).

With the passage of No Child Left Behind (NCLB) in 2002, school districts are faced with even more pressure to have students meet state standards for achievement. This legislation requires that students achieve designated benchmarks in the core

academic areas and take standardized tests annually to demonstrate mastery of information (Schaubman, Stetson, & Plog, 2011). In addition, schools must implement evidence-based interventions only (NCLB, 2002). As schools and their populations are growing, their budgets are shrinking. The United States Department of Education statistics released in March 2011 predicts that enrollment in public schools will increase by 6% between 2007 and 2019.

Parenting practices, while not the primary cause or the only influence on child behavior, can play a significant role in the development, and improvement, of child problem behavior (Kazdin, 1997). According to the Child Welfare Information Gateway, parent education can promote wellness and strengthen families and communities (2013). The Future of School Psychology Task Force on Family-School Partnerships (2007) defined parent education as "a systematic presentation of information to parents for the purpose of supporting their efforts and abilities to promote their child's development." According to Lines, Miller, and Arthur-Stanley (2011) providing information to families is an important role in family-school partnering (FSP), with the intention being to reinforce or improve adult skills and confidence in supporting their child's success. This education may involve counseling regarding a child's specific disability, or evidence-based training to improve parenting skills, family functioning and to support learning at home (Lines, Miller, & Arthur-Stanley, 2011). Historically, most parent training programs considered to be evidence-based have operated from a behavioral framework (Kazdin, 2001; Barkley, 2013; Forehand & Long, 2010).

Behavioral Parent Training.

Behavioral parent training (BPT) has long been established to help parents of children with difficult behavior by positioning the parent as an agent of change (McCart et al., 2006). The late 1960s saw a shift in addressing children's challenging behaviors from psychodynamic and client-centered child therapy, adolescent institutionalization or juvenile adjudication focused solely on changing children's behavior to interventions focused on changing parents' behavior (Kaminski et al., 2008). BPT was largely influenced by B. F. Skinner's work on operant conditioning and applied behavior analysis (Kazdin, 1997). Operant conditioning utilizes general behavioral principles such as reinforcement, punishment and extinction to alter behavior (Skinner, 1957). Since its inception, BPT quickly grew to become a widely used therapeutic intervention for children and families (Serktich & Dumas, 1996).

In 1964 at the University of Oregon, Dr. Constance "Connie" Hanf developed and evaluated one of the first BPT programs using didactic instruction, modeling and role-plays to teach parents to modify their own behavior to increase their child's compliance (Reitman & McMahon, 2013). Her two-stage program, called the Child's Game and the Parent's Game, was developed for mothers and their children with developmental disabilities and valued feedback and practice to teach parents skills (Pearl, 2009). Although she did not publish much on the topic, Connie Hanf mentored many clinicians who have since created their own variations of the Hanf-model (Reitman & McMahon, 2013). While alterations have been made in each variation, the methods of instruction and the two core techniques of BPT, differential reinforcement and time out, have been

developed into comprehensive, manualized interventions to modify problem behavior in children (Barkley, 1987; Forehand & McMahon, 1981; Patterson & Forgatch, 1987; Webster-Stratton, 2000). The most prominent of these programs will now be reviewed: The Oregon Model of Parent Management Training (PMTO), the Kazdin Method of Parent Management Training (PMT), Parenting the Strong-Willed Child (PSWC), Barkley's Child Management Training, and The Incredible Years.

Parent Management Training Oregon model.

Gerald R. Patterson developed the Parent Management Training Oregon (PMTO) model in the late 1960s (Patterson, 2005). PMTO is a manualized set of procedures designed for parents of children ages four to twelve with moderate to severe conduct problems (Patterson, 2005). This model emerged from a loose collaboration among three groups of investigators: Connie Hanf in Portland, Oregon; Robert Wahler at the University of Tennessee and Gerald R. Patterson at the University of Oregon (Patterson, 2005). While each group followed somewhat different paths, all three valued the use of observational data in identifying how family interactions controlled child behavior (Patterson, 2005).

The underlying foundation of PMTO is that the solution to the problem does not lie in the child; it lies in the social environment (Patterson, 1982). Changing the challenging behavior of children involves changing how the social environment responds to the behavior (Reid, Patterson, & Snyder, 2002). Family members learn to avoid temper tantrums by giving in to the demands of the child (Patterson, 1982). The child learns to escalate their behavior to win successive conflicts with family members (Snyder & Patterson, 1995). In typical families, the child learns to use both prosocial skills (humor,

negotiation) as well as coercive skills in resolving conflict. In distressed families, however, the child learns that coercive methods are functional while prosocial ones are not (Snyder & Patterson, 1995).

PMTO has changed and evolved on several occasions since its inception in the 1960s as various funding sources supported research and development (Patterson, 2005). Some updates include defining five different parenting practices thought to control family contingencies for both prosocial and deviant child outcomes: discipline, positive support, monitoring, problem-solving and parent involvement (Patterson, Reid & Dishion, 1992). Researchers have examined why parents tend to be resistant to parenting classes (Patterson & Chamberlain, 1994). The most recent addition is a program component that targets the behavior of siblings (Miller Brotman et al. 2005).

The Kazdin Method of Parent Management Training.

The intent of Alan Kazdin's Parent Management Training (PMT) is to teach parents how to alter their child's behavior (Kazdin & Rotella, 2008). PMT procedures are based on social learning principles used to decrease negative behaviors and increase pro-social behaviors in children ages two to sixteen (Kazdin, 1997). The Kazdin method is used with two broad groups of children: those exhibiting oppositional, aggressive or disruptive behavior and those who are functioning well but need support with complying with daily tasks (Kazdin & Rotella, 2008). Kazdin and Rotella continue:

> At least half of the parents who come to us face less severe difficulties. They just want our help in stopping their children from arguing or teasing so much, or in getting their children to do homework, to take more responsibility, or to not melt down so often. (2008, p. 8)

The Kazdin Method has been applied to many problem domains, such as child compliance, tantrums, enuresis, tics, eating disorders, hyperactivity, adherence to medical regimens) and populations (preschool children through adolescents, children with autism, mental retardation, learning disability, conduct disorder, ADHD and others (Kazdin & Rotella, 2008). However, although PMT can reduce conduct problems in children with ADHD, few regard it as sufficient treatment for ADHD (Kazdin, 1997).

The Kazdin method has two primary influences, B. F. Skinner and Gerald Patterson. PMT utilizes operant conditioning methods discovered by Skinner to reinforce positive behavior and extinguish negative behavior (Kazdin, 1997). In addition, PMT is also largely influenced by Patterson's research on the role of parent discipline on child aggressive behavior that suggests "inept discipline practices" unknowingly lead to the development of increasingly aggressive child behavior (Kazdin, 1997).

According to Kazdin & Rotella in *The Kazdin Method for Parenting the Defiant Child*, parents should focus on what is outwardly observable, not what the child might be thinking or feeling (2008). Kazdin and Rotella propose:

> Kids have rich psychological and emotional lives, and we don't want to ignore that. But, for the moment, we want to concentrate not on what's going on within the child but on what's purely outward, as observed in the child's behavior and the child's relationship with others. (2008, pp. 37-38)

PMT teaches parents about finding a behavior's "positive opposite", in addition to positive reinforcement, planned ignoring, reinforced practice, shaping, extinction, response cost, limit setting, phrasing commands as specific statements instead of questions and the use of time-out (Kazdin & Rotella, 2008).

PMT has been evaluated in many randomized, controlled outcome studies with children of varying ages and severity of oppositional and conduct problems (Kazdin, 1997). Studies have found that PMT is associated with marked improvements in child behavior on parent and teacher reports of deviant behavior to the point that behaviors return to within nonclinical levels of functioning and have been maintained for 1 to 3 years (Kazdin, 1997). PMT involves the use of many procedures, including a wide range of prompts and ways of scheduling consequences, and the way the procedures are implemented is crucial. The plan also follows a progression toward reinforcement of increasingly complex behavior (Kazdin, 1997). Treatment is often provided individually, although groups and video-tape training of groups has been found to be effective (Kazdin, 1997). Duration of treatment is typically 6-8 weeks for mildly oppositional children, and 12-25 weeks for clinically referred youths (Kazdin, 1997). Kazdin proposes combining PMT with other modalities to better treat the diverse array of symptoms exhibited by children with oppositional behavior (Kazdin, 1997). Efforts have been made to combine PMT with sessions that address parent and family stressors and conflict, as well as with cognitively-based problem-solving training for the child (Kazdin, 1997).

Parenting the Strong-Willed Child.

Originally named the "Helping the Noncompliant Child" program by Drs. Forehand and McMahon, this program is based on Hanf's work and is for parents of preschool and early school-age children (ages 2-8) with noncompliant behavior. (Forehand & McMahon, 1981). Now termed the *Parenting the Strong-Willed Child* (PSWC) parenting class curriculum, this program is a 6-week, group-based parent education program designed to establish positive, prosocial interaction patterns, improve

parenting skills and increase child prosocial behaviors while decreasing problem behaviors (Long & Forehand, 2010). This parenting class uses a book by the same name as its guide (McMahon & Forehand, 2005). PSWC teaches parents skills designed to stop coercive parenting practices by increasing positive attention for prosocial behaviors, ignoring minor inappropriate behavior, providing clear instructions to the child, and providing agreed upon consequences for both positive and negative behavior (Long & Forehand, 2000).

Seminal research on this program found that a combination of social learning principles with a technique-oriented program enhanced treatment outcomes and led to more generality of skills (McMahon, Forehand, & Griest, 1981). In 2007, Conners, Edwards, and Grant found that from pre-test to post-test, parents reported significant improvement in their child's behavior problems on the Eyberg Child Behavior Inventory (ECBI), both in terms of the number of problems ($p = .004$) and the intensity of those problems ($p < .001$). In addition, parents also reported improvement from pre-test to post-test on the parenting scale, specifically less use of lax or permissive strategies ($p < .001$) and less emotional reactivity during discipline events ($p < .001$) (Conners, Edwards, & Grant, 2007). Finally, from pre-test to post-test there was a marginally significant trend toward improvement in total parent stress ($p = .06$); however, the effect size was considered small ($d = .18$) and the change in scores from post-test to six-month follow-up was non-significant (Conners, Edwards, & Grant, 2007).

Barkley's Behavior Management Program (BBMP).

Dr. Russell Barkley established the Behavior Management Program in 1987 with publication of the book *Defiant children: A clinician's manual for parent training*.

Barkley's program was also heavily influenced by the work of Dr. Hanf (Pearl, 2009). Barkley proposes an 8-step, 8-week parent training program for parents of oppositional, defiant 5- to 12-year-olds (Barkley, 2013). A self-guided version of the program is outlined for parents in the second edition of his book *Your Defiant Child, 8 Steps to Better Behavior* (Barkley & Benton, 2013). Parents learn the power of positive attention and praise, how to use rewards and incentives effectively, how to stay calm and consistent, how to establish a time-out system that works and how to work on behavioral issues at home, school and in public (Barkley & Benton, 2103).

In the third edition of *Defiant Children: A Clinician's Manual for Assessment and Parent Training*, Barkley proposes a four-factor model of child oppositional behavior, including coercive family processes, predisposing child characteristics, predisposing adult characteristics and predisposing contextual factors (Barkley & Benton, 2013). The concepts underlying Barkley's child management training are to make consequences immediate, specific and consistent; to establish incentive programs before punishment, to anticipate and plan for misbehavior, and finally, recognize family interactions are reciprocal (Barkley & Benton, 2013).

The Incredible Years.

Dr. Carolyn Webster-Stratton created a parent training program involving group discussion and video-tape modeling (GDVM) in the early 1980s that would later become the Incredible Years (IY) Training Series (Webster-Stratton, 1989). The IY focuses on helping children ages 2-8 who are referred for conduct problems (Reid & Webster-Stratton, 2001). The over-arching model includes parent, teacher and child training programs. Each program consists of over 200 video-taped vignettes of common situations

with both effective and ineffective ways of handling them (Webster-Stratton, Reid, & Hammond, 2001). The program contains detailed treatment manuals with session checklists, group-leader scripts, program "principles", homework materials, books, "refrigerator notes," and practice activities (Reid & Webster-Stratton, 2001). The IY Training Series has had good outcomes with diverse ethnic groups (Gross et al., 2003). The IY Training Series is considered an intricate variation of PMT because of the options it offers (Kazdin, 2005).

The IY Training Series has both BASIC and ADVANCE training (Reid & Webster-Stratton, 2001). The Incredible Years-BASIC Program parent training serves 12 to 16 parents at a time and runs for 12 weeks with sessions lasting 2 hours (Reid & Webster-Stratton, 2001). The program covers topics such as child-directed play, encouragement, praise, tangible reinforcement, monitoring, ignoring, limit setting, natural and logical consequences and time-out. The videotaped vignettes are used by the group leader for group discussions and problem-solving (Webster-Stratton, Reid & Hammond, 2001). Role-plays of common situations are also facilitated. Parents are given weekly homework consisting of reading and behavioral assignments to practice with their children (Reid & Webster-Stratton, 2001). The ADVANCE Parent Training Program addresses interpersonal skills such as how to effectively communicate with children and other adults, how to handle stress, anger and depression issues, how to problem-solve between adults, and how to help children learn to problem-solve. This portion takes an additional 6-10 weeks in addition to the BASIC Parent Training Program (Webster-Stratton, Reid & Hammond, 2004). A study conducted with children involved with child protection service compared an intervention group receiving parent training in the

Incredible Years with a waitlist control group (Letarte, Normandau, & Allard, 2010). Analyses of variance with repeated measures (pre- and post-) indicated the IY program has a positive impact on parenting practices and parents' perception of their child's behavior ($p < .01$).

To summarize, the Oregon Model of Parent Management Training (PMTO), Kazdin Method of Parent Management Training (PMT), Parenting the Strong-Willed Child (PSWC), Barkley's Child Management Training, and Incredible Years are established parenting training programs that use behavioral programming with positive outcomes. In contrast to the research supporting behavioral programming, others have identified several limitations to using this type of programming. The following section describes these limitations and discusses why behavioral programming, while useful in some cases, may not be the best support for all parents of children with challenging behavior.

Limitations of Behavioral Programming.

Almost since behavioral programming began, researchers have been identifying limitations to using rewards and consequences to alter challenging behavior. In 1971, Deci argued that some activities provide their own inherent reward, thus motivation for these activities is not reliant on extrinsic rewards. Subsequent research found that tangible rewards such as money could undermine college students' intrinsic motivation, which was later replicated with high school and preschool students (Deci, Koestner, & Ryan, 1999). Contrary to common sense, a growing amount of research is finding that the use of rewards can do the opposite of what is intended. Marshall (2012) proposes that providing rewards for good behavior is counter-productive to nurturing internal

motivation. Alfie Kohn agrees: “Rewards, like punishments, actually undermine the intrinsic motivation that promotes optimal performance” (Kohn, 1993, p. 69). Kohn suggests 5 reasons that rewards fail: they punish, rupture relationships, ignore reasons, discourage risk-taking and change the way people feel about what they do (Kohn, 1993). In addition, if compliance is obtained or challenging behaviors altered, the change tends to be temporary (Kazdin, 2001; Martin & Pear, 2006).

In *How Children Succeed*, Paul Tough suggests that the problem with trying to motivate people is that no one knows how to do it well. What motivates individuals is often both hard to explain and hard to measure (Tough, 2012). In addition, an individual’s interest in an activity often decreases when rewarded for doing it (Kohn, 1993). In their book *Freakonomics*, Steven Levitt and Stephen Dubner report on a study that found when blood donors were given a financial stipend for donating, fewer individuals gave blood instead of more (2009). The only way you can motivate an individual is to create an environment in which the individual wants to change, especially when it comes to lasting change in behavior (Marshall, 2012).

Another major limitation to BPT is that, while it is effective in continuing or extinguishing learned behavior, behavioral programming alone does not teach skills (Greene, 2010). Further, control methods such as point and level systems undermine the basic needs of being loved and being offered engaging and interesting activities, both of which are essential for healthy development (VanderVen, 1995). Point and level systems ignore individual differences among children, do not hold up to serious empirical scrutiny and may even be counterproductive as they can escalate behavior to dangerous levels (Mohr, Martin, Olson, Pumariega, & Branca, 2009). Attempts to control create more out

of control situations, which in turn require stronger control measures, forming a continuous, escalating loop (VanderVen, 2009). If rebellion is somehow extinguished, children either become more covert in their resistance or stop caring all together (VanderVen, 1995). Further, adults have a hard time maintaining the consistency necessary to make and keep behavior modification techniques effective, which leads to intermittent reinforcement of increasingly challenging behavior (Greene, 2010). This ongoing power struggle eventually leads to exhaustion of both the adult and the child (Greene, 2010).

What makes Collaborative Problem Solving work?

While more research needs to be conducted in this area, some researchers argue that what truly sets CPS apart from other approaches is the use of empathy (Ashworth, Tapsak & Li, 2012). Empathy is generally defined as the understanding and sharing of the emotional state of others (Cohen & Strayer, 1996). Carl Rogers and his associates proposed empathy as a psychotherapeutic technique in the 1940s and 1950s, and it was popularized as the foundation of helping skills training in the 1960s and 1970s (Elliot, Bohart, Watson & Greenberg, 2011). Upon completion of a meta-analysis on empathy in the psychotherapeutic relationship, researchers made the recommendation, "We encourage psychotherapists to value empathy as both an 'ingredient' of a healthy therapeutic relationship as well as a specific, effective response that promotes strengthening of the self and deeper exploration" (Elliot, Bohart, Watson, & Greenberg, 2011, p. 48). They identified four factors that mediate the relationship between positive outcomes and empathy: empathy is a function of a positive relationship, it is a corrective emotional experience, it is a cognitive-affective processing condition, and it provides the

client with an active role in their own self-healing (Greenberg, Elliot, Watson & Bohart, 2001).

Results of one study showed impairments in boys with disruptive behavior disorders displayed empathic responses to sadness and anger, but not to happiness. Their findings suggest that these boys do not completely lack the capability to empathize and that situational factors play a role in their expression of empathy (De Wied, Goudena, & Matthys, 2005). The use of empathy is believed to not only de-escalate conflict, but it also helps teach the child effective coping mechanisms for managing strong feelings. The authors of *How to Talk so Kids Will Listen and Listen so Kids Will Talk* explain, "When we acknowledge a child's feelings, we do him a great service. We put him in touch with his inner reality. And once he's clear about that reality, he gathers the strength to begin to cope" (Faber & Mazlish, 2012, p. 25). The author of the *Whole Brain Child* also agrees: "Parents who speak with their children about their feelings have children who develop emotional intelligence and can understand their own and other people's feelings more fully" (Siegel & Bryson, 2011, p.8). One parent reported, "Over the next few weeks I tried to tune in to what I thought my children might be experiencing, and when I did, my words seemed to flow naturally. I wasn't just using a technique" (Faber & Mazlish, 2012, p. 3). As Forbes & Post concur, it takes positive interactions and a positive environment to calm a child's reactive stress state (2009). "Compassion is always appreciated, whether it comes sooner or later" (Faber & Mazlish, 2012, p. 34).

While improvement in the parent-child relationship is an indirect goal of many behavioral parent training programs, for CPS it is the primary focus (Greene, 2010). As psychiatrist and author Bruce Perry who specializes in trauma in children explains:

"Relationships matter: the currency for systemic change was trust, and trust comes through forming healthy working relationships. People, not programs, change people" (p. 80, Perry, 2006). Aligned with this premise, CPS focuses on improving the parent-child interaction, not just the child's behavior. The authors of *How to Talk so Kids Will Listen and Listen so Kids Will Talk* agree. Faber and Mazlish (2012) explain:

> We want to create an emotional climate that encourages children to cooperate because they care about themselves, and because they care about us. We want to demonstrate the kind of respectful communication that we hope our children will use with us- now, during their adolescent years, and, ultimately, as our adult friends. (p. 89)

By helping parents better understand and communicate with their children, CPS aims to both restore a sense of parenting efficacy (thereby reducing parent stress) and to effect change in children's disruptive behaviors (Epstein & Saltzman-Benaiah, 2011).

The Collaborative Problem Solving Approach

Collaborative Problem Solving (CPS) was originally developed by Ross Greene at the Department of Psychiatry at Massachusetts General Hospital (MGH) in Boston, Massachusetts, and was first introduced in the book *The Explosive Child* in 1998 (Greene, 2015). In 2005, Ross Greene and Stuart Ablon co-authored a follow-up book titled *Treating Explosive Kids*. Ross Greene co-founded the CPS Institute (now called Think:Kids) at MGH and was director of that program until he left MGH in 2008 (Greene, 2015). After leaving MGH, Ross Greene created Lives in the Balance and changed CPS to "Collaborative & Proactive Solutions" (Greene, 2015). Stuart Ablon is the current director of Think:Kids at MGH, which continues to provide training in Collaborative problem solving (CPS) and conduct research about its effectiveness. While these two programs are similar philosophically, they differ operationally. Trainers in the

school district where the current study takes place have maintained training and certification with Think:Kids at Massachusetts General Hospital, therefore Think:Kids Parent Group Therapy was utilized for the treatment group in this study.

Collaborative Problem Solving (CPS) was chosen for the current study due to its demonstrated effectiveness, empathic way of conceptualizing challenging behavior, proactive approach and focus on adult-child relationships. CPS is a relational model of intervention designed initially for children with symptoms of Oppositional Defiant Disorder (ODD) (Greene et al., 2004). The underlying tenet of CPS is, "children do well if they can," and the approach views patterns of challenging behavior as components of a learning disability (Greene, 2010). Much of the research is tied to diagnoses, but the link between lagging skills and challenging behavior is unequivocal (Greene, 2008). The main components of CPS consist of: 1) identifying the triggers of maladaptive behaviors, 2) identifying lagging skills (i.e., skills deficits), and 3) training the lagging skills (Pollastri, Epstein, Heath, & Ablon, 2013). Table 1 summarizes the hallmark theoretical differences between Behavioral Parent Training (BPT) and Collaborative Problem Solving (CPS).

Table 1

Behavioral Parent Training (BPT) vs. Collaborative Problem Solving (CPS)

BPT	CPS
Cause of challenging behavior is viewed functionally (attention, escape, etc.)	Cause of challenging behavior is viewed as an external trigger combined with an internal lagging skill
Focus is on changing antecedents and consequences	Focus is on teaching skills
Adult responds to behavior based on its identified function without seeking input from child	Child is included in sharing their concern and problem-solving
Adult must respond consistently with the same consequence every time a behavior occurs	Adult has 3 options for responding to any given behavior (Plan A, B or C)

Whereas behavioral programming is more prescribed in that identified target behaviors are then consistently responded to with pre-determined consequences, CPS is a much more fluid, collaborative process. In CPS, the child takes an active role in communicating his or her perspective and determining solutions to the problems. Some would say that CPS is done "with" rather than "to" the child. The following sections will describe this process in greater detail.

Identifying triggers, lagging skills and maladaptive behaviors.

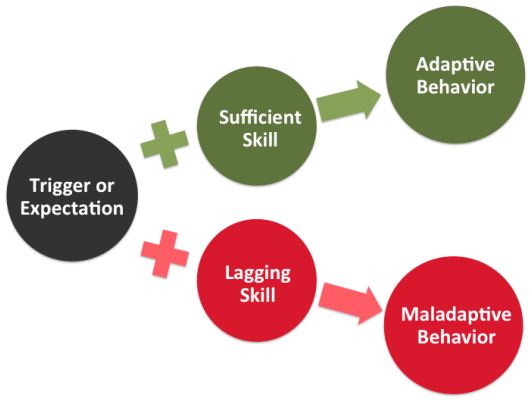
Identifying triggers, lagging cognitive skills and maladaptive behaviors is the first part of implementing CPS (Pollastri, Epstein, Heath, & Ablon, 2013). Viewing a child's behavior through this perspective helps caregivers understand that the child's behavior is not intentional or purposeful (Greene & Ablon, 2006). In addition, this step helps identify lagging skills that need to be further developed in the child (Greene & Ablon, 2006).

The Think:Kids CPS Assessment and Planning Tool (CPS-APT) (see Appendix G) is utilized to support this process. The CPS-APT is presented to the large group and is

used in small group and homework activities as a tool to guide parents. Part 1 of the CPS-APT guides the parent through identifying triggers and expectations, lagging skills and maladaptive behaviors in their child. The following figure is from the CPS-APT and provides a visual representation of the pathways to adaptive behavior versus the pathways to maladaptive behavior in the CPS model.

Figure 1

Visual Representation of Pathways Framework from Think:Kids CPS-APT



In the CPS model, triggers and/or expectations are the demands of the situation that the child is having difficulty meeting (Greene & Ablon, 2006). Lagging skills in the areas of language and communication, attention and working memory, emotion- and self-regulation, cognitive flexibility and/or social thinking are the reasons behind a child having difficulty responding appropriately to a given situation (Pollastri, Epstein, Heath, & Ablon, 2013). Identifying lagging skills is supported through use of the Thinking Skills Reference Sheet on the second page of the Think:Kids CPS-APT (Pollastri, Epstein, Heath, & Ablon, 2013).

Finally, maladaptive behaviors are the observable, challenging behaviors that the child displays, such as yelling, hitting, kicking, tantruming, etc. (Greene & Ablon, 2006).

Figure 2 is from the Think:Kids CPS:APT and is used to organize the lists of triggers, lagging skills and maladaptive behaviors so one can visually see how the triggers and lagging skills lead to maladaptive behavior.

Figure 2

Table from Think:Kids CPS-APT

TRIGGERS/ EXPECTATIONS	LAGGING SKILLS	MALADAPTIVE BEHAVIORS
• These are the demands that the child is having a hard time meeting • They are the triggers, expectations, precipitants, antecedents, situations, or contexts that can lead to challenging behavior • When making your list, describe the who, what, when and where. Be specific!	• Lagging skills are the reasons that a child is having difficulty meeting these expectations or responding adaptively to these triggers. • Take a guess at which specific lagging skills are contributing by looking at the list of triggers/expectations, and referring to the Thinking Skills Reference Sheet.	• These are the observable, challenging behaviors that often bring up the greatest concerns for adults and parents. • Examples are yelling, swearing, refusing, hitting, etc. • The maladaptive behaviors are the result of a child not having the skills to handle the specific triggers or expectations.

The second part of the CPS-APT is planning and prioritizing problems to solve and training the lagging skills, which are described in the next sections.

The Plans: Your Three Options.

The next step of CPS is planning and prioritizing problems to solve. After identifying areas of lagging skills and triggers to problem behaviors through small group activities led by a facilitator, adults plan how to respond to each identified situation using Part 2 of the CPS-APT as a guide (Pollastri, Epstein, Heath, & Ablon, 2013). In CPS, the adult has three options: Plan A, Plan B and Plan C (Greene & Ablon, 2006). In Plan A, the adult pursues their expectation and imposes their will upon the child, which will

likely escalate the child's challenging behavior (Greene & Ablon, 2006). Greene & Ablon (2006) propose that traditional parenting approaches usually rely heavily on Plan A, often resulting in explosive behavior episodes and an escalation in parental intensity. In contrast with Plan A, in Plan C the adult withdraws their expectation (Greene & Ablon, 2006). Plan C may be used on a temporary basis and the goal is to stabilize the child's behavior (Greene & Ablon, 2006). It is important to clarify that this does not mean the adult continues to give the directive and then allows the child to refuse; the adult decides ahead of time and communicates to the child that the directive will not be given at all (Greene & Ablon, 2006). Parents review their list of unsolved problems and indicate by marking next to each identified problem whether they will respond by using Plan A, B or C.

Training lagging skills through Plan B.

Skill development in CPS occurs by engaging in ongoing problem solving with the child (Greene & Ablon, 2006). In Plan B, the fundamental element of CPS, the adult invites the child to solve the problem collaboratively with them and ensures he or she is an active participant in the process (Greene, & Ablon, 2006). Implementation of Plan B is a three-step sequential process. During the first step, "Empathize: Clarify the child concern," the adult gathers information to gain a clear understanding of the child's perspective and concern (Greene & Ablon, 2006). During this step, the child is learning language skills by expressing his or her concerns, as well as emotional regulation skills by managing his or her emotions (Pollastri, Epstein, Heath & Ablon, 2013). In the second step of Plan B, the adult states his or her concern or perspective (Greene & Ablon, 2006).

Social skills are learned during this step, including empathy and taking the perspective of others (Pollastri, Epstein, Heath & Ablon, 2013).

Only when both the child's concern and the adult's concern are established can the third and final step of Plan B be implemented (Greene & Ablon, 2006). The third step is an invitation to brainstorm solutions to the problem and to collaborate. During this step, the child is given the first opportunity to suggest a solution or solutions, and it is crucial that the adult does not dismiss the child's suggestions outright (Greene & Ablon, 2006). Skills taught during this step include generating solutions and analyzing the likely outcomes of each, which involve cognitive flexibility and executive functioning skills (Pollastri, Epstein, Heath & Ablon, 2013).

Plan B is considered successfully implemented when both the child and the adult agree on a mutually satisfactory and realistic solution to the problem (Greene & Ablon, 2006). This process is ongoing, as the adult and child then implement the solution and return to discuss whether or not it was successful. If it was not successful, the adult and child brainstorm another solution to try (Pollastri, Epstein, Heath & Ablon, 2013). Throughout the Plan B process, adults can achieve five objectives: increasing child compliance with adult expectations, reducing challenging behaviors, creating or restoring the relationship between adult and child, resolving persistent problems and teaching skills (Pollastri, Epstein, Heath & Ablon, 2013).

Collaborative Problem Solving Research by Setting

Since the origin of Collaborative problem solving (CPS) in 1998, clinical staff at Massachusetts General Hospital (MGH) have provided training and consultation on the CPS approach to hundreds of schools, hospitals and residential treatment centers

(Pollastri, Epstein, Heath, & Ablon, 2013). Most recently, a parent curriculum has been developed by the staff at Think:Kids and has been implemented in various locations in the United States and Canada. Previous research on CPS has spanned a variety of settings and populations, including outpatient and inpatient facilities, as well as public schools (Pollastri et al., 2013). The following studies examine the effectiveness of CPS training for teachers and parents in reducing child problem behavior and decreasing adult stress.

Outpatient research.

A randomized, controlled study conducted at Massachusetts General Hospital (MGH) compared two groups receiving individual family treatment in either CPS (n = 28) or parent management training (PMT; n = 19) (Greene et al., 2004). PMT is a behavioral family therapy model that focuses on reducing oppositional behavior by modifying parental discipline strategies. All children enrolled in this study had a diagnosis of oppositional defiant disorder along with significant mood symptoms, and many children also displayed features of conduct disorder (2004).

In this study, CPS led to improvements in parents' perceptions of competence and stress measured by the Parenting Stress Index (PSI) ($p < .05$) and in parent-child interactions measured by both the Limit Setting subscale ($p < .01$) and the Communication subscale ($p < .05$) on the Parent-Child Relationship Inventory, in addition to a reduction in oppositional behaviors measured by the ODD Rating Scale ($p < .01$) (Greene et al., 2004). While the improvements experienced by families receiving CPS were greater than those experienced by families receiving PMT, possibly due to the small sample size the differences between conditions were not statistically significant (Greene et al., 2004). However, there was a statistically significant difference between

conditions on the Clinical Global Improvement scale; in the CPS group, both therapists at post-intervention and parents at follow-up rated more improvement than participants in the PMT condition ($p < .01$) (Greene et al., 2004). It is important to note that this is the only randomized, controlled trial that has been published on CPS to date, although a large-scale replication study involving 150 families is currently in progress (Pollastri, Epstein, Heath, & Ablon, 2013).

A pilot study explored the effectiveness of CPS as parent group therapy in an outpatient group setting in Toronto, Canada (Epstein & Saltzman-Benaiah, 2010). Parents of 12 children with comorbid ODD and Tourette's syndrome participated in an eight-week group intervention that included instruction on the CPS model, discussion, trouble-shooting and practice that included group exercises and role-play. Parents completed assessment measures at enrollment, pre-intervention, post-intervention and two-month follow-up. Among mothers, a repeated measures ANOVA showed there was a significant improvement over time on the Intensity scale of the ECBI, ($p < .001$), as well as on the problem scale, ($p = .001$). Among fathers, ECBI-Intensity scores also decreased significantly over time, ($p = .003$), as did Problem scores, ($p < .001$). Additionally, mothers, but not fathers, reported a significant reduction in parenting stress from baseline to follow-up measured by the Parenting Stress Index, Short Form, ($p = .003$).

Inpatient research.

In a study conducted at the Child Assessment Unit (CAU) at Cambridge Hospital in Cambridge, Massachusetts, thirty-four staff members were trained in CPS and attended supervision sessions twice a week for one year (Greene, Ablon, & Martin, 2006). The CAU served children between the ages of 3 and 14, and the average length of stay was 14

days (Greene, Ablon, & Martin, 2006). Prior to implementation of CPS, the CAU's rate of mechanical restraints and locked-door seclusions was twice the state average, and they experienced higher-than-average rates of patient and staff injuries (Greene, Ablon, & Martin, 2006). Following CPS implementation, restraints decreased from 281 episodes in nine months to only 1 episode in 15 months post-training (Greene, Ablon, & Martin, 2006). Physical holds lasting under five minutes decreased from over 100 per month to less than 10 per month (Greene, Ablon, & Martin, 2006). Additionally, staff and patient injuries decreased from an average of 10.8 per month to 3.3 per month (Greene, Ablon, & Martin, 2006).

A second study examined CPS implementation on a 15-bed psychiatric inpatient unit at Yale-New Haven Children's Hospital (Martin, Krieg, Esposito, Stubbe, & Cardona, 2008). Data was examined for the five years before and 1.5 years after CPS implementation (Martin et al., 2008). All staff on the unit were trained in CPS and attended supervision twice weekly for 90 minutes. During the study period, 755 children were hospitalized, accounting for 998 total admissions, and the average length of stay was 29 days (Martin et al., 2008). During the 1.5 years after CPS implementation, there was a 97% reduction in restraints, from an average of 263 to 7 per year, and a 69% reduction in seclusions, from 432 to 133 per year (Martin et al., 2008).

School research.

Finally, Schaubman, Stetson, and Plog (2011) conducted a pilot study in an alternative school in Colorado to determine if training teachers of challenging seventh- and eighth-grade students in CPS would reduce teacher stress and student problem behavior. Eight teachers were trained in the CPS approach for a total of 12 hours over

two days, and received 75-minute weekly consultation for eight weeks. Each teacher focused on implementing CPS with two challenging students, and they completed the Index of Teaching Stress at baseline and post-intervention that assessed stress specifically related to each of those students (Schaubman, Stetson, & Plog, 2011). Results indicated that teacher stress decreased significantly after CPS implementation, and this effect was strongest for teachers who were rated by supervisors as highly competent in the CPS approach ($p < .05$) (Schaubman, Stetson, & Plog, 2011). Further, analysis of discipline referral data also indicated significant reduction in the number of discipline referrals for the 16 target students, as well as for students not specifically targeted for intervention ($p < .05$) (Schaubman, Stetson, & Plog, 2011). While this study examined the effectiveness of teacher training in CPS, it did not examine if parent training would be beneficial in reducing child problem behavior. Since parents play the more stable role in a child's life than educators, parent training may have better outcomes, especially in the long-term, for improving child behavior.

Conclusion

While research paints an optimistic picture of the benefits of CPS training in clinical and treatment settings, there is a need for research on the use of CPS for parents of children with challenging behavior in a public school setting. Studies by Schaubman, Stetson, and Plog (2011) as well as Epstein and Saltzman-Benaiah (2010) examined the effectiveness of CPS training in reducing child problem behavior and decreasing adult stress for teachers in public schools and parents of children in clinical settings, respectively. Preliminary research suggests CPS group parent training has a positive impact on parent stress and child problem behavior in clinical settings (Epstein &

Saltzman-Benaiah, 2010); however, the research base needs to be broadened to include studies conducted in other educational and therapeutic settings, including public schools.

For these reasons, research was needed to examine the effectiveness of parent training in a public school setting. The current study attempted to contribute to this research base by examining the effectiveness of implementing the Think:Kids Parent Group therapy in a public school setting on the parent-child relationship, parent stress and child problem behavior at home. A quantitative, quasi-experimental design was utilized to examine the effects of the Think:Kids Parent Group Therapy curriculum on parent stress and child problem behavior in comparison with a waitlist comparison group.

Chapter 3: Method

Introduction

This study utilized a quasi-experimental design to examine the effects of the Think:Kids Parent Group Therapy curriculum in contrast to a waitlist comparison group. Effects were determined by examining changes in the parent-child relationship, parent stress, and parent perception of child behavior at home. The Parent-Child Relationship Inventory (PCRI), Parenting Stress Index-Short Form (PSI-SF), Eyberg Child Behavior Inventory (ECBI), Think:Kids -Change Over Time (TK-COT), Think: Kids Parent Group Therapy Questionnaire and Goal Attainment Scale (GAS) were used to measure changes in the parent-child relationship, parent stress and parent perception of child behavior over the course of the class and through 1-month follow-up.

Research Question

The research question was developed after an extensive literature review indicated a need to explore the effects of CPS group parent training in a public school setting. This study intended to address one research question:

(1) Do parents in the Think:Kids Parent Group Therapy curriculum group differ from parents in the waitlist comparison group on parent ratings of:
   a. the parent-child relationship,
   b. parent stress, or
   c. parent perceptions of a child's problem behaviors at home?

Research Hypotheses

This study was conducted to determine if participation in the Think:Kids Parent Group Therapy class significantly altered the parent-child relationship, parent stress, and parent perception of child problem behavior in comparison to a waitlist comparison group. This study posed the following quantitative research hypotheses:

(1) There is a significant change in scores from pre-test to post-test with maintenance of change through the 1-month follow-up for the intervention group in comparison to the waitlist comparison group, which was expected to show no change in scores from pre-test through 1-month follow-up. Therefore, a significant interaction between group and time was hypothesized because the pattern of change over time was expected to differ for the two groups.

(2) There was a statistically significant main effect of time for the intervention group on subscale scores on the PCRI, PSI-SF and ECBI from pre-test to post-test with maintenance of change through 1-month follow-up, as well as for the TK-COT and GAS from session to session through 1-month follow-up.

Research Design

A quasi-experimental quantitative design comparing an intervention group to a waitlist comparison group was utilized for this study.

Population and Procedure

Sample.

Although the program was designed to address challenging behavior in children, children were not directly involved in the data collection of this study. Study participants

included the parents and/or caregivers of children ages 3-10 attending public school in a large, metro/suburban district who self-identified as having at least one child with challenging behavior. Demographic information was collected on participants, including parent and child age, gender, and race, and marital status and parent education level to describe the sample characteristics.

Sample size.

Both the intervention group and the waitlist comparison group were capped at 20, as the parent class was not intended for larger groups. Based on an *a priori* power analysis, a minimum of 12 participants were needed in each group in order to declare results of the test of group x time interaction statistically significant at .05 with a moderate effect size and power of .70 (calculated using GPower 3.1). Due to low recruitment turnout, the intervention group recruitment was closed with 7 participants and the remaining 4 parents to respond were placed in the waitlist comparison group.

Inclusion criteria.

English-speaking and reading parents and/or caregivers who self-identified as having at least one child between the ages of 3 and 10 that they perceived as displaying challenging behavior, defined as any behavior that interferes with a child's learning or development, was potentially harmful to themselves or others, and/or put him/her at social and/or academic risk, were included in this study. Parents who were not currently receiving individual private therapy for the child's behavior were included in this study. The children identified with challenging behavior had language and cognitive abilities at or above a 3-year-old level and could verbally communicate with their parents. Parents of

children with or without a diagnosis and/or an Individualized Education Plan (IEP) and/or 504 Plan were included in this study.

Exclusion criteria.

A non-English speaking or reading parent or caregiver was not appropriate for this study, but interested parents were offered a future CPS class conducted with an interpreter and translated materials. In addition, a parent in crisis was not considered to be a good fit for this study, nor was someone seeking individual treatment rather than group treatment. Any parents who were currently receiving individual private therapy for their child's behavior were excluded from this study. Parents of a child that did not have language and/or cognitive abilities at or above a 3-year-old level and/or could not verbally communicate with his/her parents were not considered appropriate for this study. Parents of a child with challenging behavior who was under the age of 3 or over the age of 10 were excluded from this study.

Attrition.

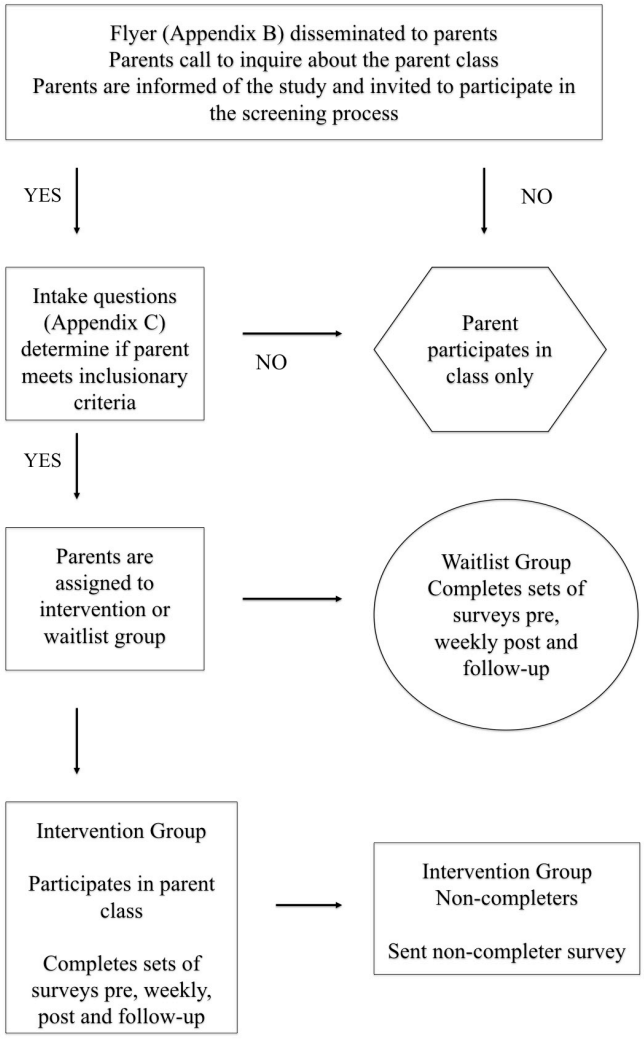
Incentives were used to motivate participation and completion of this study. Participants in the intervention group who attended at least 5 out of 6 class sessions and completed all study paperwork entered a lottery for $100 cash. In addition, participants in the waitlist group who completed and returned all study paperwork entered a separate lottery for $100 cash.

Procedure.

Ethics approval for this study was received from the Institutional Review Board (IRB) at University of Denver in addition to the Office of Assessment and Evaluation of the school district. Although this study was examining a program about improving the

behavior of children, children were not directly involved in the data collection for this study. Licensed school mental health providers and parents who previously attended this parent class invited parents of children with challenging behavior, defined as any behavior that interferes with a child's learning or development, is potentially harmful to themselves or others, and/or puts him/her at social and/or academic risk, within the school district to attend the class. A flyer (see Appendix B) was utilized to disseminate specific information regarding the class. The flyer was sent to mental health providers and previous participants in the class to share with parents of children with challenging behavior. Interested parents called the number provided on the flyer and spoke with the primary investigator. Participants in the study were automatically exempt from the class fee of $20 paid to the Wellness Office of the school district; this fee was typically waived based on financial need. The following figure displays a flowchart of the recruitment and assignment procedure.

Figure 3
Flowchart of Recruitment and Assignment Procedure



When parents called to inquire about the class, they were informed of the study purpose and invited to participate. Parents were also informed that opting out of participation in the study would have no impact on the individual's participation in the parent class. Once a parent provided verbal consent, they were asked a short list of intake questions (see Appendix C) to determine if inclusion criteria were met.

Assignment.

If inclusion criteria were met, then the parent or set of parents from the same family were assigned to either the intervention group or a waitlist comparison group based on when they signed up for the class. The first 7 parents to respond were placed in the intervention group, and the last 4 parents to respond were placed in the waitlist comparison group. If both parents in the same family wanted to take the class, they were placed in a group together, as this is considered best practice in family intervention (Child Welfare Information Gateway, 2013).

Treatment conditions.

This study contained two treatment conditions: an intervention group and a waitlist comparison group. The following sections describe in more detail the procedure for each of the two conditions.

Intervention group.

For the intervention group, written informed consent (see Appendix D) was obtained upon arrival at the first class. The first 35 minutes of the first session was provided for intervention group participants to complete a set of pre-intervention surveys, including the Parent-Child Relationship Inventory (PCRI), Parent Stress Index-Short Form (PSI-SF), Eyberg Child Behavior Inventory (ECBI), Think:Kids Parent Group Therapy Questionnaire, Goal Attainment Scale and Think:Kids-Change Over Time (TK-COT). These measures have a combined completion time that ranged from 35-40 minutes. An identification number was used on all paperwork to ensure anonymity. If unable to complete all surveys during that time, intervention group participants could turn them in by the end of the first session.

The class was held in the evening in the library of an elementary school within the participating school district. Parents in the intervention group attended weekly 2-hour sessions for six weeks for a total of 12 hours and were assigned homework activities between sessions. They signed an attendance sheet upon arriving at each session. While Epstein and Saltzman-Benaiah (2010) considered class completion 5 out of 8 sessions, for the purposes of this study, completion of this class was considered attending 5 out of 6 class sessions. More stringent criteria of class completion were utilized for this study to better ensure treatment adherence. A $100 cash incentive was used with both groups to prevent attrition. Participants completed a Goal Attainment Scale (GAS), TK-COT and a homework completion question at each session. If a parent withdrew from the class or stopped attending, an email would have been sent to them with a short survey to attempt to identify their reason for discontinuing; however, all participants completed the class and the non-completer survey was not needed. The last 30 minutes of the final session was reserved for completion of surveys, including the PCRI, PSI-SF, ECBI, Think Kids Parent Group Therapy Questionnaire, GAS, and TK-COT. Also during the last session, parents in the intervention group were reminded that a final round of surveys would be mailed to them in one month. One month following the final session, surveys including the PCRI, PSI-SF, ECBI, Think:Kids Parent Group Therapy questionnaire, GAS, and TK-COT were mailed to all completers of the course with a self-addressed, stamped envelope included.

Waitlist comparison group.

The waitlist comparison group was offered participation in the next CPS parent class offered within 2 months after the end of the intervention group class. For the

waitlist group, written informed consent was included in the packet of surveys mailed to participants. The waitlist comparison group received surveys through the mail at the same time points as the intervention group. The pre, post and follow-up set included the PCRI, PSI-SF, ECBI, Think:Kids Parent Group Therapy questionnaire, and TK-COT in an enclosed self-addressed stamped envelope. In addition, the Goal Attainment Scale and TK-COT were mailed weekly. While verbal consent was obtained during the phone intake, the first set of surveys included a written informed consent form to be signed and returned with the completed surveys. At each time point, the participants in the waitlist group were asked to complete the surveys and return them within a week.

Treatment Implementation

The Think:Kids Parent Group Therapy is a 12-hour curriculum that teaches the Collaborative Problem Solving (CPS) approach to parents of children with challenging behaviors. The class was co-facilitated by two doctoral-level school psychologists, both having advanced training in the Think:Kids approach and one who is a certified trainer of the Think:Kids model with Massachusetts General Hospital. Class sessions met weekly for 2-hour sessions for six weeks. Table 2 provides a brief outline of the curriculum topics by session.

Table 2

Think:Kids Parent Group Therapy Curriculum Summary

Session	Anchor Idea	Topics	Activities
1	Kids do well if they can.	CPS Philosophy Limits of conventional thinking CPS Research Lagging Skills	Icebreaker PowerPoint presentation Videos
2	Compliance is about skill, not about will It takes two to tango: behind most challenging behavior are: a trigger/unmet expectation and skills to be trained.	Identifying lagging skills in your child Identify problems to be solved	Use CPS-APT to identify your child's lagging skills List problems to be solved
3	You always have three options for handling unmet expectations. Your definition of a problem determines your solution…PLAN B!	Assessment tools The Plans – A, B & C Plan B: Empathy and Understanding	Prioritize problems list and assign a plan Role-play practice of empathy and understanding
4	Plan B is a process…keep at it!	Define the problem and invitation to solve the problem Skills taught in Plan B	Plan B, Name that Plan, Drill down and trouble-shooting videos Practice Plan B
5	There's no such thing as s failed Plan B!	Practicing and troubleshooting Plan B Identifying missing steps	Practice Plan B discussions Video & Discussion: What went wrong?
6	Parents do well if they can too!	Adapting Plan B for young children Troubleshooting Power of the process Common questions	Audio of Plan B with young child Video

During the first class, instructors facilitated introductions and provided an overview of the class. Participants were given an opportunity to introduce themselves and share a brief description of their child or children. Norms regarding confidentiality were discussed. The CPS philosophy of "kids do well if they can" was presented, in addition to limitations of conventional wisdom on parenting. Facilitators invited participants to shift their thinking to view behavioral challenges as a learning disability.

In subsequent sessions, facilitators proposed that compliance is about skill, not about will, and behind most challenging behavior are a trigger/unmet expectation and skills that need to be trained. Facilitators presented the five domains of thinking skills: executive skills, language processing skills, emotion regulation skills, social skills and cognitive flexibility skills. Short video clips from movies were utilized to provide examples of lagging skills. Group exercises were facilitated where participants identify areas of lagging skills.

After the identification of triggers and lagging skills, the Plans (A, B and C) were presented. Plan A is the imposition of adult will. If Plan A does not lead to challenging behavior, then CPS philosophy would state there is no problem. However, when Plan A leads to challenging behavior, it should be used sparingly and reserved for unexpected issues involving the safety of the child or others. CPS philosophy would also suggest that if the situation is a pattern of unsafe behavior, it should still be problem-solved in Plan B (the plan to collaborate). Plan C is dropping the expectation temporarily to stabilize the child's behavior. When an individual becomes upset, their ability to make logical decisions drops significantly. CPS philosophy suggests that attempting to problem-solve

when the child is in this agitated state is ineffective. Instead, attempts should be made to de-escalate the behavior until the child is calm (proving time and space for child to calm down, temporarily dropping expectation, etc.). Once the child is calm or later when the child has completely de-escalated, then problem solving can occur. Plan B is the Collaborative Problem Solving (CPS) process. The steps of Plan B (Empathize, Share adult concern and Collaborate) were presented. Instructors facilitated partner role-plays to teach the Plan B steps. Sharing and troubleshooting of Plan B conversations occurred. Post-intervention surveys were completed and collected during the last 30 minutes of the last class.

Treatment Integrity

The class was co-led by two facilitators highly trained in CPS, one of whom is a certified Think:Kids trainer. All sessions were attended by the primary investigator who used the Think:Kids manualized PowerPoint slide presentation as a checklist to document coverage of material and activities. In addition, portions of the presentation were video-taped and submitted to Think:Kids for the certified trainer's continued supervision and certification.

Instruments

Several quantitative instruments were utilized in this study, including the Parent-Child Relationship Inventory (PCRI) (Gerard, 1994); Parent Stress Index-Short Form (PSI-SF) (Abidin, 2012); Eyberg Child Behavior Inventory (ECBI) (Eyberg & Pincus, 1999) and Think:Kids Change Over Time (TK-COT), Think:Kids Parent Group Therapy Questionnaire, and the Goal Attainment Scale (GAS). Participants in both the intervention group and the waitlist group completed the PCRI, PSI-SF, ECBI and

Think:Kids Parent Group Therapy Questionnaire at three time points: pre-intervention, post-intervention and 1-month follow-up. Participants in the both groups also completed the TK-COT and GAS at each session and 1-month follow-up. Table 3 provides a summary of the measures and the corresponding time points of administration. ****All measures in Table 3 were administered to both intervention and waitlist comparison group participants.

Table 3

Summary of Measures and Time Points

Measure	Pre	Post	1-month Follow-up	Weekly
PCRI	●	●	●	
PSI-SF	●	●	●	
ECBI	●	●	●	
TK-COT	●	●	●	●
Think:Kids Parent Group Therapy Questionnaire	●	●	●	
Goal Attainment Scale (GAS)	●	●	●	●

Demographic information for both groups was collected on the initial set of surveys including parent and child date of birth, gender, race, parent marital status and parent educational level. Attendance was collected weekly for the intervention group by having parents sign in at each session. A participant was considered a class completer if they attended 5/6 sessions. Although there were none, if an individual had missed 2 classes, they would have been considered a non-completer and sent the non-completer survey within 2 weeks of the last class attended. The following sections describe each of the measures in more detail.

Parent-Child Relationship Inventory.

The Parent-Child Relationship Inventory (PCRI) (Appendix E) is an instrument used to assess the general quality of parent-child interactions (Gerard, 1994). The PCRI contains 78 items and generates seven content scales: Parental Support (practical help and emotional support the parent receives from others), Satisfaction with Parenting (degree to which parent perceives the parenting experience as enjoyable), Involvement (degree to which a parent is interested in his/her child's activities and seeks out his/her children), Communication (degree to which a parent feels he/she communicates with his/her child), Limit Setting (parent perceptions of the effectiveness of his/her discipline techniques), Autonomy (willingness of parent to promote independence in the child), and Role Orientation (parents' beliefs regarding roles of mothers and fathers) (Gerard, 1994). Items are rated on a scale from 1 (strongly agree) to 4 (strongly disagree). PCRI raw scores are converted to *T*-scores, which are normalized standard scores with a mean of 50 and a standard deviation of 10. Each of these seven raw subscale scores were compared across the two conditions.

The measure was developed using factor analysis, but no details were provided regarding the factor structure. Internal consistency was measured using Cronbach's alpha for each subscale: Parental Support (.70), Satisfaction with Parenting (.85), Involvement (.76), Communication (.82), Limit Setting (.88), Autonomy (.80), and Role Orientation (.75) (Gerard, 1994). Test-retest reliability was measured with a sample of 22 individuals twice over a 1-week interval: Parental Support (.81), Satisfaction with Parenting (.73), Involvement (.87), Communication (.68), Limit Setting (.93), Autonomy (.78), and Role Orientation (.89) (Gerard, 1994). PCRI scores were correlated with scores on the

Personality Inventory for Children and with one exception correlations were in the expected direction (Gerard, 1994).

Parenting Stress Index - Short Form.

The Parenting Stress Index - Short Form (PSI-SF) (Appendix F) is a 36-item variation of the full Parenting Stress Index and was designed to evaluate the magnitude of stress in the parent-child system (Abidin, 2012). A five-point rating scale is used to determine level of agreement with various statements, such as, "Since having this child, I have been unable to try new and different things," or, "My child smiles at me much less than I expected" (Abidin, 2012). The items are sorted into three subscales: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI) and Difficult Child (DC), which combine to form a Total Stress score (Abidin, 2012). "The Total Stress score is designed to provide an indication of the overall level of parenting stress that an individual is experiencing" (Abidin, 2012, p. 59). Both *T*-scores and percentiles are provided as normative metrics for the three subscales and the Total Stress score. Raw scores of the three subscales were compared across conditions in this study.

For the PSI-SF, internal consistency coefficient alphas ranged from .88 to .95 across domains (Abidin, 2012). Test-retest reliability was assessed over a 6-month retest interval. The test-retest coefficient for the Total Stress scale was .84; for Parental Distress it was .85; for Parent-Child Dysfunctional Interaction it was .68; and for Difficult Child, it was .78 (Abidin, 2012). The correlation between the Total Stress scale of the full-length PSI-4 and the Total Stress scale of the PSI-4-SF was .98 (Abidin, 2012). The PSI has been published in seven other countries, which speaks to its general utility and supports the idea that parent stress is a universal construct (Abidin, 2012). The PSI has

displayed predictive validity in studies with Chinese, Portuguese, French-Canadian and inner-city African-American populations, among others (Abidin, 2012).

Eyberg Child Behavior Inventory.

The Eyberg Child Behavior Inventory (ECBI) (Appendix G) is a 36-item rating scale that measures conduct problems in children ages 2 through 16 years (Eyberg & Pincus, 1999). The ECBI is designed for completion by parents and assesses the frequency of disruptive behaviors occurring in the home (Eyberg & Pincus, 1999). This measure uses a 7-point scale to identify level of intensity in their child's behavior. Examples of items on this scale include, "Has temper tantrums," and, "Cries easily" (Eyberg & Pincus, 1999). The ECBI yields two subscales, Intensity and Problem. "A child who is rated at or above an ECBI Intensity raw score of 131 ($T = 60$) should be identified for further evaluation aimed at diagnosing potentially significant psychopathology. An ECBI Problem scale cutoff score of 15 or higher ($T = 60$ or higher) identifies a parent who is significantly bothered by the conduct problems of the child" (Eyberg & Pincus, 1999, p. 17). Both the ECBI Intensity and Problem raw scores were analyzed in this study.

Internal consistency coefficients were .98 for both the Intensity and Problem scales for both the childhood-age sample and the adolescent sample (Eyberg & Pincus, 1999). Test-retest reliability coefficients were .86 and .88 across a 3-week interval and .80 and .85 across 10-week intervals for the Intensity and Problem scales, respectively (Eyberg & Pincus, 1999). Inter-rater reliability coefficients were .86 and .79 for the Intensity and Problem scales, respectively (Eyberg & Pincus, 1999). The ECBI scales have been found to correlate significantly with the total score of the Child Behavior

Checklist (CBCL; Achenbach & Edebrock, 1983) and the Parenting Stress Index (PSI; Abidin, 1995) (Gioia, Espy & Isquith, 2003). The discriminant validity of the ECBI has been documented in studies demonstrating distinctions between conduct-disordered and non-referred children, between conduct-disordered and normal adolescents; between neglected, non-referred and conduct problem children; among different diagnostic categories, and between learning disabled and non-learning disabled children (Gioia, Espy, & Isquith, 2003).

Think:Kids-Change Over Time.

The Think:Kids-Change Over Time (TK-COT) (Appendix H) is a new measure being piloted by Think:Kids at Massachusetts General Hospital. The TK-COT is separated into two forms; the first (TK-COT-A) is administered before the Plans are taught, and the second (TK-COT-B) is administered after the Plans are taught. The TK-COT-A contains 15 items that use a seven-point rating scale to determine level of agreement with various statements, such as, "My child and I frequently struggle with each other," or, "I cannot predict my child's meltdowns or tantrums." The TK-COT-B has the exact same 15 items as the TK-COT-A plus an additional 6 items to measure adherence to the CPS philosophy. These additional items are also rated using a 7-point scale and contain items such as, " I use Plan A less than I used to," or "I get stuck when I try using Plan B."

The most current factor analysis in May 2014 indicated that the TK-COT is best represented by three subscales: Parent/Child Relationship Quality (Cronbach's alpha = .83; Average of items 1, 4, 5, 8, 10 [reversed], and 14 [reversed]); Adherence to CPS Philosophy (Cronbach's alpha = .76; Average of items 2, 7, 11, and 15); and Ability to

Understand/Predict Challenging Behavior (Cronbach's alpha = .81; Average of items 3, 6, and 9) (A. Pollastri, personal communication, July 23, 2015). Higher scores indicate higher levels of each subscale outcome; therefore it is intended for scores to increase with improvement. Item 16 is not reflected in the Adherence to CPS subscale as it does not correlate consistently but is used by Think:Kids individually to see how parents are using the plans (A. Pollastri, personal communication, July 23, 2015).

Think:Kids Parent Group Therapy Questionnaire.

The Think:Kids Parent Group Therapy Questionnaire (Appendix I) is an informal questionnaire developed by Think:Kids that consists of three items. The first item measures number of meltdowns. The second and third items measure parent perception of their relationship with their child and hopefulness the relationship will improve, respectively, using a 10-point scale. Ratings on each of these three questions were analyzed.

Goal Attainment Scales (GAS).

Kiresuk and Sherman (1968) developed the original goal attainment scaling approach to evaluate the effectiveness of mental health services at Hennepin County Mental Health Center in Minnesota. Since then it is used most often as an outcome measurement tool in evaluations of community mental health programs (Kiresuk & Sherman, 1968). Goal attainment scales (GAS) provide an individualized, criterion-referenced method of describing changes in the performance of students and can be very useful in documenting changes in academic and social behavior (Roach & Elliott, 2005). The basic methodology of GAS included identifying a target behavior, describing the desired behavior or academic outcome objectively, and developing three to five

descriptions of the probable outcomes from “least favorable” to “most favorable” (Roach & Elliott, 2005). While there has been considerable application and research of GAS in a variety of mental health and medical settings over the past 35 years, there has been considerably less application and research of GAS by school psychologists and special educators (Roach & Elliott, 2005).

The Goal Attainment Scale (GAS) Template can be found in Appendix J. During the paperwork portion of the first class, the instructors guided parents individually through the process of identifying a target behavior and descriptive criteria. First, parents identified a target behavior and defined it in observable terms. Next, parents identified and described the desired outcome. Third, the GAS was constructed. The basic elements of the GAS were a 5-point scale ranging from +2 to -2 and descriptions of the target behavior that correspond with the following conditions: Best Possible Outcome (+2), No Change in Behavior/Performance (0), and Worst Possible Outcome (-2) (Roach & Elliott, 2005). The GAS was collected at the end of the first session and new ratings were recorded to measure student progress each week and at 1-month follow-up.

Non-completer survey.

A short survey would have been emailed to non-completers of the class, although there were none, to collect information as to why they discontinued attending. This survey consisted of the following questions:

(1) What led you to sign up for the class?

(2) What was your reason for discontinuing?

   a. Personal reason

   b. Day of the week class was held

c. Time of day class was held

d. Information was not relevant to my situation

e. Other. Please specify:

(3) Any other comments or suggestions?

Data Analysis

Data were analyzed to determine findings in each outcome area: treatment adherence, parent-child relationship, parent stress, and parent perception of child behavior. The following figure displays how the data were organized by each construct.

Figure 4

Construct Evaluation by Measure

Treatment Adherence
TK-COT Adherence to CPS Philosophy
Parent-Child Relationship
PCRI – 5 subscales: Involvement, Communication, Limit Setting, Autonomy and Role Orientation
PSI-SF: Parent-Child Dysfunctional Interaction subscale
TK-COT Parent/Child Relationship Quality
Think:Kids Parent Group Therapy Questionnaire, Relationship Item
Parent Stress
PCRI: Parental Support and Satisfaction with Parenting subscale
PSI-SF: Parenting Distress subscale
Think:Kids Parent Group Therapy Questionnaire, Hopeful Item
Parent Perception of Child Behavior
ECBI – 2 subscales: Intensity and Problem
PSI-SF: Difficult Child subscale
TK-COT Ability to Understand/Predict Challenging Behavior
Think:Kids Parent Group Therapy Questionnaire, Meltdowns Item
Goal Attainment Scale (GAS)

A reliability test was conducted on the TK-COT since it is still in the pilot phase. Repeated measures ANOVA was utilized for data analysis of the TK-COT, PCRI, PSI-SF, and ECBI data. The raw subscale scores on the TK-COT (Parent/Child Relationship

Quality, Adherence to CPS Philosophy, and Ability to Understand/Predict Challenging Behavior) were compared by group by time (weekly and 1-month follow-up). The PCRI subscales (Parental Support, Satisfaction with Parenting, Involvement, Communication, Limit Setting, Autonomy, and Role Orientation) were compared by group by time (pre-intervention, post-intervention and 1-month follow-up). In addition, the three raw subscale scores on the PSI-SF (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child) and the two raw subscale scores on the ECBI (Intensity and Problem) were compared by group by time (pre-intervention, post-intervention and 1-month follow-up). The alpha level was set at .05. The research hypothesis was that there was a significant change in scores from pre-test to post-test with maintenance of change through the 1-month follow-up for the intervention group in comparison with the waitlist comparison, which was expected to show no change in scores from pre-test through 1-month follow-up. Therefore, a significant interaction between group and time was hypothesized because the pattern of change over time was expected to differ for the two groups. Assumptions of repeated measures ANOVA are normality, homogeneity of variance, independence, and sphericity. Normality was tested using skewness. Homogeneity of variance was tested using Levene's statistic and sphericity using the Greenhouse-Geisser epsilon. Simple effects analyses were used to follow up the interaction if it was statistically significant. Planned follow-up was via paired-samples t-tests. Finally, the Think:Kids Parent Group Therapy Questionnaire and the Goal Attainment Scales were plotted and analyzed.

Chapter 4: Results

Introduction

This study was conducted to determine if participation in the Think:Kids Parent Group Therapy class led to significant changes in the parent-child relationship, parent stress, and parent perception of child problem behavior in comparison to a waitlist comparison group. The Parent-Child Relationship Inventory (PCRI), Parenting Stress Index-Short Form (PSI-SF), Eyberg Child Behavior Inventory (ECBI), Think:Kids - Change Over Time (TK-COT), Think: Kids Parent Group Therapy Questionnaire, and the Goal Attainment Scale (GAS) were utilized to determine if changes occurred in the parent-child relationship, the level of parent stress and the parents' perception of their child's behavior over the course of the 6-week parent class through 1-month follow-up.

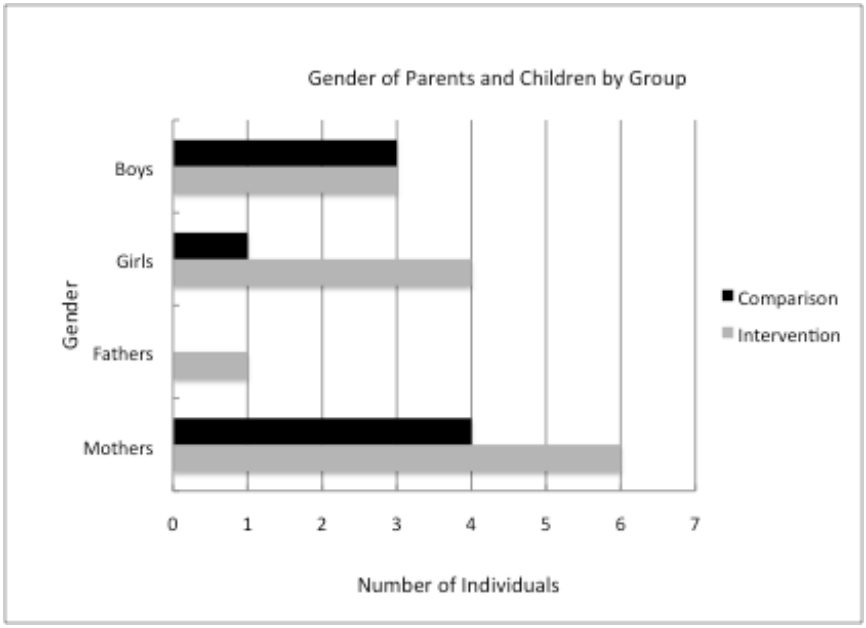
Participants

Seven parents (6 mothers, 1 father) participated in the intervention group and four parents (all mothers) completed survey paperwork as part of the waitlist comparison group. All parents and children in both groups identified themselves as ethnically White/Caucasian. All participating parents in both groups were married at the time of the study. The ages of the intervention group parents ranged from 34 to 48, and the waitlist group parents' ages ranged from 27 to 36. Of the children identified by their parents as having challenging behavior, the intervention group children consisted of 3 boys and 4

girls. The waitlist group children consisted of 3 boys and 1 girl. See Figure 5 below for a visual representation of parent and child gender by group.

Figure 5

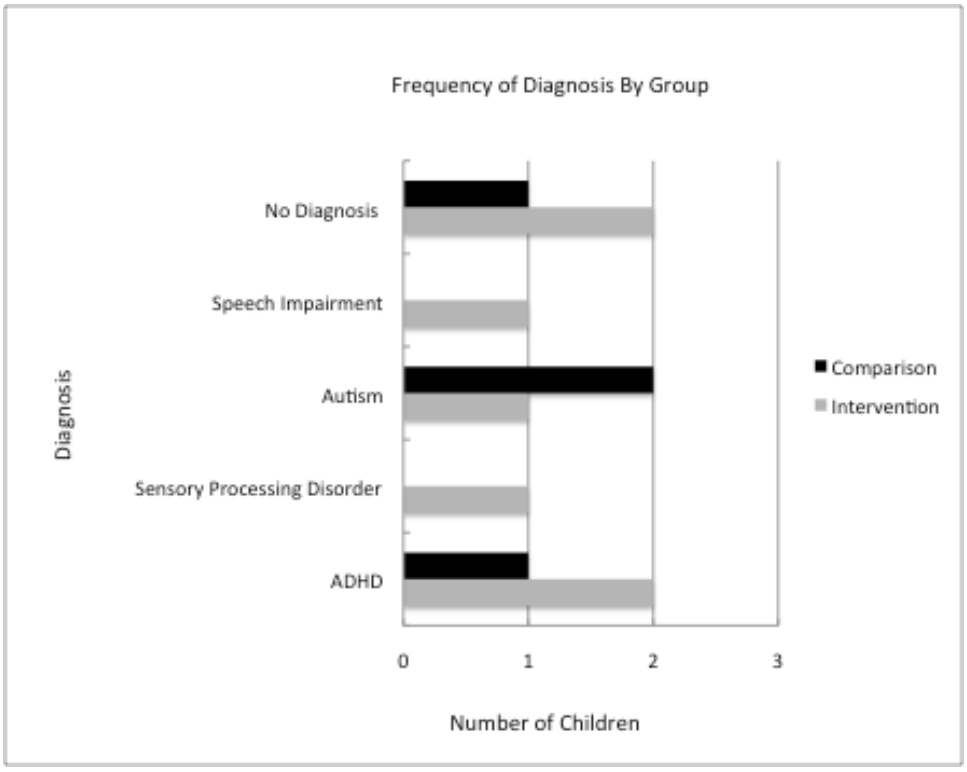
Parent and Child Gender by Group



The ages of the children whose parents were in the intervention group ranged from 3 to 8 years old while the children whose parents were in the waitlist group ranged from 3 to 7 years old. Of the intervention group children, two had diagnoses of ADHD, one had a diagnosis of Sensory Processing Disorder, one had a diagnosis of Autism Spectrum Disorder, one had a speech impairment, and two did not have a diagnosis. Of the waitlist group children, one had a diagnosis of ADHD, two had diagnoses of Autism Spectrum Disorder, and one did not have a diagnosis. See Figure 6 below for a bar graph of frequency of diagnosis by group.

Figure 6

Frequency of Diagnosis by Group



All seven children whose parents were in the intervention group had an Individualized Education Plan (IEP) and three of the four children whose parents were in the waitlist group had an IEP. Three intervention group children were receiving outside services (occupational therapy and speech therapy) while two of the waitlist children were receiving outside services (occupational therapy, speech therapy, applied behavior analysis (ABA) therapy and hippotherapy). Two of the intervention group children were taking medication for their behavior, while one of the waitlist group children was taking behavior-related medication. In the intervention group, five parents had graduate degrees and two were college graduates, while in the waitlist group two parents had graduate degrees, one was a college graduate, and one had completed some college.

Findings

The research hypothesis stated that there would be a significant change in scores from pre-test to post-test with maintenance of change through the 1-month follow-up for the intervention group in comparison with the waitlist comparison, which was expected to show no change in scores from pre-test through 1-month follow-up. Therefore, a significant interaction between group and time was hypothesized because the pattern of change over time was expected to differ for the two groups. Assumptions of repeated measures ANOVA are normality, homogeneity of variance, independence, and sphericity. Normality was tested using skewness. Homogeneity of variance was tested using Levene's statistic and sphericity using the Greenhouse-Geisser epsilon.

A repeated measures ANOVA was utilized for analysis of the PCRI, PSI-SF, and ECBI data. The raw subscale scores on the PCRI (Parental Support, Satisfaction with Parenting, Involvement, Communication, Limit Setting, Autonomy, and Role Orientation) were compared by group by time (pre-intervention, post-intervention and 1-month follow-up). In addition, the three raw subscale scores on the PSI-SF (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child) and the two raw subscale scores on the ECBI (Intensity and Problem) were compared by group by time. Simple effects analyses were used to follow up the interaction when it was statistically significant. A reliability test was conducted on the TK-COT since it is still in the pilot phase. The raw subscales of the TK-COT were also analyzed using repeated measures ANOVA to compare by group by time (weekly and 1-month follow-up). The alpha level was set at .05. A significant main effect of time was anticipated and planned follow-up was via paired-samples t-tests separately for intervention and comparison groups whether

the interaction was significant or not. The Think:Kids Parent Group Therapy Questionnaire and the Goal Attainment Scales were plotted and analyzed. Results are organized into four sections: intervention adherence, parent-child relationship, parent stress, and parent perception of child behavior.

An independent-samples t-test was conducted for pre-intervention during Week 1 between the waitlist and intervention groups to test the assumption of group equivalence. Detailed results are in Table 4. On these measures, no significant difference was found and the groups were considered equivalent. It was understood that power was inadequate to find significant differences unless the differences were large.

Table 4

Pre-test Group Comparison

	Intervention	Comparison	*t*	*p*
Treatment Adherence				
TK-COT Adherence to CPS Philosophy	3.68	2.94	-0.87	0.41
Parent-Child Relationship				
PCRI - Involvement	44.29	45.00	0.34	0.74
PCRI - Communication	25.86	24.50	-1.23	0.25
PCRI - Limit Setting	26.57	25.50	-0.29	0.78
PCRI - Autonomy	29.14	26.75	-0.82	0.44
PCRI - Role Orientation	28.29	29.50	0.57	0.58
PSI-SF Parent-Child Dysfunctional Interaction subscale	32.29	33.50	0.27	0.80
TK-COT Parent/Child Relationship Quality	3.51	3.50	-0.02	0.99
Parent Stress				
PCRI - Parental Support	19.71	19.50	-0.07	0.95
PCRI - Satisfaction with Parenting	32.57	33.00	0.10	0.92
PSI-SF Parenting Distress subscale	33.57	33.25	-0.05	0.97
Parent Perception of Child Behavior				
ECBI - Intensity subscale	165.71	153.50	-0.77	0.46
ECBI - Problem subscale	17.29	17.75	0.08	0.94
PSI-SF: Difficult Child subscale	47.43	47.00	-0.13	0.90
TK-COT Ability to Understand/Predict Challenging Behavior	2.86	3.00	0.15	0.89

* $p < .05$ ** $p < .01$

Internal consistency reliability was estimated for the Think:Kids-Change Over Time (TK-COT) using intervention and waitlist respondent scores at each week of the intervention and one-month follow-up. These measures were found to be reliable having Cronbach's alpha ranging from .62 to .94. The specific results are enumerated in Table 5.

Table 5

Cronbach's Alpha for Think:Kids-Change Over Time (TK-COT)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Follow -up
Parent/Child Relationship	0.76	0.88	0.83	0.83	0.88	0.87	0.75
Adherence to CPS Philosophy	0.73	0.62	0.83	0.77	0.78	0.91	0.94
Ability to Understand/ Predict Challenging Behavior	0.92	0.87	0.75	0.90	0.83	0.69	0.74

Therefore, the TK-COT was found to be appropriate for assessing the results in the following sections.

Treatment Adherence.

The Think:Kids-Change Over Time (TK-COT) produces a subscale that measures adherence to the CPS philosophy. A mixed design repeated measures ANOVA was utilized for analysis of this subscale, with details presented in Table 6 and Figure 7.

Table 6

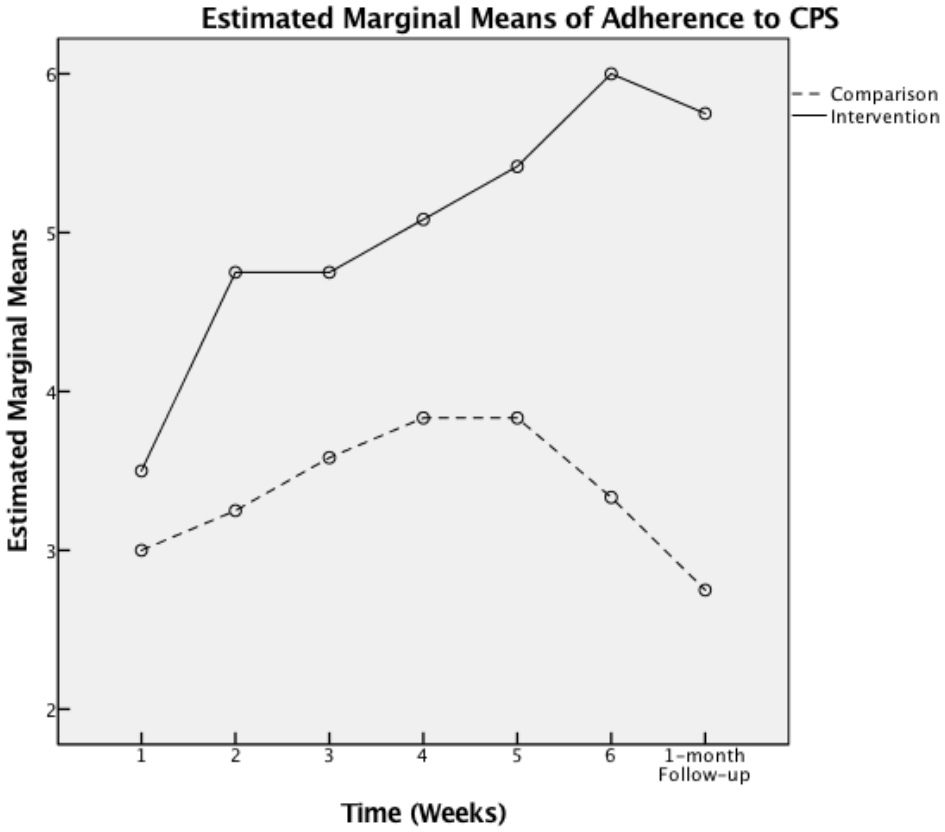
Anova Summary Table: TK-COT Adherence to CPS

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
TK-COT Adherence to CPS Philosophy						
Intervention	29.17	1	29.17	5.70	0.08	0.59
Error	20.45	4	5.11			
Time	8.47	2.42	3.50	6.25	0.02*	0.61
Time x Intervention	6.90	2.42	2.85	5.09	0.03*	0.56
Error	5.42	24	0.23			

* $p < .05$ ** $p < .01$

Figure 7

Plot of Adherence to CPS Over Time



The interaction between intervention and time was statistically significant with a large effect size; therefore simple effects analyses were used to identify significance over time at each level of intervention with one-way repeated measures ANOVA and paired-samples t-tests. Results are displayed in Tables 7 and 8.

Table 7

One-Way Repeated Measures ANOVA of TK-COT Adherence to CPS

	Sum of Squares	**df**	**Mean Square**	***F***	***p***	**Partial Eta Squared**
TK-COT Adherence to CPS Philosophy						
Experimental Group						
Intervention	12.33	1.29	9.56	10.73	0.06	0.84
Error	2.99	2.58	0.19			
Comparison Group						
Waitlist	3.04	1.90	1.60	1.94	0.26	0.49
Error	3.13	2.00	1.56			

* $p < .05$ ** $p < .01$

The intervention effect for Adherence to CPS Philosophy on the TK-COT did not reach significance on the one-way repeated measures ANOVA for either the intervention or the comparison group. Follow up paired-samples t-tests were conducted. Results are displayed in Table 8.

Table 8

Paired-Samples t-tests of Pre and Post TK-COT Adherence to CPS

	Pre-test	**Post-test**	***t***	***p***
TK-COT Adherence to CPS Philosophy Subscale				
Intervention	3.68	5.71	5.11	0.002**
Comparison	2.94	3.13	0.36	0.74

* $p < .05$ ** $p < .01$

Results of paired-samples t-tests indicated a significant increase from pre to post on the TK-COT Adherence subscale, $t_6 = 5.11$, $p < .01$, with no statistically significant increase found for the comparison group, $t_3 = 0.36$, $p = .74$. This indicates more adherence to the CPS philosophy for the intervention group than the comparison group.

Parent-child relationship.

Analysis of the parent-child relationship construct included the PCRI Involvement, Communication, Limit Setting, Autonomy, and Role Orientation subscales; the PSI-SF Parent-Child Dysfunctional Interaction subscale; the TK-COT Parent/Child Relationship Quality subscale; and the Think:Kids Parent Group Therapy Questionnaire Relationship scale. A mixed design repeated measures ANOVA was utilized for analysis of the PCRI Involvement, Communication, Limit Setting, Autonomy, and Role Orientation raw subscale scores, with details presented in the following Table 9. The plots for Communication and Role Orientation can be found in Figures 8 and 9. The plot for PCRI Communication was included since the interaction was approaching significance.

Table 9

Anova Summary Table: PCRI Subscales

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PCRI - Involvement						
Intervention	0.00	1	0.00	0.00	1.00	0.00
Error	317.33	7	45.33			
Time	20.64	2	10.32	0.98	0.40	0.12
Time x Intervention	4.04	2	2.02	0.19	0.83	0.03
Error	147.07	14	10.51			
PCRI - Communication						
Intervention	20.03	1	20.03	1.43	0.27	0.17
Error	98.27	7	14.04			
Time	12.13	2	6.07	1.62	0.23	0.19
Time x Intervention	21.62	2	10.81	2.88	0.09	0.29
Error	52.53	14	3.75			
PCRI - Limit Setting						
Intervention	43.35	1	43.35	0.48	0.51	0.07
Error	627.98	7	89.71			
Time	120.03	2	60.02	7.64	.006**	0.52
Time x Intervention	36.48	2	18.24	2.32	0.14	0.25
Error	109.97	14	7.86			
PCRI - Autonomy						
Intervention	25.79	1	25.79	0.56	0.48	0.07
Error	322.07	7	46.01			
Time	26.92	2	13.46	4.80	0.03*	0.41
Time x Intervention	10.92	2	5.46	1.95	0.18	0.22
Error	39.23	14	2.80			
PCRI – Role Orientation						
Intervention	22.82	1	22.82	0.45	0.52	0.06
Error	351.85	7	50.26			
Time	4.14	2	2.07	1.59	0.24	0.19
Time x Intervention	25.48	2	12.74	9.75	.002**	0.58
Error	18.30	14	1.31			

* $p < .05$ ** $p < .01$

Figure 8

Plot of PCRI Communication Over Time

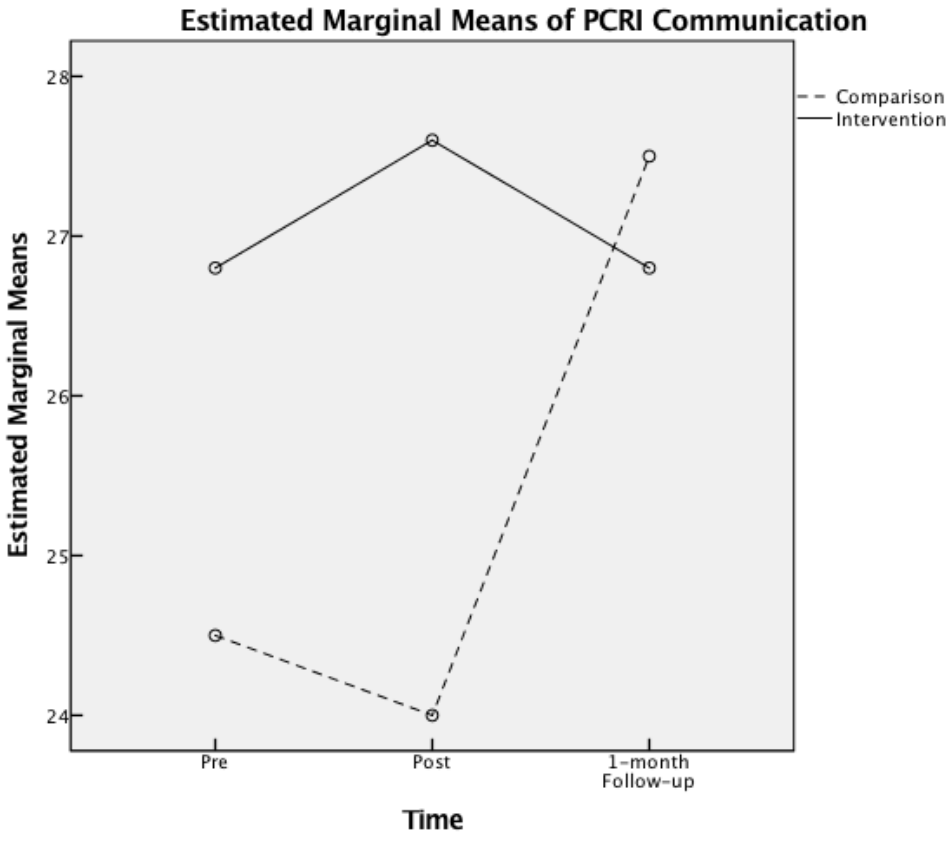
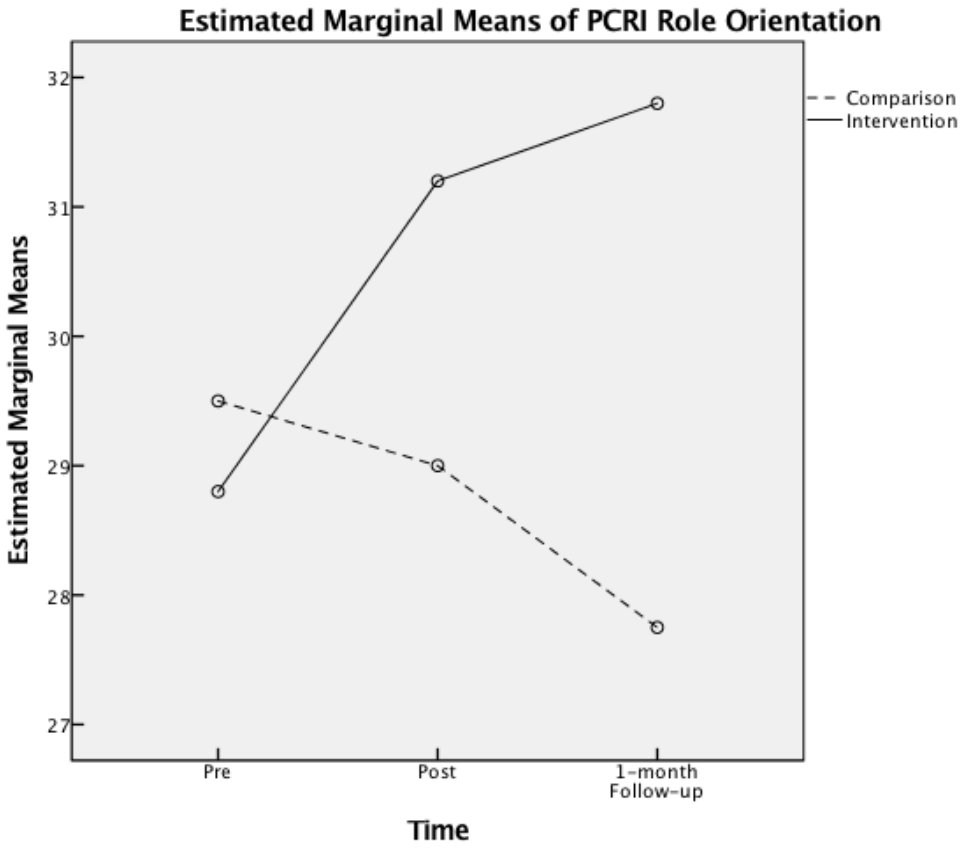


Figure 9

Plot of PCRI Role Orientation Over Time



The interaction between intervention and time was statistically significant for the PCRI Communication subscale at $p = .09$ with a large effect size and for the PCRI Role Orientation subscale at $p = .002$ with a large effect size; therefore simple effects analyses were used to identify significance over time at each level of intervention with one-way repeated measures ANOVA. Paired-samples t-tests were planned and conducted by group for each subscale. Detailed results are listed in Table 10.

Table 10

One-Way Repeated Measures ANOVA of PCRI Communication and Role Orientation

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PCRI - Communication						
Experimental Group						
Intervention	2.13	2	1.07	0.23	0.80	0.05
Error	37.20	8	4.65			
Comparison Group						
Waitlist	28.67	2	14.33	5.61	0.04*	0.65
Error	15.33	6	2.56			
PCRI - Role Orientation						
Experimental Group						
Intervention	25.20	2	12.60	12.39	0.004**	0.76
Error	8.13	8	1.02			
Comparison Group						
Waitlist	6.50	2	3.25	1.92	0.23	0.39
Error	10.17	6	1.69			

* $p < .05$ ** $p < .01$

The intervention effect for Communication and Role Orientation on the PCRI increased significantly with large effect sizes from pre (Week 1) to post (Week 6) through follow-up (1-month after intervention). Scores increased on Communication for the waitlist condition but not for the intervention condition; scores on Role Orientation increased for the intervention condition but not for the comparison. Higher scores on the Communication subscale indicate improved parent perception of their ability to communicate with their child, whereas higher scores on the Role Orientation subscale indicate more positive attitudes about gender roles in parenting. Detailed results of paired-samples t-tests on the PCRI subscales can be found in Table 11.

Table 11

Paired-Samples t-tests of Pre and Post PCRI Subscales

	Pre-test	Post-test	*t*	*p*
PCRI - Involvement				
Intervention	44.29	45.29	1.15	0.30
Waitlist	45.00	44.50	-0.13	0.91
PCRI - Communication				
Intervention	25.86	27.57	1.87	0.11
Waitlist	24.50	24.00	-0.48	0.66
PCRI - Limit Setting				
Intervention	26.57	31.14	3.28	0.02*
Waitlist	25.50	28.75	1.30	0.28
PCRI - Autonomy				
Intervention	29.14	31.71	2.00	0.09
Waitlist	26.75	27.50	0.88	0.44
PCRI - Role Orientation				
Intervention	28.29	29.86	1.87	0.11
Waitlist	29.50	29.00	-0.42	0.70

* $p < .05$ ** $p < .01$

Results of paired-samples t-tests indicate the PCRI Limit Setting subscale increased from Pre (Week 1) to Post (Week 6), $t_6 = 3.28$; $p < .05$, for the intervention group but not for the comparison group, $t_3 = 1.30$; $p = .28$. No significant difference was found for either condition on the remaining subscales in Table 11.

A mixed design repeated measures ANOVA was utilized for analysis of the PSI-SF Parent-Child Dysfunctional Interaction subscale scores. Detailed results are displayed in Table 12 and Figure 10.

Table 12

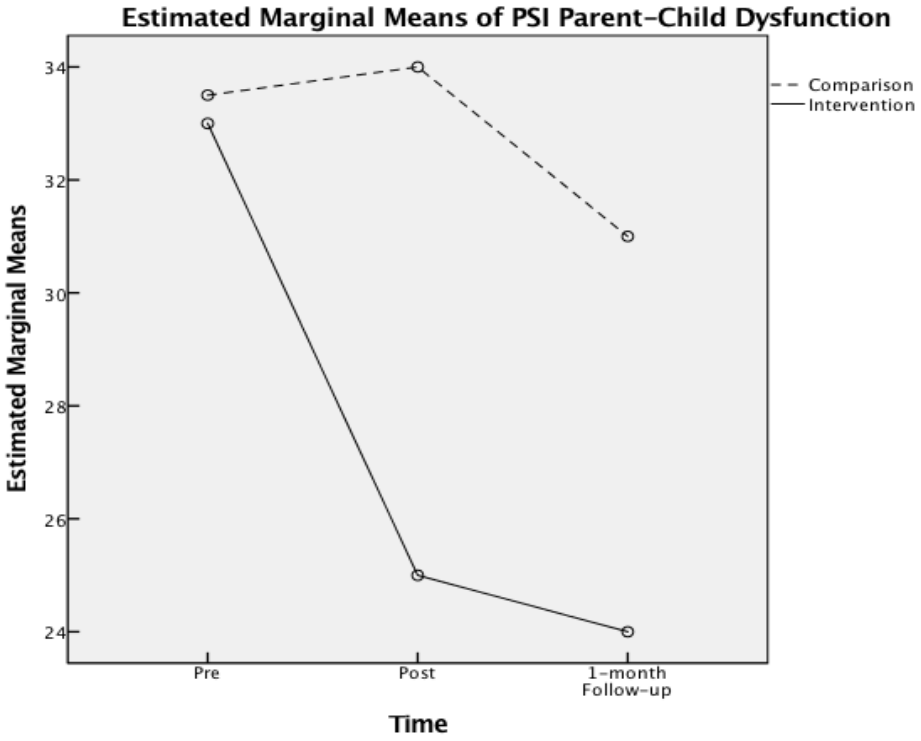
Anova Summary Table: PSI-SF Parent-Child Dysfunctional Interaction

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PSI-SF Parent-Child Dysfunctional Interaction						
Intervention	201.67	1	201.67	1.78	0.22	0.20
Error	793.67	7	113.38			
Time	151.48	2	75.74	6.92	.008**	0.50
Time x Intervention	87.78	2	43.89	4.01	.04*	0.36
Error	153.33	14	10.95			

* $p < .05$ ** $p < .01$

Figure 10

Plot of PSI-SF Parent-Child Dysfunctional Interaction Over Time



The interaction between intervention and time was statistically significant for the PSI-SF Parent-Child Dysfunctional Interaction subscale with a large effect size; therefore simple effects analyses were used to identify significance over time at each level of intervention with one-way repeated measures ANOVA and paired-samples t-tests. Detailed results of the one-way repeated measures ANOVA are listed in Table 13.

Table 13

One-Way Repeated Measures ANOVA of PSI-SF Parent-Child Dysfunctional Interaction

	Sum of Squares	**df**	**Mean square**	***F***	***p***	**Partial Eta Squared**
PSI-SF Parent-Child Dysfunctional Interaction						
Experimental Group						
Intervention	243.33	2	121.67	15.87	0.002**	0.80
Error	61.33	8	7.67			
Comparison Group						
Waitlist	20.67	2	10.33	0.67	0.54	0.18
Error	92.00	6	15.33			

* $p < .05$ ** $p < .01$

The intervention effect for the PSI-SF Parent-Child Dysfunctional Interaction subscale score displayed a statistically significant decrease with a large effect size for the intervention group, $F(2,8) = 15.87$, $p < .01$, but not for the comparison group, $F(2,8) = 0.67$, $p = .18$. Lower scores on this subscale indicate lower levels of dysfunction in the relationship between parent and child. To follow up, paired-samples t-tests were conducted. Detailed results are listed in Table 14.

Table 14

Paired-Samples T-tests of Pre and Post PSI-SF Parent-Child Dysfunctional Interaction

	Pre-test	Post-test	*t*	*p*
PSI-SF Parent-Child Dysfunctional Interaction				
Intervention	32.29	25.14	- 4.08	0.007**
Comparison	33.50	34.00	0.58	0.60

* $p < .05$ ** $p < .01$

The PSI-SF Parent-Child Dysfunctional Interaction scale decreased significantly, $t_6 = -4.08$, $p < .01$, from pre to post for the intervention condition but not for the comparison condition, $t_3 = 0.58$, $p = 0.60$.

A mixed design repeated measures ANOVA was utilized for analysis of the TK-COT Parent/Child Relationship Quality subscale. Detailed results are displayed in Table 15.

Table 15

Anova Summary Table: TK-COT Relationship Quality

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
TK-COT Parent/Child Relationship Quality						
Intervention	0.53	1	0.53	0.12	0.75	0.03
Error	18.08	4	4.52			
Time	4.41	2.09	2.11	4.79	0.04*	0.55
Time x Intervention	1.29	2.09	0.62	1.40	0.30	0.26
Error	3.68	8.37	0.44			

* $p < .05$ ** $p < .01$

The interaction between intervention and time was not statistically significant for the TK-COT Parent/Child Relationship Quality subscale.

Follow-up paired-samples t-tests were planned and conducted. Results are displayed in Table 16.

Table 16

Paired-Samples t-tests of Pre and Post TK-COT Relationship Quality

	Pre-test	**Post-test**	***t***	***p***
TK-COT Parent/Child Relationship Quality				
Intervention	3.51	5.29	6.67	0.001**
Comparison	3.50	4.14	1.80	0.17

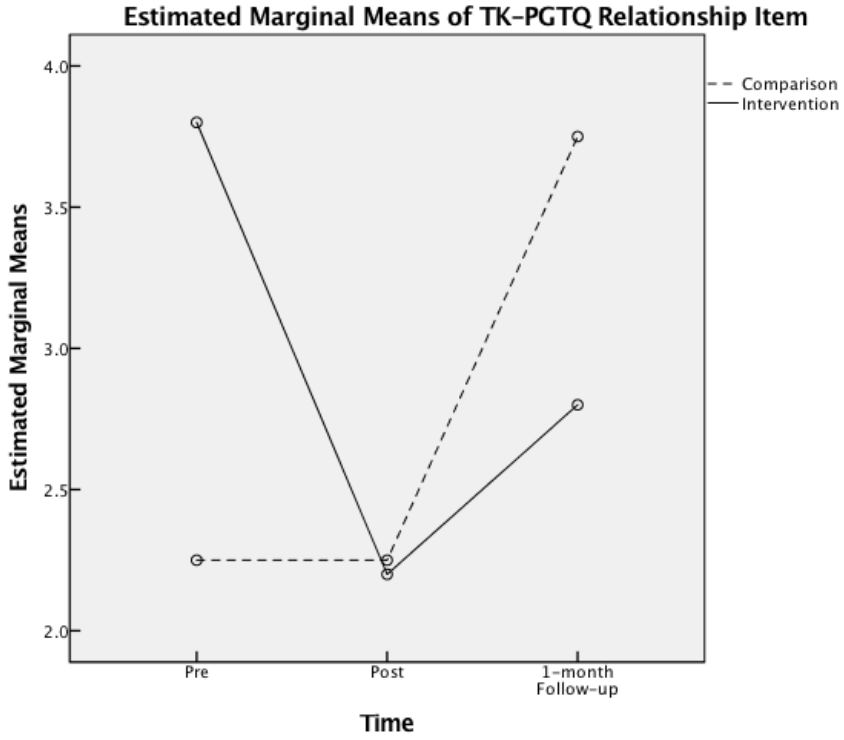
* $p < .05$ ** $p < .01$

The TK-COT Parent/Child Relationship Quality subscale improved from pre to post, $t_6 = 6.67$, $p < .01$, for the intervention group but not for the comparison group, $t_3 = 1.80$ $p = .17$. Higher scores indicate an improvement in the quality of the parent-child relationship.

The parent-child relationship item on the Think:Kids Parent Group Therapy Questionnaire was analyzed using a plot of mean scores over time. This item states, "I have a good relationship with my child." Lower scores indicated higher level of agreement with this statement, or a better parent-child relationship. A plot of means over time can be viewed in Figure 11.

Figure 11

Plot of TK:PGTQ Relationship Item Over Time



Based on visual inspection, the parent-child relationship showed improvement from pre to post for the intervention condition while the comparison condition showed no change. Between post and follow-up, both groups indicated the parent-child relationship worsened, but to a more marked degree for the comparison group than the intervention group.

In summary, the PCRI Involvement, Communication, Limit Setting, Autonomy, and Role Orientation subscales; the PSI-SF Parent-Child Dysfunctional Interaction subscale; the TK-COT Parent/Child Relationship Quality subscale; and the Think:Kids Parent Group Therapy Questionnaire Relationship scale were analyzed to describe any changes in the parent-child relationship. Of these, only the PCRI Communication

subscale, the PCRI Role Orientation subscale, and the PSI-SF Parent-Child Dysfunctional Interaction reached significance on the mixed design repeated measures ANOVA. Scores increased on Communication for the waitlist condition but not for the intervention condition; scores on Role Orientation increased for the intervention condition but not for the comparison. Higher scores on the Communication subscale indicate improved parent perception of their ability to communicate with their child, whereas higher scores on the Role Orientation subscale indicate more positive attitudes about gender roles in parenting. The PSI-SF Parent-Child Dysfunctional Interaction subscale score significantly decreased for the intervention group but not for the comparison group, with lower scores indicating lower levels of perceived dysfunction in the relationship between parent and child. In addition, on follow-up paired samples t-tests, the TK-COT Parent/Child Relationship Quality subscale scores increased significantly for the intervention group but not for the comparison group, indicating an improvement in the quality of the parent-child relationship for the intervention group.

Parent stress.

Analysis of the parent stress construct included the PCRI Parental Support and Satisfaction with Parenting subscales; the PSI-SF Parenting Distress subscale; and the Think:Kids Parent Group Therapy Questionnaire Hopeful item.

A mixed design repeated measures ANOVA was utilized for analysis of the PCRI Parental Support and Satisfaction with Parenting subscale scores. Detailed results are listed in Table 17.

Table 17

Anova Summary Table: PCRI Parental Support and Satisfaction with Parenting

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PCRI - Parental Support						
Intervention	35.27	1	35.27	0.57	0.48	0.08
Error	434.73	7	62.11			
Time	45.51	1.21	37.48	6.89	0.03*	0.50
Time x Intervention	13.51	1.21	11.13	2.04	0.17	0.23
Error	46.27	8.5	5.44			
PCRI - Satisfaction with Parenting						
Intervention	0.09	1	0.09	0.001	0.98	0.00
Error	600.65	7	85.81			
Time	17.14	2	8.57	2.15	0.15	0.24
Time x Intervention	1.14	2	0.57	0.14	0.87	0.02
Error	55.90	14	3.99			

* $p < .05$ ** $p < .01$

The interaction between intervention and time for the PCRI Parental Support and Satisfaction with Parenting subscales did not reach significance. Planned follow-up paired-samples t-tests were conducted with results in Table 18.

Table 18

Paired-Samples t-tests PCRI Parent Support and Satisfaction with Parenting

	Pre-test	Post-test	*t*	*p*
PCRI - Parental Support				
Intervention	19.71	22.43	7.55	<.001**
Waitlist	19.50	19.50	0.00	1.00
PCRI - Satisfaction with Parenting				
Intervention	32.57	33.14	0.48	0.65
Waitlist	33.00	33.75	-0.73	0.52

* $p < .05$ ** $p < .01$

The PCRI Parental Support subscale increased from pre to post for the intervention condition, $t_6 = 7.55$, $p < .01$, but not for the comparison condition, $t_3 = 0$, $p = 1.00$. Higher scores indicate an improvement in the level of emotional and social support a parent receives. The PCRI Satisfaction with Parenting subscale did not reach significance for either condition from pre to post.

A mixed design repeated measures ANOVA was utilized for analysis of the PSI-SF Parenting Distress subscale. Detailed results can be found in Table 19.

Table 19

Anova Summary Table: PSI-SF Parenting Distress

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PSI-SF Parenting Distress						
Intervention	37.87	1	37.87	0.21	0.66	0.03
Error	1277.32	7	182.47			
Time	37.58	2	18.79	1.39	0.28	0.17
Time x Intervention	6.03	2	3.01	0.22	0.80	0.03
Error	189.23	14	13.52			

* $p < .05$ ** $p < .01$

The interaction between intervention and time did not reach significance for the PSI-SF Parenting Distress subscale on the mixed design repeated measures ANOVA. Planned follow up paired-samples t-tests were conducted. Results are displayed in Table 20.

Table 20

Paired-Samples t-tests of Pre and Post PSI-SF Parenting Distress

	Pre-test	Post-test	*t*	*p*
PSI-SF Parenting Distress				
Intervention	33.57	29.43	-1.16	0.18
Comparison	33.25	32.00	1.46	0.24

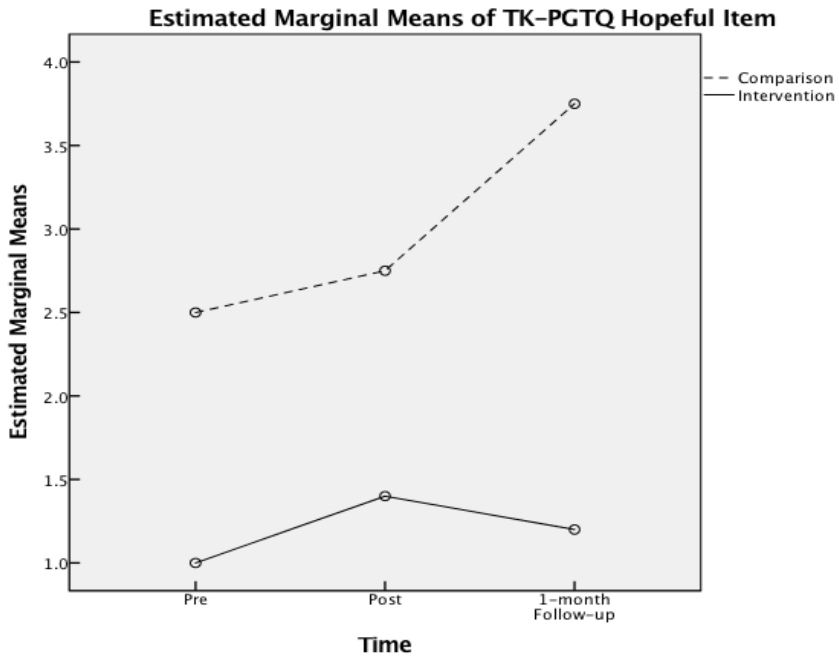
* $p < .05$ ** $p < .01$

The PSI-SF Parenting Distress subscale did not reach significance from pre to post on the paired samples t-test.

The Think:Kids Parent Group Therapy Questionnaire Hopeful item was analyzed by plotting mean scores over time, which can be found in Figure 12. This item stated, "I am hopeful that things will continue to improve." Lower scores on this item indicate more agreement with this statement, or more hope that things will improve.

Figure 12

Plot of TK-PGTQ Hopeful Item



Based on visual inspection, the intervention group parents started out hopeful and remained hopeful throughout the class and follow-up, in comparison to the waitlist group who started out less hopeful and became even less hopeful over time.

To summarize, the PCRI Parental Support and Satisfaction with Parenting subscales; the PSI-SF Parenting Distress subscale; and the Think:Kids Parent Group Therapy Questionnaire Hopeful scale were evaluated to measure parent stress. None of these subscales reached significance on the mixed design repeated measures ANOVA; however, on paired samples t-tests, the PCRI Parental Support subscale improved from pre to post for the intervention condition but not for the comparison condition, indicating an improvement for the intervention group in the level of emotional and social support a parent receives.

Parent perception of child behavior.

Analysis of the parent perception of child behavior construct included the ECBI Intensity and Problem subscales; the PSI-SF Difficult Child subscale; the TK-COT Ability to Understand/Predict Challenging Behavior subscale; the Think:Kids Parent Group Therapy Questionnaire Number of Meltdowns scale; and the Goal Attainment Scales.

A mixed design repeated measures ANOVA was utilized for analysis of the ECBI Intensity and Problem subscales. Details can be found in Table 21.

Table 21

Anova Summary Table: ECBI Intensity and Problem

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
ECBI - Intensity						
Intervention	38.40	1	38.40	0.02	0.89	0.003
Error	12234.27	7	1747.75			
Time	1363.69	2	681.85	2.59	0.11	0.27
Time x Intervention	300.88	2	150.44	0.57	0.58	0.08
Error	3688.23	14	263.45			
ECBI - Problem						
Intervention	124.22	1	124.22	0.44	0.53	0.06
Error	1997.85	7	285.41			
Time	56.31	2	28.16	1.89	-0.19	0.21
Time x Intervention	22.24	2	11.12	0.75	0.49	0.10
Error	208.80	14	14.91			

* $p < .05$ ** $p < .01$

The interaction between intervention and time did not reach significance for the ECBI Intensity or Problem subscales on mixed design repeated measures ANOVA. Planned follow up paired-samples t-tests were conducted with results in Table 22.

Table 22

Paired-Samples t-tests of Pre and Post ECBI Intensity and Problem

	Pre-test	Post-test	*t*	*p*
ECBI - Intensity				
Intervention	165.71	151.00	-1.75	0.13
Comparison	153.50	154.25	0.07	0.95
ECBI - Problem				
Intervention	17.29	15.00	-1.01	0.35
Comparison	17.75	18.25	0.78	0.50

* $p < .05$ ** $p < .01$

Neither the Intensity nor the Problem subscale reached significance from pre to post on the paired-sample t-tests.

A mixed design repeated measures ANOVA was utilized for analysis of the PSI-SF Difficult Child subscale score. Detailed results are presented in Table 23 and Figure 13.

Table 23

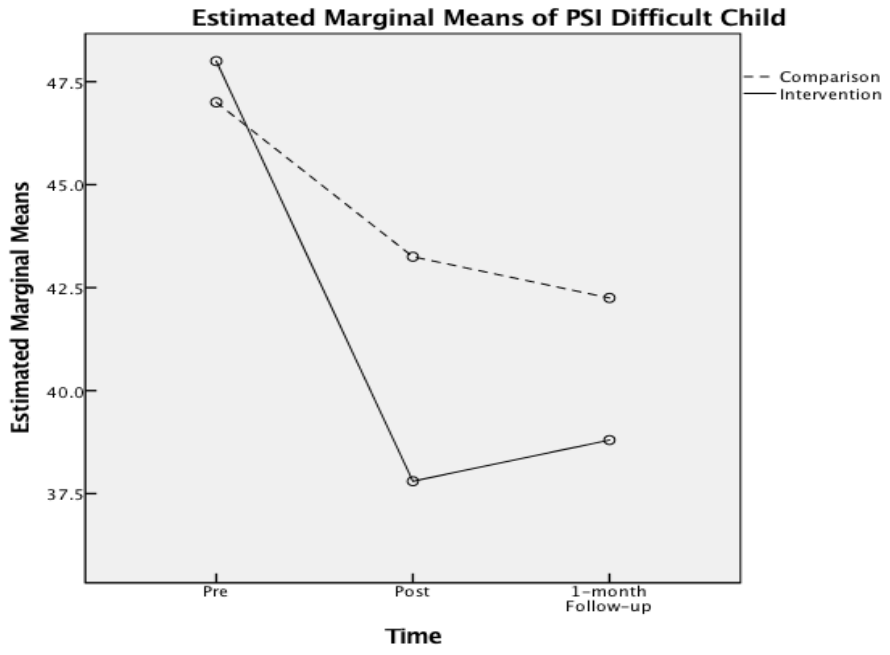
Anova Summary Table: PSI-SF Difficult Child

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
PSI-SF: Difficult Child						
Intervention	46.23	1	46.23	1.32	0.29	0.16
Error	245.40	7	35.06			
Time	288.30	2	144.15	28.95	< .01*	0.81
Time x Intervention	48.45	2	24.22	4.87	0.03*	0.41
Error	69.70	14	4.98			

* $p < .05$ ** $p < .01$

Figure 13

Plot of PSI-SF Difficult Child Over Time



The interaction between intervention and time was statistically significant for the PSI-SF Difficult Child subscale, $F(2,14) = 4.87$; $p < .05$ with a large effect size. Simple effects analyses were used to identify significance over time at each level of intervention with one-way repeated measures ANOVA and paired-samples t-tests. Detailed results of the one-way repeated measures ANOVA are in Table 24.

Table 24

One-Way Repeated Measures ANOVA for PSI-SF Difficult Child

	Sum of Squares	**df**	**Mean square**	***F***	***p***	**Partial Eta Squared**
PSI-SF: Difficult Child						
Experimental Group						
Intervention	316.13	2	158.07	28.40	<.001**	0.88
Error	44.53	8	5.57			
Comparison Group						
Waitlist	50.17	2	25.08	5.98	0.04*	0.67
Error	25.17	6	4.19			

* $p < .05$ ** $p < .01$

The PSI-SF Parent-Child Difficult Child scale score decreased significantly for the intervention condition, $F(2,8) = 28.40$, $p < .01$ with a large effect size, and also for the comparison condition $F(2,6) = 5.98$; $p < .05$ with a large effect size. Lower scores indicate improved ratings of behavioral characteristics of the child that influence the parent-child relationship. To follow up, paired samples t-tests were conducted with detailed results in Table 25.

Table 25

Paired-Samples t-tests of Pre and Post PSI-SF Difficult Child

	Pre-test	Post-test	*t*	*p*
PSI-SF: Difficult Child				
Intervention	47.43	37	-5.38	0.002**
Comparison	47.00	43.25	-2.61	0.08

* $p < .05$ ** $p < .01$

The PSI-SF Difficult Child scale decreased significantly for the intervention group, $t_6 = -5.38$, $p < .01$, but not the comparison group, $t_2 = -2.61$, $p = .08$, from pre to post.

A mixed design repeated measures ANOVA was utilized for analysis of the TK-COT Ability to Understand/Predict Challenging Behavior and the Think:Kids Parent Group Therapy Questionnaire Meltdowns scale from pre to post. Detailed results are listed in Table 26.

Table 26

Anova Summary Table: TK-COT Understand

	Sum of Squares	df	Mean square	*F*	*p*	Partial Eta Squared
TK-COT - Ability to Understand/Predict Challenging Behavior						
Intervention	2.88	1	2.88	0.25	0.64	0.06
Error	45.64	4	11.41			
Time	3.29	1.87	1.76	0.78	0.49	0.16
Time x Intervention	4.18	1.87	2.24	0.99	0.41	0.20
Error	16.95	7.47	2.27			

* $p < .05$ ** $p < .01$

The interaction between intervention and time did not reach statistical significance for the TK-COT Ability to Understand/Predict Challenging Behavior

subscale. Planned follow up paired-samples t-tests were conducted with results displayed in Table 27.

Table 27

Paired-Samples t-tests of Pre and Post TK-COT Understand

	Pre-test	**Post-test**	***t***	***p***
TK-COT Ability to Understand/ Predict Challenging Behavior				
Intervention	2.86	4.62	2.71	0.04*
Comparison	3.00	3.00	0.00	1.00

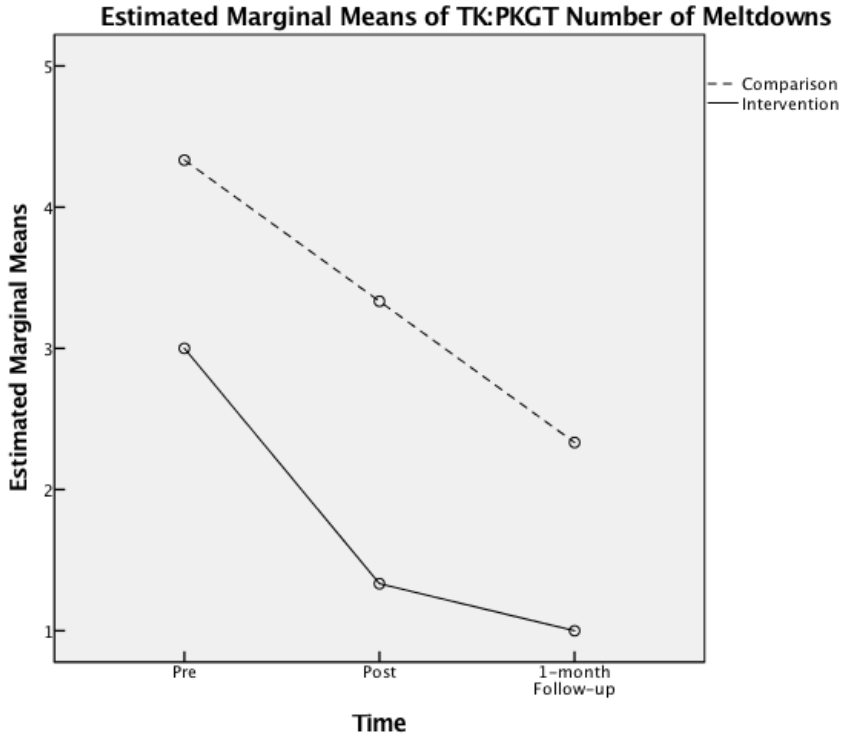
* $p < .05$ ** $p < .01$

The TK-COT Ability to Understand and Predict Challenging Behavior subscale increased significantly from pre to post for the intervention group, $t_6 = 2.71$, $p < .05$, but not for the comparison group, $t_3 = 0.00$, $p = 1.00$. Higher scores indicate parents had improved ability to understand and predict challenging behavior in their child.

The Think:Kids Parent Group Therapy Questionnaire Meltdowns item was analyzed by plotting mean scores over time, which can be found in Figure 14. This item stated, "Please indicated the number of meltdowns your child is having." Lower scores on this item indicated less meltdowns.

Figure 14

Plot of TK-PGTQ Meltdowns Item Over Time



While the comparison group started higher than the intervention group, the number of meltdowns children were having decreased over time at the same rate for both groups.

The Goal Attainment Scales consisted of one target behavior identified and described by the parent. Parents then identified and described the desired outcome, leading to creation of their individualized GAS based on a 5-point scale ranging from +2 to -2 and descriptions of the target behavior that correspond with the following conditions: Best Possible Outcome (+2), No Change in Behavior/Performance (0), and Worst Possible Outcome (-2). The GAS was collected at the end of the first session and

new ratings were recorded to measure student progress each week and at 1-month follow-up. Each participant's individual goal can be seen in Table 28.

Table 28

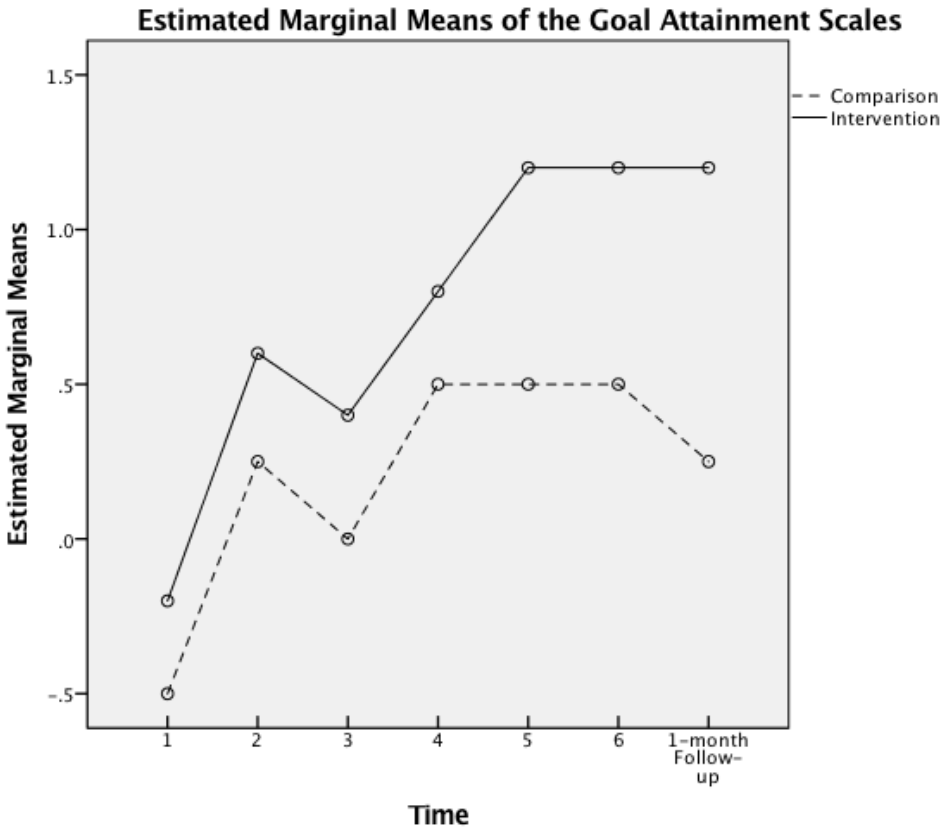
Individual Goals from the Goal Attainment Scales

Intervention Group
Child will ask politely instead of issuing orders/demands
Child will have a non-confrontational bedtime routine
Child will be less quick to anger
Child will use words instead of physical aggression to express frustration
Child will get into car, sit in her seat and get buckled
Child will accept when things do not go the way she wants
Child will complete morning routine with increasing independence
Comparison Group
Child will use words instead of physical aggression to express anger
Child will express himself with words instead of crying and melting down
Child will show less aggression towards family members
Child will comply with requests the first time asked

The Goal Attainment Scales were analyzed by plotting each participant's score over time. Based on visual inspection, the slopes for the intervention group increased over time, especially after the fourth week of the class, whereas the slopes for the comparison group remained flat. In other words, parents in the intervention group showed greater improvement on the GAS than the comparison group, especially after Week 4. To summarize these findings, a plot of the means over time for both groups was utilized and can be found in Figure 15.

Figure 15

Plot of Goal Attainment Scales Over Time



On the Goal Attainment Scales, comparison of the slopes suggests that the intervention condition showed greater improvement on the parents' identified behavior goal over time than the comparison, particularly after Week 4.

In summary, the ECBI Intensity and Problem subscales; the PSI-SF Difficult Child subscale; the TK-COT Ability to Understand/Predict Challenging Behavior subscale; the Think:Kids Parent Group Therapy Questionnaire Number of Meltdowns scale; and the Goal Attainment Scales were analyzed for parent perception of child behavior. The PSI-SF Difficult Child subscale did reach significance on the mixed design repeated measures ANOVA, indicating a decrease in perceived child challenging

behavior for both the intervention group and the waitlist group. On paired samples t-tests, the TK-COT Ability to Understand and Predict Challenging Behavior subscale increased significantly from pre to post for the intervention group but not for the comparison group, indicating intervention group parents had improved ability to understand and predict challenging behavior in their child. The Goal Attainment Scales showed greater improvement for the intervention condition than the comparison.

No significant differences were found when comparing groups at pretest. A second independent-samples t-test was conducted post-intervention to compare the waitlist and intervention groups to assess group differences after the parenting class. Detailed results are in Table 29.

Table 29

Post-Intervention Group Comparison

	Intervention	Comparison	*t*	*p*
Treatment Adherence				
TK-COT Adherence to CPS Philosophy	5.71	3.13	-4.08	0.003**
Parent-Child Relationship				
PCRI - Involvement	45.29	44.50	-0.23	0.82
PCRI - Communication	27.57	24.00	-2.25	0.05
PCRI - Limit Setting	31.14	28.75	-0.71	0.50
PCRI - Autonomy	31.71	27.50	-1.17	0.12
PCRI - Role Orientation	29.86	29.00	-0.28	0.79
PSI-SF Parent-Child Dysfunctional Interaction	25.14	34.00	2.22	0.05
TK-COT Parent/Child Relationship Quality	5.29	4.14	-1.80	0.11
Parent Stress				
PCRI - Parental Support	22.43	19.50	-0.88	0.40
PCRI - Satisfaction with Parenting	33.14	33.75	0.19	0.86
PSI-SF Parenting Distress	29.43	32.00	0.51	0.62
Parent Perception of Child Behavior				
ECBI - Intensity	151.00	154.00	0.25	0.81
ECBI - Problem	15.00	18.00	0.62	0.55
PSI-SF: Difficult Child	37.00	43.25	2.68	0.03*
TK-COT Ability to Understand/Predict Challenging Behavior	4.62	3.00	-3.80	0.01*

* $p < .05$ ** $p < .01$

Results of the post-intervention independent-samples t-test indicated significant differences between the intervention and comparison groups on the following subscales: the TK-COT Adherence to CPS Philosophy subscale ($t_9 = -4.08$; $p < .01$); the PSI-SF Difficult Child scale ($t_9 = 2.68$; $p < .05$); and the TK-COT Ability to Understand and Predict Challenging Behavior Subscale ($t_9 = -3.80$; $p < .05$).

Conclusion

In sum, mixed design repeated measures ANOVA with planned follow-up t-tests were utilized to determine if changes occurred in parent ratings on the TK-COT, PCRI, PSI-SF, and ECBI. Only the TK-COT Adherence to CPS Philosophy, PCRI Communication, PCRI Role Orientation, PSI-SF Parent-Child Dysfunctional Interaction, and PSI-SF Difficult Child subscales reached significance on the mixed design repeated measures ANOVA. The TK-COT Adherence subscale increased significantly for the intervention group over time with no statistically significant increase found for the comparison group. Scores increased on Communication for the waitlist condition but not for the intervention condition; scores on Role Orientation increased for the intervention condition but not for the comparison. The PSI-SF Parent-Child Dysfunctional Interaction subscale score significantly decreased for the intervention group with no significant decrease for the comparison group. Finally, the PSI-SF Difficult Child significantly decreased for both the intervention and waitlist groups.

On follow-up paired-samples t-tests, the TK-COT Parent/Child Relationship Quality subscale scores increased significantly for the intervention group but not for the comparison group; the PCRI Parental Support subscale also increased for the intervention condition but not for the comparison condition; and the TK-COT Ability to Understand and Predict Challenging Behavior subscale increased significantly for the intervention group but not for the comparison group. Based on visual inspection, the Goal Attainment Scales increased for the intervention condition over time to a greater degree than the comparison. These results along with possible explanations and implications are discussed in more depth in the following chapter.

Chapter 5: Discussion

Introduction

When adults respond to non-compliant and aggressive behavior in children inconsistently and aggressively, it can increase the frequency and intensity of non-compliance and aggression in children (Patterson, 1982). In contrast, Feshbach (1989) found that parental empathy had a socializing effect on children as well as a regulatory effect on aggression, deterring it from occurring. Further, research on children with ADHD and their families indicates that higher levels of parental empathy predicted higher child self-esteem regarding their relationships with their parents as well as lower levels of aggression in the children (Warren, 2004). The Think:Kids Collaborative Problem Solving (CPS) Parent Group Therapy curriculum was chosen for the current study due to its demonstrated effectiveness, empathic way of conceptualizing challenging behavior, proactive parenting approach, and focus on adult-child relationships.

Collaborative Problem Solving (CPS) is a transactional approach that considers both parent and child factors that can contribute to dysfunctional parent-child interactions and challenging behavior in children (Green, Ablon, & Goring, 2003). CPS views disruptive behavior, or "meltdowns," as the intersection of the demands of a situation overwhelming a child's cognitive skills or abilities to cope adaptively (Greene & Ablon, 2006).

The child's struggles are viewed as a learning disability in the areas of flexibility/adaptability, frustration tolerance, and problem solving (Schaubman, Stetson, & Plog, 2011). In other words, the CPS model proposes that children with challenging behavior have a delay in being able to handle life's social and emotional challenges. CPS focuses on teaching these lagging skills and establishing a more empathic relationship between children and adults (Schaubman, Stetson, & Plog, 2011). While the Think:Kids CPS Parent Group Therapy curriculum has been studied in a clinical setting, it has not been studied in a public school setting. This study examined the effects of the Think:Kids Parent Group Therapy curriculum on the parent-child relationship, parent stress, and parent perception of child behavior in a public school setting.

Summary of the Study

Statement of the problem.

The ability for children to exhibit positive behavior is critical for relating to their peers and achieving academically. When children exhibit challenging behaviors, it takes a considerable toll on their parents and caregivers (Shonkoff & Phillips, 2000). Child problem behaviors, including conduct, internalizing and externalizing behaviors are negatively associated with teacher-child relationships (Pianta & Steinberg, 1992). Public schools should be concerned with these outcomes and interested in using group parent intervention as a viable solution, as parent trainings are the most widely researched and effective interventions for not only the treatment and but also the prevention of conduct disorders in young children (Hutchings & Lane, 2005).

Traditional approaches of parent training teach parents how to manage children's challenging behavior by using behavior modification techniques, such as positive

reinforcement, setting clear expectations and limits, using specific commands, using mild forms of punishment such as "time-out," and using contingency systems (Kazdin, 1997; Reid & Webster-Stratton, 2001; Patterson, 2005; McMahon & Forehand, 2005; and Barkley, 2013). While these programs have shown success in increasing child compliance, it is less clear if they improve the underlying skill deficits or teach emotional regulation or problem solving skills. Further, punishing non-compliant behavior can have unintended negative side effects on a child's self-esteem and on the parent-child relationship (Epstein & Saltzman-Benaiah, 2010).

Collaborative Problem Solving (CPS) aims to empower parents by helping them understand and address their child's skill deficits, which hypothetically should improve parent stress as well as parent perception of their child's challenging behavior. Preliminary research suggests CPS group parent training has a positive impact on parent stress and child problem behavior in clinical settings (Epstein & Saltzman-Benaiah, 2010); however, as this is a relatively new approach, the research base needs to be broadened to include studies conducted in other educational and therapeutic settings, including public schools. For these reasons, research is needed to examine the effects of CPS parent training in a public school setting not only on parent stress and child problem behavior, but also on the relationship between parent and child.

Statement of the purpose.

The purpose of this study was to investigate the effects of utilizing the Think:Kids Parent Group Therapy as a group parent training in a public school setting. Although CPS research has been conducted in outpatient, inpatient and residential settings, only one study has been completed in a public school setting, and it examined teacher training, not

parent training (Schaubman, Stetson, & Plog, 2011). Preliminary research suggests CPS group parent training has a positive impact on parent stress and child problem behavior in clinical settings (Epstein & Saltzman-Benaiah, 2010). These preliminary findings warranted additional research to examine the effects of parent training in a public school setting.

Although the program was designed to address challenging behavior in children, children were not directly involved in the data collection of this study. Study participants were the parents and/or caregivers of children ages 3-8 attending public school in a large, metro/suburban district. School mental health providers and parents who had previously attended the Think:Kids Parent Group Therapy parent class referred parents of students with challenging behavior for the parent class. Intervention and waitlist group participants completed a series of surveys pre- and post-intervention and at 1-month follow-up, including the Parent-Child Relationship Inventory (PCRI), Parent Stress Index-Short Form (PSI-SF), Eyberg Child Behavior Inventory (ECBI), Think:Kids Parent Group Therapy Questionnaire, and a Goal Attainment Scale (GAS). In addition, the Think:Kids-Change Over Time (TK-COT) was collected weekly and at 1-month follow-up. Parents in the intervention group attended weekly 2-hour sessions for six weeks and were assigned homework activities between sessions. Attendance at 5 of the 6 sessions was considered completion.

Research question.

The research question was developed after an extensive literature review indicated a need to explore the effects of CPS group parent training in a public school setting. This study intended to address one research question:

(1) Do parents in the Think:Kids Parent Group Therapy curriculum group differ from parents in the waitlist comparison group on parent ratings of:

   a. the parent-child relationship,

   b. parent stress, or

   c. parent perceptions of a child's problem behaviors at home?

Discussion of Results

As presented in Chapter 4, most results in this study did not reach significance. There were a variety of factors that may have influenced these results, which will be discussed in subsequent sections. The few significant results, however, had large effect sizes, suggesting that the Think:Kids Parent Group Therapy curriculum may have positive effects in a public school setting on improving parent-child interactions and parent perception of their child's challenging behavior. It is important to note that all 7 intervention group parents who started the class also completed it by attending at least 5 of the 6 sessions, making participant attendance a positive feature of this study. The TK-COT Adherence to CPS Philosophy, PSI-SF Parent-Child Dysfunctional Interaction, PSI-SF Difficult Child, PCRI Communication, and PCRI Role Orientation subscales reached significance on mixed design repeated measures ANOVA. Each of these findings is discussed in more detail in the following sections.

Attribution changes and self-efficacy.

The scores on the Think:Kids-Change Over Time (TK-COT) Adherence to Collaborative Problem Solving (CPS) Philosophy subscale significantly increased with a large effect size for the intervention group over time, indicating more adherence to the CPS philosophy. No statistically significant increase was found for the comparison

group. This could be due to more frequent data collection on this measure (weekly rather than pre/post), or it could be that a quantifiable change in perception occurred for the parents in the intervention group. This measure being collected weekly rather than simply pre/post led to more data points for comparison, increasing the capacity to show change over time. This scale consists of four items, including: My child chooses to act out to get out of doing things he/she doesn't like; My child intentionally pushes my buttons or manipulates me; My child could behave better if he/she just worked harder at it; My child behaves in negative ways to get attention.

Another explanation could be that a measurable change in thinking occurred for parents in the intervention group. Throughout the class during large group discussions parents verbally shared several "A-ha" moments. The first and perhaps most salient was the ability to not take their child's behavior personally. Another was how powerful empathy can be in de-escalating behavior. The change in ratings for the intervention group reflect a change in thinking from children do well if they want to, to children do well if they can, one of the fundamental mantras of CPS. While on one hand this result is not surprising given this subscale was designed to show a difference that is expected; on the other hand, it also provides outcome information that a beneficial change in thinking occurred with the intervention group parents, which is a crucial first step in the process. This finding shows this parent class was successful in altering parent perception of the basis of their child's behavior, which is consistent with previous findings that altering a parent's attributions and self-efficacy is a fundamental step in changing their parenting skills. White, McNally, and Cartwright-Hatton (2003) propose that integrating a cognitive component, where parents' beliefs and attributions are monitored over time,

will lead to an improvement in parent engagement and implementation of techniques in parent trainings.

In addition to measuring changes in parents' attributions, it is also important to track changes in their confidence in parenting. Self-efficacy, or a parents' belief in their ability to parent effectively, is important to measure throughout parent classes, especially since lower levels of maternal self-efficacy have been linked to harsher discipline practices and less competent parenting practices (Sanders & Woolley, 2005). Improving parental self-efficacy should in turn improve parenting practices. Since the TK-COT was in the pilot stage during this study, there are no previous published research studies for comparison of findings. Significant results on this subscale provide support for use of the TK-COT in future CPS studies as an outcome measure to determine if parent perception of child behavior changes over the course of the class, especially since this subscale only consists of 4 items.

Timing of change.

Qualitative information gained from the Goal Attainment Scales provide information regarding weekly changes of parent perception of child behavior over the course of the class. The means of weekly ratings were plotted and visually inspected for changes over time. Based on visual inspection of slopes, the Goal Attainment Scales appeared to increase at a higher rate for the intervention condition but not the comparison. This suggests improvement for the intervention condition parents' identified behavior goal established during the first week of class. Further, the change seemed to shift during Week 4 of the intervention, which is when the Plan B conversation, or the primary intervention of CPS, is taught. Goal Attainment Scales could be used in future

studies to further examine timing of the change and to concurrently measure the child's behavior at school.

Comparison with previous studies.

Some important differences between the current study and the foundational study by Epstein & Saltzman-Benaiah include duration and dosing. The parents in the initial study met for 2-hour sessions for 8 weeks, whereas the current study shortened the course to 2-hour sessions for 6 weeks. This was an intentional shift in hopes of improving attrition. This approach appeared to be successful. As previously stated, the attrition for this study was low with a 100% completion rate in comparison with the original study, which had an 86% completion rate. In addition, follow-up for the previous study was 2 months compared to 1 month in this study. This may have positively skewed the follow-up results since the material was still fresh for the parents at the time follow-up occurred. However, this also negatively impacted the ability to show the effects of this intervention maintain over time.

Another important difference between the studies which could have contributed to the difference in findings was composition of the sample. The Epstein and Saltzman-Benaiah study included 19 parents of 12 children in two separate treatment groups completed approximately one year apart. It is important to note that the original study took place with parents who had children who were being treated via an inpatient setting. Children whose parents are seeking help from this setting are typically struggling significantly with managing their behavior during basic daily routines. For example, getting up and ready in the morning may take a long period of time and require practically constant parental support in the form of prompting, providing assistance and

calming explosive emotions. Having a child with behavioral concerns that reach this level can put a considerable amount of strain on the parents and other family members. The children in the original study also all had comorbid diagnoses of Tourette Syndrome (TS) and Oppositional Defiant Disorder (ODD). Of the 7 children in the intervention group of the current study, 1 had a diagnosis of autism, 1 had a diagnosis of sensory processing disorder, 2 had diagnoses of ADHD, 1 had a speech-language impairment, and 2 did not have a diagnosis. None of the children in the current study had comorbid diagnoses. As a result, the children in the initial study may have presented with more challenging behaviors and their behaviors may also have been more severe. Given the larger scope and broader range of involvement of children in the current study, in general this population was less impacted than the clinical population, as such it would not be surprising that the changes in perception of behavior by parents would be different than that of the original study.

Consistent with previous findings, the Parent Stress Index-Short Form (PSI-SF) Difficult Child subscale decreased significantly over time with large effect sizes for both the intervention group and the comparison group, indicating an improvement in parenting ratings of child behavior for both groups. While the results for the intervention group are consistent with previous study findings, there was no comparison group in the previous study (Epstein & Saltzman-Benaiah, 2010). Despite the PSI-SF Difficult Child improving for both groups in the current study, the fact that the intervention group had a larger effect size provides support for the impact of this intervention on parent perception of child behavior. These findings are consistent with results on the Goal Attainment Scales and the Eyberg Child Behavior Inventory (ECBI) in the current study, which also

provided evidence for greater improvements in parent perception of the intensity and severity of child problem behavior for the intervention group compared to the waitlist group.

The PSI-SF Parent-Child Dysfunctional Interaction subscale score decreased significantly with a large effect size for the intervention group but not for the comparison group in the current study, which meant parents rated their relationship with their child as less dysfunctional after the class. This finding differs from that of the foundational study by Epstein and Saltzman-Benaiah (2010), which had significant results on the PSI-SF Difficult Child and Parental Distress scales, but not on the Parent-Child Dysfunctional Interaction scale. As previously stated, since children in the current study did not have comorbid diagnoses, one explanation of the difference in findings could be that the children in this study were not as severe; therefore, the relationship between parent and child may have responded better to intervention. In fact, some children whose parents took our parent class did not meet criteria for a diagnosis. However, the pairing of personalities between parent and child was causing friction and conflict.

The CPS idea of "lagging skills" in both parents and children provides a blameless framework for resolving conflict, and the empathic nature of the intervention aims to repair the relationship between parent and child. Despite this result being different from the previous study, it provides evidence in favor of this intervention improving relationships between parents and their children in a public school setting. Even parents with children considered neurotypical struggle with parenting at times and at various phases during their child's development. The results suggest that this class can help parents identify a child's lagging skills, even ones that do not reach clinical

significance. The course can also help parents better communicate and problem-solve with their children. In sum, this class could be helpful to most parents regardless of severity of their child's behavior to improve parent-child communication and understanding.

Another inconsistency with previous findings (Epstein & Saltzman-Benaiah, 2010) involved the Parent Stress Index-Short Form (PSI-SF) Parenting Distress subscale failing to reach significance in the current study, indicating that the intervention did not significantly decrease parent stress. In the initial study, the Parenting Distress subscale significantly decreased for mothers but not for fathers post treatment. This difference in findings could also have been a result of differences in composition of the sample. Research shows that parents raising children with disabilities face a different type and level of stress compared to parents of typically developing children (Stoneman, 1997). Sources of stress include changes in family routines and relationships, maintaining a schedule of therapies, as well as medical and financial costs of therapy, medications, and sometimes hospitalizations (Tunali & Power, 1993). Familial relationships become strained as demands of the child with special needs lead to less time available for other family members. Additionally, parents might feel guilty or blame themselves if there is a genetic component to the child's disability (Tunali & Power, 1993). In other words, severity of the situation may be worse for families seeking help from a clinical setting rather than a public school setting, allowing more room for change in parent stress. For example, compare a child who is not completing any part of a daily routine to a child that is completing most steps of that same daily routine. The first child has many more tasks to learn and master to reach the same outcome as the second child. While the outcomes

may eventually be the same, the amount of progress was larger for the first child than the second due to the baseline being lower at the start.

The difference in the sample composition likely impacted results on the Eyberg Child Behavior Inventory (ECBI) as well. The non-significant findings on the ECBI are not consistent with previous results where both the ECBI Intensity and Problem scales significantly improved for both mothers and fathers (Epstein & Saltzman-Benaiah, 2010). Although the scores in the current study moved in a positive direction for the intervention group on both of these scales, neither subscale reached significance. This means that while parents rated their child's behavior as less severe over time, the amount of change was not enough to be statistically significant. However, upon further inspection, the ECBI Intensity mean for the intervention group decreased from 165 to 152 to 141 from pre to post to follow-up, with 130 being the clinical cutoff. In the original study, scores on this scale decreased from 167 to159 to 141 from baseline to pre to post with maintenance through 2-month follow-up. So although both studies showed practically the exact same pattern of results, the current study did not reach significance. Additionally, in the current study, the ECBI Problem mean for the intervention group decreased from 16 to 15 to 10 from pre to post to follow-up, with 15 being the clinical cutoff. In other words, by follow-up, parents were rating their child's behavior well below the clinical cutoff on the problem scale. In comparison to the original study which decreased from 23 to 17 to 15 from baseline to pre to post with maintenance through 2-month follow-up, parent perception of the severity of the problem started from a much less significant level in the current study. To summarize, despite lack of statistical significance in the current

study, both studies found an improvement in parent ratings of their child's behavior over time given this intervention.

Although these subscales did not reach statistical significance in the current study, the trends provide support for the effectiveness of this intervention effectively decreasing parent perception of the intensity and severity of child problem behavior. This difference could also have been influenced by other confounding variables, including but not limited to other sources of intervention such as outside therapy or medication. Three of the seven children in the intervention group were receiving outside services (occupational therapy and speech therapy) while two of the four children in the waitlist group were receiving outside services (occupational therapy, speech therapy, applied behavior analysis (ABA) therapy and hippotherapy). Two of the intervention group children were taking medication for their behavior, while one of the waitlist group children was taking behavior-related medication. This is important information to note as it can impact the child's behavior. For example, receiving speech-language services at home may improve a child's communication skills, leading to a decrease in their problem behavior as he or she is better able to express his or her wants and needs. Another example would be a child's ability to regulate their emotions changing due to behavior-related medication. It can be difficult in applied research to know the impact of various variables on a child's behavior.

In summary, the substantial differences between the current study and the initial study involved duration and dose of the intervention, as well as sample size composition. Despite these differences, both studies found beneficial evidence of CPS parent training, with the current study specifically finding improvements in the parents' perception of

their relationship with their child and the parents' perception of their child's behavior over the course of the class through one-month follow-up.

Explanation and limitations of the Parent Child Relationship Inventory.

Scores did increase significantly with a large effect size on the Parent Child Relationship Inventory (PCRI) Communication subscale for the waitlist condition but not for the intervention condition. Higher scores on the Communication subscale indicate improved parent perception of their ability to communicate with their child. It is unclear what could have accounted for the change in the comparison group versus the intervention group on the PCRI Communication subscale, and this result is counter to this study's hypothesis. The PCRI was utilized in one other CPS study that compared CPS with Barkley's behavior management system (Greene et al., 2004). Results of this foundational study were that the Limit Setting subscale ($p < .01$) and the Communication subscale ($p < .05$) significantly improved for the CPS condition. While the PCRI was able to show positive gains for the CPS condition in the foundational study, other research suggests concerns with use of the PCRI in applied settings. Coffman, Guerin, and Gottfried (2006) found that certain scales on the PCRI, specifically Communication and Autonomy, resulted in unacceptable levels of internal reliability. Issues with the reliability of the tool may explain some of the findings including the waitlist group. In other words, the PCRI Communication subscale reaching significance in the waitlist group in the current study should be interpreted with caution and may be due to a limitation of the measure. Another explanation could be a history effect, such as parents in the waitlist group seeking out other avenues of support like a parenting blog or self-help books. With drastic changes in technology over the last few decades, information is

easily accessible to individuals seeking help. Once a parent identifies that their child has a need, it is common for them to search for as many resources as possible, especially via the internet. These tips, ideas and strategies could impact the dependent variables measured in this study.

Scores on PCRI Role Orientation increased significantly with a large effect size for the intervention condition but not for the comparison, with higher scores indicating more balanced attitudes about gender roles in parenting. In other words, higher scores indicate the parents' view of gender roles is balanced and that all parenting tasks are shared, whereas a lower score indicates more defined gender roles, like men provide financial support and women are caregivers. Items on the PCRI Role Orientation subscale included ones such as, "Husbands should help with childcare," and "For a woman, having a challenging career is just as important as being a good mother." First and foremost, this subscale needs renormalization to be more reflective and inclusive of diverse parental relationships and family systems. This result should also be interpreted with caution given the previously noted concerns with the internal reliability of the PCRI. Another explanation could be that the problem-solving skills taught in the CPS parent class assisted in intervention group spouses expressing their needs to their partners in regards to role expectations and responsibilities. The Plan B conversation that is taught during the CPS parent class to help facilitate communication between parent and child can be utilized in any situation, not just with children. Parents may be utilizing these communication steps with their spouses to discuss the division of roles and responsibilities in their family, which could lead to a more balanced view of care giving

of their children. This type of shift could be related to improvements in parent stress and familial relationships.

Directions for Future Research

While previous CPS data suggests that this approach may be most effective with severe populations, current findings expand that view to include families with children with less severe behavioral needs. Although the changes in the current study did not reach statistical significance, the trends suggest that CPS has the potential to help a wide range of parents, from those with children with identified psychological diagnoses to those with neurotypical children. Parenting is challenging, and CPS can help improve communication between parent and child and promote positive problem solving in an array of familial situations. This is what makes CPS so promising for schools.

Schools could benefit from adopting a Collaborative Problem Solving (CPS) parent curriculum because it can be aligned with Positive Behavior Intervention Support (PBIS) initiatives. The foundations of both CPS and PBIS are asset-based, meaning they look at strengths and what is going well to drive intervention. PBIS is a school-wide system of behavioral interventions to promote positive behavior in schools (Horner, Sugai, & Anderson, 2010). PBIS is a three-tiered model, in which universal (Tier 1), selective (Tier 2), and indicated (Tier 3) levels provide an increasing amount of student intervention and support (Sugai & Horner, 2006). As PBIS research supports a need for proactive rather than punitive approaches to behavior and discipline (Bradshaw, 2013), an opportunity is open for CPS.

Further, it is possible for CPS to be utilized across all three tiers of PBIS support. Although CPS was originally designed for, and has mostly been utilized in clinical

settings, it could be highly beneficial as a research-based intervention for public schools for each tier of the PBIS system. While CPS has historically been considered a Tier 3 intervention, it could be just as effective as a preventive measure for Tier 1. In other words, school districts could offer multiple CPS classes depending on level of need. For example, CPS parent training could be offered in larger classes for all parents as a means for prevention, while smaller classes that allow for more personalized support could be offered to parents whose children have more significant needs. As stated previously, some children of parents who took the parent class did not meet criteria for a diagnosis, yet the CPS model still showed benefits in improving the parent-child relationship and decreasing problem behavior. Since results of the current study support CPS being beneficial for a wide range of familial situations and problem severity, CPS parent training should be offered to all children and families, not just the most impacted.

Collaborative Problem Solving (CPS) can be used with students with cognitive and language abilities at or above the age of three. While the CPS theory of lagging skills combined with a situation that overwhelms those skills can be used to analyze problem behavior with children of any age or ability, engaging in problem-solving conversations with children will be more successful if the child has foundational cognitive and language skills. Attempting problem-solving conversations with children who do not have adequate cognitive and language abilities could lead to frustration for both parent and child and would counteract the goals of CPS to de-escalate behavior. Additional support would need to be provided to parents on appropriately scaffolding language using visual cues, picture exchange, assistive technology, or augmentative communication tools and strategies to facilitate communication.

Two more areas of future research include non-English speaking populations as well as other groups or populations of children. This program has yet to be translated and tested with non-English speaking populations. This should be done with caution, as this intervention may not be effective or may need additional first steps with individuals who have very strong values or beliefs about the origin of behavior in children. In addition, one who believes in a definitive hierarchy between parent and child may also need some additional first steps or may not buy-in to the CPS philosophy. While research shows that there has been an increase in the ethnic diversity of parent training treatment studies, only one study directly examined ethnicity as a moderator of treatment outcomes. In addition, adapted interventions have not frequently been tested against the unadapted interventions they are based on (Camilo, 2013). Finally, more research is needed regarding the effects of this class on specific childhood diagnoses, such as ADHD or Autism, as well as on neurotypical children.

In sum, while Collaborative Problem Solving (CPS) was designed to be utilized primarily with severe populations, current findings suggest it can be beneficial to families with children with less severe behavioral needs as well. The current study proposes that CPS can help a wide range of parents, from those with children with identified psychological diagnoses to those with neurotypical children. Being able to use CPS with an array of children and families makes it a valuable resource for schools, which will be discussed next.

Establishment in Schools

While this study did not result in Collaborative Problem Solving (CPS) being widely utilized as a school-based intervention, doing so would require consideration of

several systemic approaches. Full implementation of CPS as a school-wide or district-wide intervention would require a multipronged approach. One strategy would be to establish CPS training in college and university preparation programs in general and special education, school psychology, and school administration. In addition, school districts could utilize Positive Behavior Interventions and Supports (PBIS) funding and efforts to train staff in CPS trainer certification so they could then train other staff and /or parents for the school district. School districts could provide parents with CPS parent training classes, and they could provide staff with continuing education credit to complete in-district CPS training, specifically targeting new teachers by presenting on CPS during new teacher training and orientation. The more systems that can be impacted, the more likely CPS and interventions like it are to become the standard of care in responding to challenging behavior.

Limitations

Sample size and time frame.

As with any research, there are several limitations to this study. The small sample size and short time frame are threats to validity, which is a challenge in applied research studies (Maholmes, 2011). The desired or targeted number of participants for future studies will depend on the measures chosen. Based on a *post hoc* power analysis, for a partial eta-squared of .03 (e.g., the PCRI—Involvement subscale) a minimum of 52 participants would be needed in each group in order to declare results of the test of group x time interaction statistically significant at .05 with power of .70 (calculated using GPower 3.1). For a partial eta-squared of .22 (PCRI – Limit Setting subscale) with power of .70, the minimum required n would be 8 in each group.

Study structure and sample population.

This study had a non-randomized comparison group, which limited internal validity. Since the ECBI did not reach significance in this study, a more sensitive measure of behavior or emotional regulation may produce stronger findings. Two measures suggested by Epstein and Saltzman-Benaiah (2010) were the Emotional Regulation Checklist (Shields & Cicchetti, 1997) or the System for Coding Affect Regulation in the Family (SCARF; Lindahl, Clements, & Markham, 1997). The Think:Kids-Change Over Time (TK-COT) showed encouraging results for measuring adherence to the CPS philosophy in this study and should continue to be utilized in future CPS research.

In addition, lack of diversity in participants was a major limitation to this study. Several factors appeared to influence the composition of the sample including the necessary self-selection process, the lack of childcare and the location of the class. Lack of child care could have limited those who could attend. This may have decreased the diversity to only those who had means for securing their own childcare or who came from a two-parent family. In addition, the location could have been more centrally located. As a result, the location brought parents from the immediately surrounding area, which had a depressing effect on the sample size. The education level of the parents, ethnicity and family composition were all skewed in one direction, being highly educated, ethnically white, and married parents, which severely limited generalizability of results.

Utilizing parent report rather than direct observation of the child was another limitation, as parent report is a perception and may not be an accurate measure of severity

of child behavior. Future studies would benefit from using direct observation rather than rely on parent report to measure changes in child behavior, or a triangulation of direct report and measures from parents and teachers. Further, the fact that some children were receiving other services and taking behavior-related medication during this study presented potential confounds. Finally, the relatively short follow-up time of one month in this study limited the examination of long-term effects. In the future, a longer follow-up interval would allow researchers to examine the long-term effects of this intervention.

Implications for Future Research

Results of the current study on treatment adherence, improving the parent-child interaction and improving parent perception of their child's behavior provide support for the positive effects of this parent curriculum in public schools. The self-described empathic and nonjudgmental nature of the CPS approach in parent training make it a potentially valuable resource for school districts. The findings suggest three possible directions for future research.

Self-efficacy.

First, examining how this program specifically impacts changes in parental attributions using a self-efficacy measure would provide more information regarding what exactly contributes to the change during this intervention. Since high self-efficacy in parents is associated with less challenging behavior in children (Sanders & Woolley, 2005), being able to tell if changes in self-efficacy occurred is important information for researchers. There are very few measures of parental self-efficacy specifically. As a response to this dearth of instruments, The Tool to Measure Parenting Self Efficacy (TOPSE) was developed in the United Kingdom and takes into account the views and

experiences of a wide range of educational, cultural and social backgrounds (Kendall & Bloomfield, 2005). This measure could provide evidence of changes in self-efficacy over the course of parent classes in the future.

Study structure and sample population.

Longitudinal studies would provide evidence of the effects of this intervention over time. Although this study had a non-randomized comparison group, having a randomized control group would improve internal validity. In addition, using a mixed method design with a qualitative component would provide a deeper description of the effects of this parent class. Generalizability of this study was limited due to the lack of diversity in education level of the parents, ethnicity and family composition. Being mindful of the location of the parent class, offering childcare and providing interpretation services for non-English speaking parents would aid in recruitment of a more diverse sample. Further, this program has yet to be translated and tested with non-English speaking populations, with the caution that this intervention may not be effective or may need additional first steps with individuals who have very strong values or beliefs about the origin of behavior in children or who believe in a definitive hierarchy between parent and child.

In addition, more research is needed regarding the effects of this class on specific childhood diagnoses, such as ADHD or Autism, as well as on neurotypical children. While most of the CPS research has focused on children with Oppositional Defiant Disorder (ODD), this study provides support for CPS being effective with a range of diagnoses and severity. However, more CPS studies with specific populations need to be conducted to confirm this observed trend.

Measuring child behavior and parent-child relationship.

Additional research examining teacher ratings of the child's behavior at school concurrent with parent ratings, specifically on the Goal Attainment Scales, would be valuable information for schools in determining if effects of the intervention do carry over to school. Another limitation of this study was reliance on parent report, which could be skewed either positively or negatively for various reasons. Future studies could explore the use of direct observation of child behavior versus parent report to eradicate this limitation. Finally, results and analysis of the items on the Parent-Child Relationship Inventory (PCRI) indicate a need for renormalization of this measure to be more inclusive of diverse family systems and to improve its use in applied settings.

Conclusion

This study examined the effects of the Think:Kids Parent Group Therapy program utilizing Collaborative Problem Solving (CPS) as a parent training model in public schools. While participant attendance, treatment adherence, and large effect sizes were strengths of this study, the small sample size, short time frame, lack of diversity in educational, ethnic and family composition of participants, and non-random comparison group were significant limitations. In future studies, careful selection of measures for both the parent-child relationship and challenging behavior in children, including emotional regulation scales or utilizing direct observation, would expand upon this study.

The Think:Kids Change Over Time (TK:COT) shows promise as an outcome measure for adherence to the CPS philosophy. Mixed results on the PCRI could indicate issues with its use in applied settings as well as a need for updating to be more inclusive and relevant. Results on the PSI-SF did indicate statistically significant improvement in

parent-child interactions for the intervention group compared to the waitlist group and in parent perception of their child's behavior for both groups, warranting further study of the Think:Kids Parent Group Therapy in public schools with larger sample sizes and a randomized control design. Finally, results of the Goal Attainment Scales were positive, indicating support for utilization in future research for progress monitoring and to measure concurrent changes at home and at school over the course of the parent class.

The Think:Kids approach offers an alternative to strict behavioral approaches and may provide benefits to all parents. Its emphasis on understanding a child's lagging skills and its use of empathy to de-escalate stressful conflicts creates a safe, blame-free environment for parents to learn skills. These skills will help parents solve ongoing problems, ultimately resulting in a reduction in parent stress and an improvement in the relationship between parent and child, which is exactly what parents are seeking.

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Appendices

Appendix A

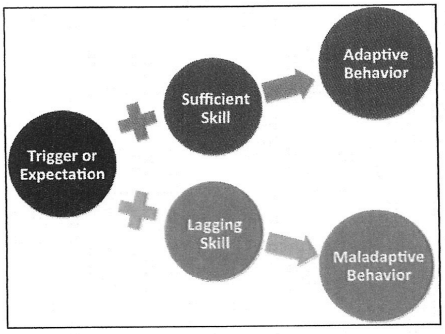
Think:Kids
RETHINKING CHALLENGING KIDS

MASSACHUSETTS GENERAL HOSPITAL

CPS Assessment and Planning Tool

Child's Name _____ Date _____

Responding to life's demands requires a lot of thinking skills. If a child doesn't have the skills to handle a trigger or meet an expectation, that is what we call a "problem to be solved." Until we solve that problem, the trigger or expectation is likely to result in some form of maladaptive or challenging behavior.
The most important task during the assessment phase is identifying the specific triggers or expectations that frequently lead to maladaptive behavior, as well as the thinking skills that would help the child to handle those demands more adaptively.



Part 1: Identifying Triggers/Expectations, Lagging Skills, and Maladaptive Behaviors

TRIGGERS/EXPECTATIONS • These are the demands that the child is having a hard time meeting. • They are the triggers, expectations, precipitants, antecedents, situations, or contexts that can lead to challenging behavior. • When making your list, describe the who, what, when and where. Be specific!	LAGGING SKILLS • Lagging skills are the reasons that a child is having difficulty meeting these expectations or responding adaptively to these triggers. • Take a guess at which specific lagging skills are contributing by looking at the list of triggers/expectations, and referring to the Thinking Skills Reference Sheet.	MALADAPTIVE BEHAVIORS • These are the observable, challenging behaviors that often bring up the greatest concerns for adults and parents. • Examples are yelling, swearing, refusing, hitting, etc. • The maladaptive behaviors are the result of a child not having the skills to handle the specific triggers or expectations.

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THINKING SKILLS REFERENCE SHEET

Language and Communication Skills

- Understands spoken directions
- Understands and follows conversations
- Expresses concerns, needs, or thoughts in words
- Is able to tell someone what's bothering him or her

Attention and Working Memory Skills

- Stays with tasks requiring sustained attention
- Does things in a logical sequence or set order
- Keeps track of time; correctly assesses how much time a task will take
- Reflects on multiple thoughts or ideas at the same time
- Maintains focus during activities
- Ignores irrelevant noises, people, or other stimuli; tunes things out when necessary
- Considers a range of solutions to a problem

Emotion- and Self-Regulation Skills

- Thinks rationally, even when frustrated
- Manages irritability in an age-appropriate way
- Manages anxiety in an age-appropriate way
- Manages disappointment in an age-appropriate way
- Thinks before responding; considers the likely outcomes or consequences of his/her actions
- Can adjust his/her arousal level to meet the demands of a situation (e.g., calming after recess or after getting upset, falling asleep/waking up, staying seated during class or meals, etc.)

Cognitive Flexibility Skills

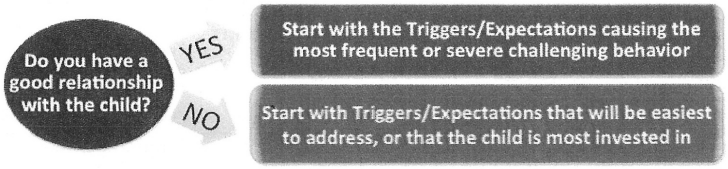
- Handles transitions, shifts easily from one task to another
- Is able to see "shades of gray" rather than thinking only in "black-and-white"
- Thinks hypothetically, is able to envision different possibilities
- Handles deviations from rules, routines, and original plans
- Handles unpredictability, ambiguity, uncertainty, and novelty
- Can shift away from an original idea, solution, or plan
- Takes into account situational factors that may mean a change in plans (Example: "If it rains, we may need to cancel.")
- Interprets information accurately/avoids over-generalizing or personalizing (Example: Avoids saying "Everyone's out to get me," "Nobody likes me," "You always blame me," "It's not fair," "I'm stupid," or "Things will never work out for me.")

Social Thinking Skills

- Pays attention to verbal and nonverbal social cues
- Accurately interprets nonverbal social cues (like facial expressions and tone of voice)
- Starts conversations with peers, enters groups of peers appropriately
- Seeks attention in appropriate ways
- Understands how his or her behavior affects other people
- Understands how he or she is coming across or being perceived by others
- Empathizes with others, appreciates others' perspectives or points of view

Part 2: Planning and Prioritizing Problems to Solve

Next, decide which Triggers/Expectations are the first to be addressed with Plan B. Mark those Triggers/Expectations with (B). If you're not sure where to start, use these guidelines:



For Triggers/Expectations that won't get Plan B right away, mark with (A) or (C) (for now).

- Choose Plan A if trying to get your expectation met is more important than reducing challenging behavior.
- Choose Plan C if reducing challenging behavior is more important than getting the expectation met for now.

REMINDER: As problems get solved using Plan B, you will choose new Triggers/Expectations from those marked A and C to be addressed next with Plan B.

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Appendix B

CHERRY CREEK SCHOOLS
PARENT ACADEMY

Think:Kids

Rethinking Challenging Behavior Using Collaborative Problem Solving

LOCATION:
Timberline Elementary
5500 S Killarney St
Aurora, 80015

DATES: **6 consecutive Thursdays**

TIME:
5:00 – 7:00 pm

COST:
$20 includes light snacks. Full Scholarships available for families who participate in the study or who receive free and reduced lunches.

FACILITATORS:
Dr. Erica Stetson, School Psychologist
Dr. Cindy Stevens Schippert, School Psychologist

A new parenting approach to prevent and solve behavior challenges

Who should take this class? Parents of children ages 3-10:

- Do you wonder how to manage challenging behavior in the best way possible?
- Does your child struggle with frustration or stress?
- Do you want to understand your child better, and build a more lasting, positive, trusting relationship with your child?

If so, then this class is for you!

WHAT PARENTS ARE SAYING ABOUT THIS CLASS:

"We couldn't be more grateful for this chance and we hope you guys reach out to more parents and families in our community."
"We believe this should be a parenting 101 before leaving the hospital with your newborn."
"A must-have for moms and dads."
"I wish my parents had CPS when my sister and I were growing up!"
"I was really fed up when I started this class and now I feel on top of the world. We had no tantrums yesterday!"
"It helped me so much in my perspective of my kids and all relationships, and it helped me to be able to be the mom I want to be!"

This class involves an opportunity to participate in a study approved by the IRB at University of Denver and the Cherry Creek Schools Office of Assessment and Evaluation. Participants in the study will be exempt from the class fee and will be entered into a lottery for $50 cash. Please contact Tyra Chambers at 720-886-8933 or tchambers4@cherrycreekschools.org for more information.

Dedicated to Excellence
Cherry Creek Schools

Appendix C

Intake Questions

(1) Is English your primary language?

(2) Are you able to read English?

(3) Do you have at least one child with challenging behavior, defined as any behavior that interferes with a child's learning or development, is potentially harmful to themselves or others, and/or puts him/her at social and/or academic risk?

(4) How old is the child?

(5) How long has the challenging behavior been occurring?

(6) Does your child have a diagnosis?

(7) Is your child taking any medication?

(8) Does your child have an Individualized Education Plan (IEP) or 504 Plan at school?

(9) If the child has an IEP or 504 Plan, what is his/her educational label?

(10) Are you participating in outside therapy for your child's behavior at this time?

(11) Are your child's cognitive abilities at or above a 3-year-old level?

(12) Are your child's language abilities at or above a 3-year-old level?

(13) Do you communicate verbally with your child?

Appendix D

University of Denver Social, Behavioral, and Educational Research Informed Consent Form

DU IRB Approval Date: Valid for Use Through:

Project Title: Effectiveness of Collaborative Problem Solving Training for Parents of Children with Challenging Behavior in a Public School Setting
Principal Investigator: Tyra Chambers, EdS
Faculty Sponsor: Karen Riley, PhD
DU IRB Protocol #:

You are being asked to be in a research study. This form provides you with information about the study. A member of the research team will describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

Invitation to participate in a research study
You are invited to participate in a research study about the effectiveness of a 6-week parenting curriculum on the Collaborative Problem Solving (CPS) approach in a public school setting. The curriculum focuses on helping parents of children with challenging behavior understand the underlying skill deficits contributing to their child's behavior, identify pathways leading to the behavior and make environmental changes to prevent problem behavior. It also helps parents understand three basic parenting strategies (Plans A, B and C), focus on and use "Plan B", and recognize their own pathway challenges that can interfere with effective parenting.

You are being asked to be in this research study because it is vitally important for public schools to continue to identify new research-based interventions for children with challenging behavior and their families.

Description of subject involvement

If you agree to be part of the research study, you will be randomly assigned to an intervention group or a waitlist group. After completion of the study, one participant from each of the two groups that completes all study-related paperwork, and for the intervention group attends 5/6 class sessions, will be entered into a lottery for $100 cash.

The intervention group will be asked to attend a 6-week parent class that meets for 2 hours per session. You will be asked to complete a comprehensive set of surveys at the first session, last session and one month after the final session.

The surveys to be completed at these time points include: the Parent-Child Relationship Inventory (PCRI), Parent Stress Index (PSI), Eyberg Behavior Inventory (ECBI), Think:Kids Parent Group Therapy Questionnaire, Goal Attainment Scale (GAS), and Think:Kids Change Over Time (TK:COT). These surveys will take approximately 35-40 minutes to complete at each time point. Class time will be provided at the beginning of the first class and end of the last class for survey completion. In addition, the TK:COT and GAS will be administered weekly, which will take 5-10 min at the start of each class session. At the last session, the last session evaluation will also be completed, which takes an additional 5-10 minutes to complete. In addition, four participants will be randomly selected to participate in a phone interview within a month after the last class. This interview is expected to take 15-25 minutes.

The waitlist group will not initially attend the class, but will complete the same surveys at the same time points as the intervention group, except for the Last Session Evaluation. The waitlist group will be provided the 12-hour parent class intervention within 2 months of the end of the study, and participants will not have to complete paperwork during their class.

Possible risks and discomforts

The researchers have taken steps to minimize the risks of this study by making data collection completely anonymous. Even so, you may still experience some risks related to your participation, even when the researchers are careful to avoid them. These risks may include the following: some of the questions may make you feel uncomfortable; therefore, you have the right to skip questions or discontinue participation at any time.

Possible benefits of the study

This study is designed for the researcher to learn more about the effectiveness of a CPS parent training curriculum in a public school setting.

You may benefit from being in this study because previous research in other settings has shown Collaborative Problem Solving (CPS) to be an effective parent training program for reducing parent stress and improving child problem behavior. In addition, information gathered in this study may provide insight into the use of the CPS parent curriculum as a group parent intervention by public schools.

Study compensation

- Your class fee of $20 will be waived for being in the study.
- Participants in each of the two groups who complete all study-related paperwork, and for the intervention group attend 5/6 classes, will be entered into a lottery for $100 cash.

Study cost

- You will be expected to pay for your own transportation to the class and childcare.

Confidentiality, Storage and future use of data

To keep your information safe, the researchers will take steps to make data collection is anonymous. Your name will not be attached to any data, but a study number will be used instead. Demographic information collected to be used on a descriptive basis includes parent and child date of birth, gender, and race; parent marital status, and parent educational level.

The data from the surveys you provide will be stored in a locked filing cabinet. The researchers will retain the data for one year following the study.

The data will not be made available to other researchers for other studies following the completion of this research study and will not contain information that could identify you.

The audio recordings from the phone interviews of 4 randomly selected participants in the intervention group will be transcribed by a transcription service and the original audiotapes will be destroyed once transcribed.

The results from the research may be shared at a meeting. The results from the research may be in published articles. Your individual identity will be kept private when information is presented or published.

Who will see my research information?

Although we will do everything we can to keep your records a secret, confidentiality cannot be guaranteed.

Both the records that identify you and the consent form signed by you may be looked at by others:

- Federal agencies that monitor human subject research
- Human Subject Research Committee

All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Also, if you tell us something that makes us believe that you or others have been or may be physically harmed, we may report that information to the appropriate agencies.

Some things we cannot keep private. If you give us any information about child abuse or neglect, we have to report that to the Arapahoe County Department of

Human Services. Also, if we get a court order to turn over your study records, we will have to do that.

Voluntary Nature of the Study

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. If you decide to withdraw early, the information or data you provided will be destroyed.

Contact Information

The researcher carrying out this study is Tyra Chambers. You may ask any questions you have now. If you have questions later, you may call Tyra at 720-886-8933.

If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about; (1) questions, concerns or complaints regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, you may contact the Chair of the Institutional Review Board for the Protection of Human Subjects, at 303-871-4015 or by emailing IRBChair@du.edu, or you may contact the Office for Research Compliance by emailing IRBAdmin@du.edu, calling 303-871-4050 or in writing (University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121).

Agreement to be in this study

I have read this paper about the study or it was read to me. I understand the possible risks and benefits of this study. I know that being in this study is voluntary. I choose to be in this study: I will get a copy of this consent form.

☐ Please initial here and provide a valid email (or postal) address if you would like a summary of the results of this study to be mailed to you.

_____

Please **initial** the appropriate box:

I agree to be audiotaped for research purposes.

☐ DO NOT agree to be audiotaped for research purposes.

Signature:_____ Date:_____

Print Name:_____

Appendix E

Parent-Child Relationship Inventory (PCRI)

The statements below describe different ways some parents feel about their children. For each statement, decide how you feel. If you *strongly agree*, select the 1 next to that statement number. If you *agree*, select the 2. If you *disagree*, select the 3. If you *strongly disagree*, select the 4. Please make sure that you are selecting the correct response. If you want to change you answer, just select another response.

Try to respond to all of the statements. If you aren't sure how you feel, mark the response that comes closest to your feelings at this time. *There are no right or wrong answers*.

Q1 Parent Code:

Q2 Date:

Q3 Age:

Q4 Parent / Carer (Kinship Carer, Foster Carer or Step Parent):

❑ Mother ❑ Father ❑ Carer

Q5 Child's Age:

Q6 Child's Gender:

❑ Male ❑ Female

Q7 Name of Facilitator: _____

Q8 Please rate the following statements:

		Strongly Agree	Agree	Disagree	Strongly Disagree
Q8.1	My child generally tells me when something is bothering him or her	❑	❑	❑	❑
Q8.2	I have trouble disciplining my child	❑	❑	❑	❑
Q8.3	I get as much satisfaction from having children as other parents do	❑	❑	❑	❑
Q8.4	I have a hard time getting through to my child	❑	❑	❑	❑
Q8.5	I spend a great deal of time with my child	❑	❑	❑	❑
Q8.6	When it comes to raising my child, I feel alone most of the time	❑	❑	❑	❑
Q8.7	My feelings about being a parent change from day to day	❑	❑	❑	❑
Q8.8	Parents should protect their children from things that might make them unhappy	❑	❑	❑	❑
Q8.9	If I have to say no to my child, I try to explain why	❑	❑	❑	❑
Q8.10	My child is more difficult to care for than most children are	❑	❑	❑	❑
Q8.11	I can tell by my child's face how he or she is feeling	❑	❑	❑	❑
Q8.12	I worry a lot about money	❑	❑	❑	❑

Q8.13	I sometimes wonder if I am making the right decisions about how I raise my child	❑	❑	❑	❑
Q8.14	Being a parent comes naturally to me	❑	❑	❑	❑
Q8.15	I sometimes give in to my child to avoid a tantrum	❑	❑	❑	❑
Q8.16	I love my child just the way he or she is	❑	❑	❑	❑
Q8.17	I get a great deal of enjoyment from all aspects of my life	❑	❑	❑	❑
Q8.18	My child is never jealous of others	❑	❑	❑	❑
Q8.19	I often wonder what the rewards are in raising children	❑	❑	❑	❑
Q8.20	My child tells me all about his or her friends	❑	❑	❑	❑
Q8.21	I wish I could set firmer limits with my child	❑	❑	❑	❑
Q8.22	I get a great deal of satisfaction from having children	❑	❑	❑	❑
Q8.23	I sometimes feel if I don't have more time away from my child I'll go crazy	❑	❑	❑	❑
Q8.24	I regret having children	❑	❑	❑	❑
Q8.25	Children should be given most of the things they want	❑	❑	❑	❑
Q8.26	My child is out of control much of the time	❑	❑	❑	❑
Q8.27	Being a parent isn't as satisfying as I thought it would be	❑	❑	❑	❑
Q8.28	I feel that I can talk to my child on his or her level	❑	❑	❑	❑
Q8.29	My life is very stressful right now	❑	❑	❑	❑
Q8.30	I never worry about my child	❑	❑	❑	❑
Q8.31	I wish my child would not interrupt when I'm talking to someone else	❑	❑	❑	❑
Q8.32	Parents should give their children all those things the parents never had	❑	❑	❑	❑

Q8.33	I generally feel good about myself as a parent	❑	❑	❑	❑
Q8.34	I sometimes feel overburdened by my responsibilities as a parent	❑	❑	❑	❑
Q8.35	I feel very close to my child	❑	❑	❑	❑

Q8.36	I'm generally satisfied with the way my life is going right now	❑	❑	❑	❑
Q8.37	I have never had any problems with my child	❑	❑	❑	❑
Q8.38	I can't stand the thought of my child growing up	❑	❑	❑	❑
Q8.39	My child would say that I am a good listener	❑	❑	❑	❑
Q8.40	I often lose my temper with my child	❑	❑	❑	❑
Q8.41	I am very involved with my child's sports or other activities	❑	❑	❑	❑
Q8.42	My spouse and I work as a team in doing chores around the house	❑	❑	❑	❑
Q8.43	I have never been embarrassed by anything my child has said or done	❑	❑	❑	❑
Q8.44	My child really knows how to make me angry	❑	❑	❑	❑
Q8.45	Parents should be careful about whom they allow their children to have as friends	❑	❑	❑	❑
Q8.46	When my child has a problem, he or she usually comes to me to talk things over	❑	❑	❑	❑
Q8.47	My child never puts off doing things that should be done right away	❑	❑	❑	❑
Q8.48	Being a parent is one of the most important things in my life	❑	❑	❑	❑
Q8.49	Women should stay home and take care of the children	❑	❑	❑	❑
Q8.50	Teenagers are not old enough to decide most things for themselves	❑	❑	❑	❑
Q8.51	My child keeps many secrets from me	❑	❑	❑	❑
Q8.52	Mothers who work are harming their children	❑	❑	❑	❑
Q8.53	I feel I don't really know my child	❑	❑	❑	❑
Q8.54	I sometimes find it hard to say no to my child	❑	❑	❑	❑
Q8.55	I wonder if I did the right thing having children	❑	❑	❑	❑

Q8.56	I would really rather do a lot of other things than spend time with my child	❑	❑	❑	❑
Q8.57	It's a parent's responsibility to protect his or her child from harm	❑	❑	❑	❑
Q8.58	Sometimes I wonder how I would survive if anything were to happen to my child	❑	❑	❑	❑
Q8.59	I miss the close relationship I had with my child when he or she was younger	❑	❑	❑	❑
Q8.60	My child rarely talks to me unless he or she wants something	❑	❑	❑	❑
Q8.61	A father's major responsibility is to provide financially for his children	❑	❑	❑	❑
Q8.62	It's better to reason with children than just to tell them what to do	❑	❑	❑	❑
Q8.63	I spend very little time talking with my child	❑	❑	❑	❑
Q8.64	I feel there is a great distance between me and my child	❑	❑	❑	❑
Q8.65	For a woman, having a challenging career is just as important as being a good mother	❑	❑	❑	❑

Q8.66	I often threaten to punish my child but never do	❑	❑	❑	❑
Q8.67	If I had to do it over, I would probably not have children	❑	❑	❑	❑
Q8.68	Husbands should help with child care	❑	❑	❑	❑
Q8.69	Mothers should work only if necessary	❑	❑	❑	❑
Q8.70	Some people would say that my child is a bit spoiled	❑	❑	❑	❑
Q8.71	I worry a lot about my child getting hurt	❑	❑	❑	❑
Q8.72	I seldom have time to spend with my child	❑	❑	❑	❑
Q8.73	Below age four, most children are too young to be in a regular preschool or day-care programme	❑	❑	❑	❑
Q8.74	A woman can have a satisfying career and be a good mother too	❑	❑	❑	❑
Q8.75	I carry a photograph of my child in my wallet or purse	❑	❑	❑	❑

Q8.76	I have a hard time letting go of my child	❑	❑	❑	❑
Q8.77	I feel I don't know how to talk with my child in a way that he or she really understands	❑	❑	❑	❑
Q8.78	Having a full-time mother is best for a child	❑	❑	❑	❑

Appendix F

Record/Profile Form

Richard R. Abidin, EdD

Instructions:

On the inside of this form, write your name, gender, date of birth, ethnic group, and marital status; today's date; and your child's name, gender, and date of birth. This questionnaire contains 36 statements.

Read each statement carefully. For each statement, please focus on the child you are most concerned about and circle the response that best represents your opinion. **Answer all questions about the same child.**

Circle SA if you strongly agree with the statement.
Circle A if you agree with the statement.
Circle NS if you are not sure.
Circle D if you disagree with the statement.
Circle SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies. SA (A) NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. **Your first reaction to each question should be your answer.**

Circle only one response for each statement, and respond to all statements. **Do not erase!** If you need to change an answer, mark an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies. SA A NS (X) (SD)

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PSI-4 SHORT FORM

Answer Sheet

Name _____ Gender _____ Date of birth ___/___/___

Ethnic group _____ Marital status _____ Today's date ___/___/___

Child's name _____ Child's gender _____ Child's date of birth ___/___/___

SA = Strongly Agree **A = Agree** **NS = Not Sure** **D = Disagree** **SD = Strongly Disagree**

1. I often have the feeling that I cannot handle things very well.	SA	A	NS	D	SD
2. I find myself giving up more of my life to meet my children's needs than I ever expected.	SA	A	NS	D	SD
3. I feel trapped by my responsibilities as a parent.	SA	A	NS	D	SD
4. Since having this child, I have been unable to do new and different things.	SA	A	NS	D	SD
5. Since having a child, I feel that I am almost never able to do things that I like to do.	SA	A	NS	D	SD
6. I am unhappy with the last purchase of clothing I made for myself.	SA	A	NS	D	SD
7. There are quite a few things that bother me about my life.	SA	A	NS	D	SD
8. Having a child has caused more problems than I expected in my relationship with my spouse/parenting partner.	SA	A	NS	D	SD
9. I feel alone and without friends.	SA	A	NS	D	SD
10. When I go to a party, I usually expect not to enjoy myself.	SA	A	NS	D	SD
11. I am not as interested in people as I used to be.	SA	A	NS	D	SD
12. I don't enjoy things as I used to.	SA	A	NS	D	SD
13. My child rarely does things for me that make me feel good.	SA	A	NS	D	SD
14. When I do things for my child, I get the feeling that my efforts are not appreciated very much.	SA	A	NS	D	SD
15. My child smiles at me much less than I expected.	SA	A	NS	D	SD
16. Sometimes I feel my child doesn't like me and doesn't want to be close to me.	SA	A	NS	D	SD
17. My child is very emotional and gets upset easily.	SA	A	NS	D	SD
18. My child doesn't seem to learn as quickly as most children.	SA	A	NS	D	SD
19. My child doesn't seem to smile as much as most children.	SA	A	NS	D	SD
20. My child is not able to do as much as I expected.	SA	A	NS	D	SD
21. It takes a long time and it is very hard for my child to get used to new things.	SA	A	NS	D	SD
22. I feel that I am: (Choose a response from the choices below.)	1	2	3	4	5

1. a very good parent.
2. a better-than-average parent.
3. an average parent.
4. a person who has some trouble being a parent.
5. not very good at being a parent.

23. I expected to have closer and warmer feelings for my child than I do, and this bothers me.	SA	A	NS	D	SD
24. Sometimes my child does things that bother me just to be mean.	SA	A	NS	D	SD

SA = Strongly Agree **A = Agree** **NS = Not Sure** **D = Disagree** **SD = Strongly Disagree**

25.	My child seems to cry or fuss more often than most children.	SA	A	NS	D	SD
26.	My child generally wakes up in a bad mood.	SA	A	NS	D	SD
27.	I feel that my child is very moody and easily upset.	SA	A	NS	D	SD
28.	Compared to the average child, my child has a great deal of difficulty in getting used to changes in schedules or changes around the house.	SA	A	NS	D	SD
29.	My child reacts very strongly when something happens that my child doesn't like.	SA	A	NS	D	SD
30.	When playing, my child doesn't often giggle or laugh.	SA	A	NS	D	SD
31.	My child's sleeping or eating schedule was much harder to establish than I expected.	SA	A	NS	D	SD
32.	I have found that getting my child to do something or stop doing something is: (Choose a response from the choices below.)	1	2	3	4	5

1. much harder than I expected.
2. somewhat harder than I expected.
3. about as hard as I expected.
4. somewhat easier than I expected.
5. much easier than I expected.

33.	Think carefully and count the number of things which your child does that bothers you. For example, dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. (Choose a response from the choices below.)	1	2	3	4	5

1. 1-3
2. 4-5
3. 6-7
4. 8-9
5. 10+

34.	There are some things my child does that really bother me a lot.	SA	A	NS	D	SD
35.	My child's behavior is more of a problem than I expected.	SA	A	NS	D	SD
36.	My child makes more demands on me than most children.	SA	A	NS	D	SD

Appendix G

ECBI™ Eyberg Child Behavior Inventory™

Parent Rating Form by Sheila Eyberg, PhD

Your Name _____ Relationship to Child _____ Today's Date ___/___/___

Child's Name _____ Child's Gender _____ Child's Date of Birth ___/___/___

Directions: Below are a series of phrases that describe children's behavior. Please (1) circle the number describing **how often** the behavior **currently** occurs with your child, and (2) circle either "yes" **or** "no" to indicate whether the behavior is **currently a problem for you**.

For example, if seldom, you would circle the 2 in response to the following statement:

	Never	Seldom	Sometimes	Often		Always	Is this a problem for you?	
1. Refuses to eat vegetables	1	(2)	3	4	5	6	7	YES	(NO)

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

1. Refuses to eat vegetables	1	(2)	(X)	4	5	6	7	YES	(NO)

	How often does this occur with your child?							Is this a problem for you?	
	Never	Seldom	Sometimes	Often		Always			
1. Dawdles in getting dressed	1	2	3	4	5	6	7	YES	NO
2. Dawdles or lingers at mealtime	1	2	3	4	5	6	7	YES	NO
3. Has poor table manners	1	2	3	4	5	6	7	YES	NO
4. Refuses to eat food presented	1	2	3	4	5	6	7	YES	NO
5. Refuses to do chores when asked	1	2	3	4	5	6	7	YES	NO
6. Slow in getting ready for bed	1	2	3	4	5	6	7	YES	NO
7. Refuses to go to bed on time	1	2	3	4	5	6	7	YES	NO
8. Does not obey house rules on own	1	2	3	4	5	6	7	YES	NO
9. Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	YES	NO
10. Acts defiant when told to do something	1	2	3	4	5	6	7	YES	NO
11. Argues with parents about rules	1	2	3	4	5	6	7	YES	NO
12. Gets angry when doesn't get own way	1	2	3	4	5	6	7	YES	NO
13. Has temper tantrums	1	2	3	4	5	6	7	YES	NO
14. Sasses adults	1	2	3	4	5	6	7	YES	NO
15. Whines	1	2	3	4	5	6	7	YES	NO
							Page 1 subtotals		

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	How often does this occur with your child?							Is this a problem for you?	
	Never	Seldom	Sometimes	Often	Always				
16. Cries easily	1	2	3	4	5	6	7	YES	NO
17. Yells or screams	1	2	3	4	5	6	7	YES	NO
18. Hits parents	1	2	3	4	5	6	7	YES	NO
19. Destroys toys and other objects	1	2	3	4	5	6	7	YES	NO
20. Is careless with toys and other objects	1	2	3	4	5	6	7	YES	NO
21. Steals	1	2	3	4	5	6	7	YES	NO
22. Lies	1	2	3	4	5	6	7	YES	NO
23. Teases or provokes other children	1	2	3	4	5	6	7	YES	NO
24. Verbally fights with friends own age	1	2	3	4	5	6	7	YES	NO
25. Verbally fights with sisters and brothers	1	2	3	4	5	6	7	YES	NO
26. Physically fights with friends own age	1	2	3	4	5	6	7	YES	NO
27. Physically fights with sisters and brothers	1	2	3	4	5	6	7	YES	NO
28. Constantly seeks attention	1	2	3	4	5	6	7	YES	NO
29. Interrupts	1	2	3	4	5	6	7	YES	NO
30. Is easily distracted	1	2	3	4	5	6	7	YES	NO
31. Has short attention span	1	2	3	4	5	6	7	YES	NO
32. Fails to finish tasks or projects	1	2	3	4	5	6	7	YES	NO
33. Has difficulty entertaining self alone	1	2	3	4	5	6	7	YES	NO
34. Has difficulty concentrating on one thing	1	2	3	4	5	6	7	YES	NO
35. Is overactive or restless	1	2	3	4	5	6	7	YES	NO
36. Wets the bed	1	2	3	4	5	6	7	YES	NO
						Page 2 subtotals			
						Subtotals from page 1			

Scores	Raw score	*T* score	Exceeds Cutoff (✔)
Intensity			
Problem			

Comments:

Appendix H

TK-COT (Weeks 1-5)

Parent's Name:_____ Date: _____

Please honestly reflect on the degree to which each of the following statements **CURRENTLY** applies to you and your relationship with your child. Focus on how you have been feeling **IN THE PAST WEEK.**

Strongly Agree 1	Agree 2	Agree a Little 3	Neutral/ Not Sure 4	Disagree a Little 5	Disagree 6	Strongly Disagree 7

1. My child and I frequently struggle with each other.	1	2	3	4	5	6	7
2. My child chooses to act out in order to get out of doing things he/she doesn't like.	1	2	3	4	5	6	7
3. My child's behavior toward me is unpredictable.	1	2	3	4	5	6	7
4. Dealing with my child drains my energy.	1	2	3	4	5	6	7
5. The struggles I have with my child are very intense.	1	2	3	4	5	6	7
6. I cannot predict my child's meltdowns or tantrums.	1	2	3	4	5	6	7
7. My child intentionally pushes my buttons or manipulates me.	1	2	3	4	5	6	7
8. I am at my maximum stress level when I am with my child.	1	2	3	4	5	6	7
9. I don't understand why my child explodes or implodes.	1	2	3	4	5	6	7
10. I enjoy myself when I am with my child.	1	2	3	4	5	6	7
11. My child could behave better if he/she just worked harder at it.	1	2	3	4	5	6	7
12. My relationship with my child is likely to be positive in the long term.	1	2	3	4	5	6	7
13. My child knows I value his/her concerns and perspective.	1	2	3	4	5	6	7
14. When we disagree, my child and I are able to work things out in a way that feels ok to both of us.	1	2	3	4	5	6	7
15 My child behaves in negative ways in order to get attention.	1	2	3	4	5	6	7

Did you complete the homework from last week? (Please circle) YES NO

TK-COT (Weeks 6+)

Parent's Name:_____ Date: _____

Please honestly reflect on the degree to which each of the following statements **CURRENTLY** applies to you and your relationship with your child. Focus on how you have been feeling **IN THE PAST WEEK**.

Strongly Agree	Agree	Agree a Little	Neutral/ Not Sure	Disagree a Little	Disagree	Strongly Disagree
1	2	3	4	5	6	7

1. My child and I frequently struggle with each other.	1	2	3	4	5	6	7
2. My child chooses to act out in order to get out of doing things he/she doesn't like.	1	2	3	4	5	6	7
3. My child's behavior toward me is unpredictable.	1	2	3	4	5	6	7
4. Dealing with my child drains my energy.	1	2	3	4	5	6	7
5. The struggles I have with my child are very intense.	1	2	3	4	5	6	7
6. I cannot predict my child's meltdowns or tantrums.	1	2	3	4	5	6	7
7. My child intentionally pushes my buttons or manipulates me.	1	2	3	4	5	6	7
8. I am at my maximum stress level when I am with my child.	1	2	3	4	5	6	7
9. I don't understand why my child explodes or implodes.	1	2	3	4	5	6	7
10. I enjoy myself when I am with my child.	1	2	3	4	5	6	7
11. My child could behave better if he/she just worked harder at it.	1	2	3	4	5	6	7
12. My relationship with my child is likely to be positive in the long term.	1	2	3	4	5	6	7
13. My child knows I value his/her concerns and perspective.	1	2	3	4	5	6	7
14. When we disagree, my child and I are able to work things out in a way that feels ok to both of us.	1	2	3	4	5	6	7
15 My child behaves in negative ways in order to get attention.	1	2	3	4	5	6	7

How true are the following statements for you **CURRENTLY**:

16. I sometimes notice that I'm using Plan A when I should be using Plan B.	1	2	3	4	5	6	7
17. I use less Plan A than I used to.	1	2	3	4	5	6	7
18. I use more Plan C than I used to.	1	2	3	4	5	6	7
19. I get stuck when I try using Plan B.	1	2	3	4	5	6	7
20. I use more Proactive Plan B than I used to.	1	2	3	4	5	6	7
21. I am better at using Plan B in emergencies than I used to be.	1	2	3	4	5	6	7

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Did you complete the homework from last week? (Please circle) YES NO

Appendix I

MASSACHUSETTS GENERAL HOSPITAL

Think:Kids
RETHINKING CHALLENGING KIDS

Parent Group Therapy Questionnaire

Parent Name: _____ **Date:** _____

Please indicate the number of meltdowns your child is having:

0-1/day Most days		*3/day Most days*		*5 or more/day Most days*
1	2	3	4	5

Please rate the following by circling the number that best represents how you feel as you complete the parent group

I have a good relationship with my child	*Strongly Agree* 1 2 3 4 5 6 7 8 9 10 *Strongly Disagree*
I am hopeful that things will continue to improve	*Strongly Agree* 1 2 3 4 5 6 7 8 9 10 *Strongly Disagree*

Appendix J

Goal Attainment Scale Template

Date: _____

Target Behavior(s):

_____
_____
_____
_____

Goal Attainment Scale with Descriptive Criteria for Monitoring Academic or Social Behavior Change:

+2 _____
_____
_____

+1 _____
_____
_____

0 _____
_____
_____

-1 _____
_____
_____

-2 _____
_____
_____

Graph of Academic or Social Behavior Progress

GAS Ratings							
+2							
+1							
0							
-1							
-2							
Week	1	2	3	4	5	6	Follow-Up
Date							