Parent Training for Families of Children with Comorbid ADHD and ODD

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Abstract

Paper presents the details of a parent training program for families of children with comorbid ADHD/ODD. The goal of the training is to develop specific parenting skills that promote pro-social compliance and decrease disruptive child behavior. There are two parts to the parent training program. First, a theoretical framework of interactions between parents and their hyperactive children is presented. Second, a task analysis of the skills learned by parents is presented in the form of The Behavior Management Flow Chart. This flow chart synthesizes the research on child management into a visual unit that allows a clear portrayal of child behavior management steps.
Keywords: parent training, hyperactivity, defiance, Behavior Management Flow Chart

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Children with Attention-deficit Hyperactivity Disorder (ADHD) demonstrate developmentally inappropriate degrees of overactivity, impulsiveness, and inattention (American Psychiatric Association, 1987). Approximately 55% of children with ADHD also have behavior characteristic of Oppositional Defiant Disorder (ODD; Barkley, 2006). This is important because children with co-occurring ADHD/ODD behavior have a distinctive pattern of dysfunction dissimilar to ADHD alone and ODD alone children. The etiology of familial transmission is different with an overall outcome that is generally worse than seen in children with just ADHD or ODD alone (Barkley; Hinshaw, 1994; Lynam, 1996). For such children, there is a trend toward combined psychostimulant/behavior therapy treatments. Nonetheless, the controversy surrounding the overuse of psychostimulant medication (LeFever, Arcona, & Antonuccio, 2003), as well as the potential for negative side effects to medication, the failure of research to demonstrate enduring change after the cessation of medication, and the fact that 20-30% of children with ADHD do not have a positive response to stimulant medication (Connor, 2006) demonstrates the need for improved parent training programs. The effects of a typical regimen of stimulant medication wear off by evening (Garland, 1998), so even parents whose children are on an effective dose of medication may benefit from parent training. However, it has not been demonstrated that parent training programs for families of children with ADHD and ODD are a sufficient to modify parent and child behavior (see Graziano & Diament, 1992, Pelham & Hinshaw, 1992, for reviews).

Previous Outcome Research

In response to limited improvements in such child noncompliance, Danforth **(**1998a**)** designed a child behavior management system called the Behavior Management Flow Chart (BMFC). The primary target behavior of the BMFC is noncompliance along with aggression and disruption. The effects of parent training, using parameters established in the Behavior Management Flow Chart, on parent behavior and on the disruptive behavior of children, were evaluated in four outcome studies (Danforth, 1998b; 1999; 2001; Danforth, Harvey, Ulaszek, & McKee, in press). Children's' ages ranged from 4- 12 and each child met the DSM IV criteria for ODD and ADHD (American Psychiatric Association, 1987). Each child also met diagnostic research criteria for ADHD (Barkley, 1988) with average intelligence scores. *T*-scores on standardized rating scales assessing ADHD and oppositional defiant/aggressive behavior were typically more than two standard deviations above the mean. Almost every baseline direct observation session revealed clinically significant noncompliance, below 60% (Forehand, 1977). Thus, child problem behavior measured at pre-screening and baseline was strong. Outcome measures included standardized child behavior and parent self-report rating scales, home telephone interviews, direct observations of mother/child interaction, and home-based audio recordings. Parent training sessions were conducted with individual families or in a group format with ten families per group. Overall results reveal that parent training improved parent behavior management skills and parent relationship behavior and reduced parent

stress. There were also decreases in the pervasiveness and severity of child oppositional child behavior, aggression, disruption, and in some cases hyperactivity.

Analysis of clinical significance data suggested that parent training brought child and parent behavior within the nonclinical range of functioning. The results from the direct observation are comparable to other parent training research that used ADHD/ODD children with direct observation documenting parenting and child behavior (Pisterman et al. 1989; 1992). Data suggest that parent behavior changed forthwith, but significant improvement in child behavior did not emerge until 5-8 weeks after parent training was initiated. Clinical significance data for the children suggest demanding behavior even after parent training. Sometimes ADHD behavior was prevalent during the course of treatment. This may reflect ongoing hyperactivity ever-present across household, school, and community settings. The intervention did not target ADHD behavior. The etiology of ADHD has a considerable biological component and research has illustrated the persistence of ADHD characteristics over time (Barkley, 2006), so we expected that some children might still emit ADHD behavior at the conclusion of treatment. Sometimes oppositional behavior continued to present across a significant number of settings, but the intensity of such behavior was diminished. Some *t*-scores from standardized rating scales assessing disruptive behavior remained above 60 as did scores assessing child-based stress. Physical aggression was almost always decreased, but was not always eliminated. The impact of the parent training with the BMFC was evaluated in isolation of any other form of treatment, but in applied practice parent training is typically just one component of a treatment package tailored to individual families that might include other interventions such as academic remediation and social skills training.

Purpose

This paper presents the program details of parent training therapy for families of children with comorbid ADHD/ODD. Table 1 presents the topics and schedule for eight parent training sessions. Group parent training takes ten sessions and therapists can adjust the schedule at their discretion. The goal is to develop specific parenting skills that alter the interaction with a child, thus promoting pro-social compliance and decreasing disruptive child behavior. Parents will adapt to and cope with ADHD behavior while modifying defiance and aggressive disruptive behavior.

Table 1

Proposed schedule for training adults to use the BMFC.

Hour Number	BMFC Step	Training Topic	Homework/ Application
1	na	Didactic instruction on social learning principles, ADHD, ODD, and coercion.	Read handout. on social learning principles, ODD, ADHD, and coercion.
2	1	Commands.	Read. Implement Step 1.
3	2-6	Wait 5 seconds after command. Praise. Reprimands.	Read. Implement Steps 1-6.
4	7-26	Warning for timeout. Timeout. Backup for timeout refusal.	Read. Select timeout location. Option to select 2 target behaviors, in

			addition to noncompliance, for timeout. Create a menu of backup consequences for timeout refusal. Implement only Steps 1-6, not 1-26.
5	7-26	Same as Hour 4. Also, review timeout location, target behaviors, and backup consequences.	Read. Preview program with child. Implement Steps 1-26 in home setting using flow chart as a guide.
6	1-26	Review specific difficulties and rehearse all BMFC Steps.	Read, implement Steps 1-26 using flow chart as a guide Implement BMFC Steps in community using wallet-sized copies of BMFC as a guide.
7	same	Review specific difficulties and rehearse all BMFC Steps.	same.
8	same	Didactic Instruction on social learning principles, ODD, ADHD, and coercion. Review specific difficulties and rehearse all BMFC Steps.	same

Note: BMFC Steps correspond to the steps in Figure 1. We present supplemental written materials to the parents to read during and after training sessions[1]. These materials provide a detailed outline for two parts of parent training. Part 1 is a didactic presentation on ADHD and family interactions. Part 2 is a step-wise behavior management skills training program with the BMFC.

Part I. Interactions Between Adults and Defiant Hyperactive Children

During the first parent training session, a theoretical framework based upon an analysis of interactions between parents and their hyperactive children (Danforth, Barkley, & Stokes, 1991) is presented. Present this training before teaching the behavior management skills. Describe the behaviors associated with ADHD, give a very brief review of etiology, discuss relevant technical terms, and analyze why many children with ADHD also develop ODD. Parents will understand how the relationship between the characteristics of ADHD and ODD logically leads to the intervention steps presented in the BMFC. When teaching parenting skills in subsequent sessions, constantly refer back to this didactic material.
ADHD.

First, present characteristics of ADHD. For each characteristic, present examples from the therapists own experiences. The conceptual basis for understanding the nature of ADHD was Barkley's 1997 analysis (see also Barkley, 1994). ADHD children have delays or disabilities in three areas: impulse control, overactivity, and attention. The DSM (American Psychiatric Association, 1987) presents descriptions of such characteristics and what parents can expect. The distinctive feature of ADHD is impulsiveness, or a lack of behavioral inhibition. This may be conceptualized in a number of ways. There may be an inability to delay a response (e.g., there may be a short latency between antecedent events and

behavior) or sustain an inhibited response. Executive functions (e.g., rules) may have little control over behavior. For example, children may act as if they are not thinking about the consequences of their behavior. In addition, children with ADHD are excessively influenced by immediate rewards and escape opportunities. Overactive motor behavior seems linked in nature to the impulsive behavior and poor inhibition. Compared with other same-age children, children with hyperactive behavior have far higher rates of motor behavior, including vocal behavior (see Barkley, 2006, for a review). Motor behavior includes ankle movement, wrist activity, arm and leg movements, movement of the buttocks and lower torso (i.e., squirming), and locomotion. Vocal behavior includes humming, unusual noises, speech that often is unrelated to current tasks, with strong volume. The high rate behavior is resistant to extinction, and maintains in the context of aversive social consequences that usually have a punishing effect on the behavior of children. The behavior continues when children are alone, in the absence of external positive reinforcement or escape/avoidance conditions, and even during sleep. Hyperactive behavior is described as "generally unnecessary" and "often irrelevant to the task or situation… at times purposeless" (Barkley, p. 82). Hyperactive behavior does not result in observable consequences that alter the strength of the behavior. Because parents often attribute such behavior to the child's efforts to annoy them (e.g., "he runs around crazy like that just to bother me"), emphasize that such behavior is likely functional because it seems to be automatically strengthened by internal sensory positive reinforcement (c.f., Martin & Pear, 2003; p. 272). Poor Attention can be manifested in two ways. Children may present with shorter sustained attention, particularly in the context of long, repetitive, passive, or rote tasks. Additionally, children with ADHD are readily distracted (controlled) by events and opportunities around them, particularly stimuli embedded within the task with which they are engaged (see Zentall, 2005). Therefore, instruction on speaking with the children focuses on concise structured vocalizations that are not potentially distracting.

Following this, we present a very brief review of etiology, with possibilities that include genetic, neurological, and congenital factors. The goal is for parents to learn that it is highly unlikely that their parenting behavior shaped the constellation of ADHD behavior (albeit, see Christakis, Zimmerman, DiGuieseppe & McCarty, 2004, for an interesting point of departure on this debate). We acknowledge that environmental factors such as disorganized and loud environments, harsh parenting, harsh adult reactions, and coercion can escalate ADHD behavior (see below).

Basic Terms

To understand better the relationship between ADHD and defiant/disruptive behavior, present five basic terms. It is important for parents to understand the concept behind the term not the name of the term. Again, give examples when presenting these terms: the three-term contingency (also known as the "ABC"s), positive reinforcement, punishment, negative reinforcement, and the impact of immediate consequences. Emphasize the functional nature of behavior. Negative reinforcement seems the most difficult concept for parents and it would not be discussed except that negative reinforcement is essential to the concept of coercion, which in turn is essential to understanding the emergence of defiant behavior so common in children with ADHD. Finally, note that when aversive events are escaped (negative reinforcement) the impact of the immediate consequence is usually relevant (Hineline, 1977; 1984).

The Development of Oppositional Defiant Disorder

Describe how many children with ADHD present with another separate childhood disorder called Oppositional Defiant Disorder (ODD). Describe ODD characteristics such as active defiance, angry tantrums, and arguments with adults. For many parents this is the first time the co-morbid issue is presented explicitly. Then discuss how ADHD, which is generally considered a biologically based neurological disorder, might develop to include ODD, the specific responses of which are often learned. Two models describe how faulty development in subtle but critical child skills could contribute to disturbed parent-child interactions that further exacerbate faulty development.

Stepping stone model. One explanation acknowledges that ADHD is causally related to ODD. Children with ADHD may not pay attention or listen to instructions. They may not follow directions for long duration, they may respond quickly and carelessly, or they may not finish an assigned task. Impulsive misbehavior includes rudeness and disobeying. Lynam (1996) termed this the stepping stone model.

Coercion. Another explanation about the development of ODD in children with ADHD is based on a review of direct observation research of interactions between parents and their hyperactive children (Danforth, Barkley, & Stokes, 1991). The essence of this review is that the chronic intensity of ADHD behavior can set the occasion for adults to give in earlier when their children protest. Coercion is more common when adults interact with ADHD children than with typical children. As such, define and explain coercion (Patterson, 1976; 1982; Patterson & Bank, 1986). It is important to acknowledge that evidence shows that a child's hyperactive behavior may be aversive to adults in whose presence such behavior frequently occurs. For example, in the verbal interactions of parents, repeated commands, verbal reprimands, and correction are commonly directed at their children with hyperactive behavior. However, when children with hyperactive behavior are well behaved their parents give fewer rewards for compliance, initiate fewer verbal interactions, and attend less to appropriate behavior and vocalizations initiated by the child. Parent behavior may be, in part, an outcome of their child's disruptive, intrusive repertoire (Danforth et al.), and parent non-responsiveness and over-reactivity may be even more pronounced in families of children with comorbid ADHD/ODD (Seipp & Johnston, 2005). The aversive properties of the hyperactive behavior may generalize to the child him/herself, as parents tend to avoid children with ADHD behavior when they behave well. The same parents are less likely to behave in such a manner with children who do not behave in a hyperactive way or when children with ADHD are prescribed medication that attenuates hyperactive behavior. Such parent-child interaction patterns are found in preschool ages, middle childhood ages, and into adolescence, and appear to be stable. Lynam (1996) termed this the risk factor model, and consistent with Danforth et al., recommended parent training to break the cycle of negatively reinforced parent-child interactions. Below find an example from the written training materials used to teach parents about the bi-directional functional relationships.

Example of a coercion analyses of child behavior that might grow to ODD:

-A = parent tells a child to put toy away.
-B = child whines noisily.
-C = parent does not make the child put the toy away.
-Future = child cries and whines more when told to put fun things away

At this juncture, many parents spontaneously announce that they recognize this pattern (with fingers pointed in the air, exclaiming, "That's our house"). That parents identify how their own behavior contributes the development of ODD is helpful. The risk is that self-blame can be associated with emotional responses (e.g., guilt, sadness, crying) that interfere with subsequent learning. As empiricists, explain how coercion, with parent over-reaction followed by acquiescence may be more functional for adults reacting to children with ADHD than for adults reacting to typical children. Such a pattern is the typical way for adults to react to ADHD behavior, not the exception. The pattern occurs with teachers and parents. Parents should to attend to how the child influences the adult (Bell, 1968; Bell & Harper, 1977), how the adult influences the child, and the interaction between the two. Parents of children with ADHD do not have the same environment as parents of children without ADHD. The ongoing intensity of ADHD behavior can cause parent fatigue and stress. Parent stress has been associated with ADHD (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992) and disruptive child behavior (Eyberg, Boggs, & Rodriguez, 1992) suggesting that the stress adversely affects parental functioning (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993).

Why do good parents (and good teachers) engage in coercive behavior when they are around ADHD children? Here is an example of a coercion analysis of parent behavior; in this case, the "B" is a parent response.

-A = child is loud, or cries, or whines, or argues
-B = parent allows child to "have their way"
-C = child stops being loud, or crying/whining, or arguing
-Future = parent allows child to have their way and this functions to avoid/escape loud, whining, or arguing

Parents can avoid or escape loud angry children by letting them have their way.

Part II. The Behavior Management Flow Chart, Skills Training

The specific skills taught to parents were gleaned from a review of representative published child behavior management research (Danforth, 1998a; unending review, feedback from parents, and data from the research has resulted in ongoing refinements). Then, a task analysis of the research was conducted. The chain of responses required of the parents was broken into precise individual components, in their proper order. This task analysis sub-divided behavior management into individual, discrete, and orderly steps. The BMFC (see Fig. 1) is a flow chart diagram, based on the task analysis, of the child behavior management steps taught to parents. The flow chart synthesizes the research on child management into a cohesive visual unit that allows a clear portrayal of child behavior management steps.

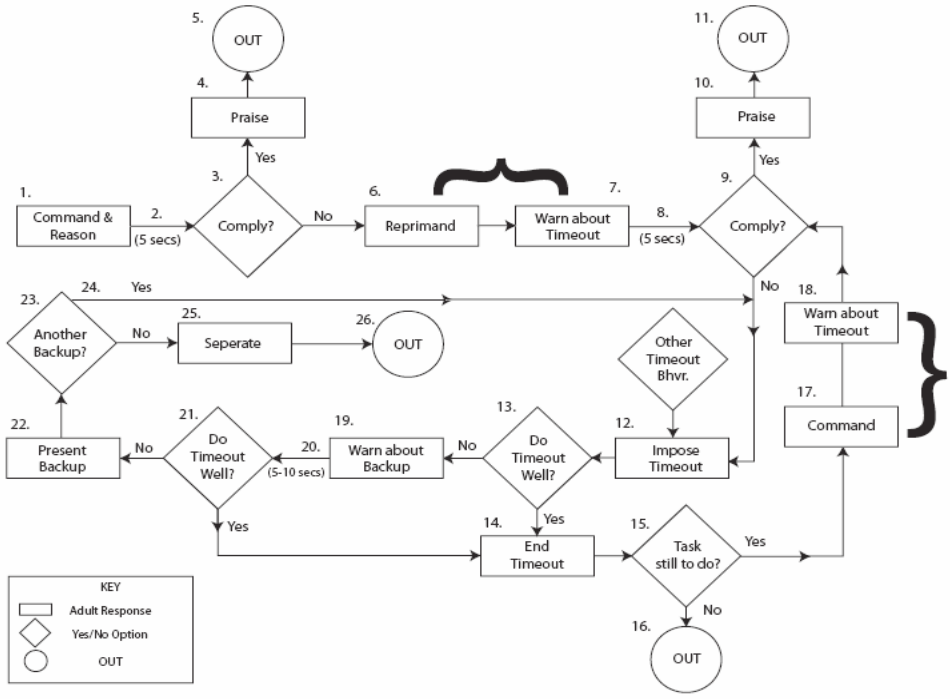

Figure 1. The Behavior Management Flow Chart is a flow chart of steps taught to parents. Rectangles indicate an adult response, diamonds indicate a yes/no option, and circles indicate that the interaction is over.

The key in the lower left-hand box of the BMFC describes the function of each geometric figure. Rectangles describe an adult response. Diamonds describe a yes/no option. The word or phrase in the diamond is followed by a question mark. Two lines emerge from each diamond. One line indicates that "yes", the condition in the diamond was met, and a second line indicates that "no" the condition described was not met. Finally, circles indicate that the interaction is complete.

In addition to the didactic material presented above, there are critical differences between the BMFC parenting steps and well-known parent training programs based on the two-stage Hanf model (c.f., Anastopoulos, Hennis-Rhoads, & Farley, 2006; Barkley, 1987; Eyberg & Boggs, 1989; Forehand & McMahon, 2003). During training, the visually depicted BMFC serves as the basis for discussion and as a practical guide to parenting in the home and community. The supplemental written materials presented to parents have steps that correspond to the steps of the BMFC. Two versions of the BMFC are available. When adults are practicing steps 1-6, an abbreviated flow chart illustrating just those steps is used. When adults subsequently apply the entire program, the entire BMFC is used. Individual trainers can subdivide the BMFC further as they see fit. When adults first practice the program, they use the flow chart as a visual prompt, thereby decreasing errors during learning trials. Then flow-chart use is faded. When parents implement the program in the home setting after session five (see Table 1), give them copies of the BMFC to post for reference. When parents implement the program in the community after session six, give them wallet-sized laminated copies of the BMFC to keep in the car and on their person. Generalization across settings and over time is facilitated because adults have copies of the BMFC to which to refer. In a sense, the parent has constant access to a visual representation of the empirical literature on child behavior management.

In the written outline presented to parents, each step begins with a description of the procedures the adult performs in the context of child behavior, followed by exemplars and in many cases, non-exemplars. The BMFC is the unit that provides structure for the synthesis of the literature. The flow chart depicts a chain of skilled responses that parents are to emit throughout the day in an effort to help clinically disruptive children behave in a developmentally appropriate fashion. To ensure appropriate parent expectations, emphasize that no one action by a parent will change the child. Instead, each interaction is one learning trial, and over many learning trials, the child's behavior will improve. The child's behavior will not suddenly change.

Use the supplemental written materials in conjunction with verbal explanation, trainer modeling, and role-play with trainer feedback. These teaching strategies are essential to a successful outcome. Evaluations of parent training programs should take the medium of information presentation into consideration because the mode of presentation, such as a task analysis leading to the use of a flow chart, may influence the effectiveness of the training program (O'Dell, Mahoney, Horton, & Turner, 1979).

Decision diamonds in the BMFC reflect flexibility and allow the parent options to adapt the program to situational demands. Teach the parenting skills in a forward chaining fashion (see Martin & Pear, 2003, p. 138), in the same order that they are presented in the flow chart and consistent with how the parent is to utilize the strategies in the context of child misbehavior. That is, the first response emitted by parents when they want to direct their child is a command or instruction, and this is the first skill taught; the second response emitted by the parent is to wait silently for 5 seconds, and this is the second skill taught, etc.

There is enough flexibility in the design to use the same flow chart in many settings. This was not designed as a parent training program; it was designed as a behavior management program for any adult who works or lives with children who have disruptive behavior. To enhance consistency for the child, parents follow the parameters of the program across settings because the program can be adapted to different settings. For example, the timeout setting at home may be the landing at the bottom of a flight of stairs whereas the timeout setting at grandparents may be sitting at the kitchen table. Praise can be presented anywhere.

The principal target behavior of the BMFC is child noncompliance. Psychometric research has identified noncompliance as a fundamental element of disruptive behavior patterns (e.g., Achenbach,

1991), so compliance is a response relevant to many settings and occasions. Functional analyses have shown that noncompliance serves as the cornerstone response in the development of disruptive behavior (Patterson, 1976; Wahler, 1975), and such behavior consistently covaries with important parameters such as peer rejection (Coie & Kupersmidt, 1983) and academic failure (Wilson & Herrnstein, 1985). Furthermore, when children with ADHD disobey to a degree that warrants an additional characterization as ODD, their prognosis includes greater aggression, active defiance, peer problems, academic underachievement, and family disturbance than that for children with ADHD behavior who do not exhibit characteristic ODD behavior (Gomez & Sanson, 1994; Kuhne, Schachar, & Tannock, 1997).Instructions are common antecedents to disruption, and parents are most inconsistent when an interaction sequence begins with a parent command requesting child compliance (Gardner, 1989), so the command/instruction is the logical place to start.

One rarely cited, yet parsimonious explanation for the failure of behavior management training is suggested when the BMFC is examined: what trainers are asking adults to do is exceedingly hard. The Flow Chart elucidates a 26-step procedure that requires conditional discriminations in the context of acute child misconduct. Child antisocial behavior itself is likely to have a negative impact on parental discipline practices (Vuchinich, Bank, & Patterson, 1992). Disruptive child behavior likely elicits adult emotional responses that are incompatible with recall and implementation of complex tasks. Child behavior management for children with ADHD and ODD is difficult under any circumstances, and perhaps this difficulty is underestimated. Furthermore, idiographic assessment is likely to reveal that management skills are not uniform across or within adults. Rather than assuming that all adults will need an equal degree of training on all steps, trainers need to concentrate on areas of individual difficulty (c.f., Richman, Harrison, & Summers, 1995). Individual ADHD children respond to behavior management procedures in distinct ways (Pelham & Hinshaw, 1992) and it is reasonable to assume that parents also respond in distinct ways.

The remainder of this paper describes the specific skills taught to parents. Some behavior management steps are effective because the components of the step are informed by predictable ADHD behavior and empirical behavior management strategies. Such knowledge can lead to accommodations that attenuate the development of ODD. Each step described below corresponds to the steps in the flow chart.

Step 1. Practical Commands or Instructions

First, parents decide if the child is required to follow a directive. Presenting the child with choices is encouraged, often in the form of questions or favors, but only if the child really has a choice. If it is chilly outside, one may ask, “Do you want to put a coat on?” This is encouraged if the child really has a choice about wearing a coat because s/he can learn to experience the natural consequences of the decision and there is not an extrinsic parent consequence. However, if it is very cold and parents decide the child must wear a coat then do not ask. Do not give a choice in a no-choice situation. Therefore, the first parent response is a decision, and if they decide the child must do something, then parents present the command in the imperative form, indicating that the behavior is required. Do not present commands that must be followed as favors or questions. Consequences are contingent upon a child’s compliance to instructions presented in the imperative form. Consequences are not presented contingent upon a child’s adherence to requests framed as questions or favors. Parents often describe this as “picking your battles”, and one result is that fewer required commands are presented. This is good because when fewer commands are presented then the probability of escalating coercive exchanges is decreased (Patterson, 1982) and the probability of compliance is increased (Lobitz & Johnson, 1975).

Second, present commands that focus on behavior that the child has to do now, not later. Parents can predict commands they will be presenting later, either in a few minutes or perhaps even hours later. If

parents know they will be presenting a command, tell the child. For example, rather than instructing a child to, "feed the dog after you eat breakfast", forewarn the child that the dog will have to be fed after breakfast, and then after breakfast say, "feed the dog now, please". Consequences are presented contingent upon a child's compliance to instructions requiring an immediate response. Consequences are not presented contingent upon a child's adherence to instructions about behavior to be emitted in the future.

Third, as part of the command, include the reasons why the child is to do something. Hazy explanations such as, "It's important to me that you do this" are not reasons. Fourth, before presenting the command, make sure the child is oriented or observing. Get reasonably close, within 3 meters, use the child's name, and establish eye contact. Fifth: clearly label or describe the required behavior (i.e., operationalize). Note that declarations describe the state of things, but they do not tell a child what behavior to do. For example, "It's supper-time" informs the child that it is the time of day when supper is eaten, but it does not tell the child to move to the room where supper is. Declarations do not label a response. Sixth, when a child is likely to disobey, present short instructions that have few steps (i.e., chunking).

Finally, encourage patience and acknowledge that mistakes are inevitable. So, if the child must follow the command, but the command is presented in a way that does not meet the criteria for a practical command or instruction, do not move on to Step 2. The likelihood of compliance is too low. First, restate the instruction correctly. Example: if Anthony must wear a hat because it is cold outside, and you ask, "Do you want to put your hat on?" while you are looking in the cupboard, then Anthony is less likely to put on the hat. So, start over. Go to Anthony and get eye contact while you restate the command directly, "Anthony, it's really cold out today so put your hat on". As such, whereas hyperactive children can be active and impulsive, parents are encouraged to take their time.

Step 2. Wait Silently

Allow the child 5 seconds to start following directions. After presenting the command, be silent and do not interfere with the child until they either begin to follow directions, or 5 seconds passes. Parents report that this is the most difficult step. Parents remain with the child and stay within 3 meters. They do not glare at the child, but they do look towards them. If the child begins to argue here, which is expected, it is very important that parents not engage in debate or argument that escalates the intensity of the aversive interaction. If the parent begins to engage in an aversive argument, there is an increased probability that the child's subsequent responses will be more aversive (Patterson, 1982). Furthermore, in negative reinforcement, the rate of learning is a function of the magnitude of reduction of the aversive stimuli (Hineline, 1977; 1984). So, if the parents gives a command (an aversive), the child argues, the parents yells (another aversive), the child argues more, and then the parent gives in, the child is more likely to argue in the future because the consequence for ongoing child argument in the past was escape from the command and yelling, not just escape from a command.

Step 3. Decide if the Child has Started to Follow Directions

Decide if the child has started to follow directions. Base the decision upon what the child has done, not what the child says they are going to do.

Step 4. Praise

If the answer to Step 3 was "yes", the child complied, then the moment the child starts to follow directions, praise them in an effort to strengthen (reinforce) compliance. The target behavior is beginning to follow directions, not completing the task. We can anticipate that the child will not finish many tasks for that is a defining feature of ADHD.

Praise is an essential component of the program. First, as noted above, children with ADHD are praised less when they behave well and adults are less responsive to their needs. A lack of maternal warmth and responsiveness is correlated with comorbid ADHD/Conduct Disorder (Pfiffner, McBurnett, Rathouz, & Judice, 2005). Timeout (see below) might not work because of a lack of praise and other reinforcers in the child's time-in setting. Finally, the children have not demonstrated the response class of compliance. When teaching a new behavior, a dense schedule of reinforcement, not intermittent reinforcement, is most effective. When teaching compliance and bringing it to a developmental norm, all compliant responses are praised.

Practical praise has four parts. Praise when they begin to follow directions, not when they have finished. Make a positive comment about the child or their behavior. Name the good behavior (or the outcome of the behavior). Finally, present it with positive emotion. Parents should smile and use a nice physical touch if they want. Parents do not praise if they are angry, and this is anticipated in the context of some intense hyperactive behavior that many adults find aversive. Parents do not scold the child for past responses while at the same time praising the child for what they are doing now. This scolding may diminish the reinforcing effect of the praise, and it is too late to punish the undesired response. A non-example is, "You were really polite when we ate supper; why were you so rude at breakfast?"

If the child starts to follow directions, but then they get off task and do not finish, the adult starts at Step 1, and presents a command to start again. Otherwise, we strongly emphasize parents to "catch them being good" whenever the child stays with their assigned task.

Step 6. Reprimand.

If the answer to Step 3 was "no", the child did not comply, present a verbal reprimand. Name the target behavior or describe it. Second, present the reprimand immediately, at the fifth second. This is especially important if the behavior of other children reinforces the target child's misbehavior. Make eye contact (glare).Use a firm steady voice, do not be soft ('wimpy" is a word that many parents understand). Do not yell. This is better said as "try as best you can to yell as little as possible". If parents yell too much, then children may habituate and yells will not work to punish behavior anymore. It is best if other children do not hear the reprimand. Stay within 3 meters of the child. The reprimand is short and to the point. For parents who like to lecture, it helps to know that for ADHD children extra narrative and detail can reduce comprehension and performance (Edmonds & Smith, 1985; Shroyer & Zentall, 1986), and the children pay attention less to long tasks (Zentall, 1985; Zentall & Zentall, 1976). The child's attention skills and angry emotional behavior associated with disruptive defiance is incompatible with the skills necessary to comprehend and respond effectively to long parent explanation.

Step 7. Warning about Timeout

As part of the reprimand, present the child with one firm warning that if they do not follow directions they will have to go to a timeout. With the warning, name the desired response and what will happen if the child does not emit that response. Timeout details are forthcoming, but note that "timeout" is an adult phrase; do not use it with children. Rather, tell the child what they will be required to do if they do not comply. An example is, "Fred, if you do not put the bird back in the cage like I said, you will have to go to your room". The purpose of the warning, or the second chance, is to weaken timeout resistance while simultaneously accommodating for attention problems.

We are repeating the command here, and while this may be inconsistent with behavioral doctrine, this accommodates for attention problems. We do not hold children accountable for their ADHD characteristics. Not following directions is an inattentive defining feature of ADHD, and it is expected.

Therefore, we accommodate for ADHD by clearly re-stating the instruction one time, paired with a warning. If the instruction is presented twice, as defined under practical command, with five seconds to allow time, then we submit that we have accommodated for ADHD and any ongoing disobedience is defiance, for which the child is accountable.

Step 8. Wait Silently.

Parents remain silent for five seconds and do not interfere with the child until they have begun to comply with the command

Step 9. Decide if the Child has Started to Follow Directions.

Step 10. Praise

If the answer to step nine was "yes", the child complied, then the moment the child starts to follow directions, praise them. Present consistent praise regardless of whether the child followed the first command or a command after a warning. The importance of praise was noted above.

Step 12. Timeout (Timeout from Positive Reinforcement)

Timeout is a complex procedure that takes at least two hours to teach. Consequences for noncompliance are an essential part of the treatment protocol (Danforth, 1998a). This is important because timeout is an ethical, non-corporal consequence that is an effective punishment. Yet, it only takes a few minutes and it allows the adult and child time to separate during a stressful situation. Most parents report that they have used timeout before and it does not work. This author expresses the opinion that in his experience, he has never seen any child treatment procedure taught wrong and used wrong more often than timeout; that among child-care practices there is a greater discrepancy between research (with literally hundreds of published articles, see Roberts, 1988) and popular practice of timeout than any other procedure.

The idea behind timeout is to make the behavior it follows happen less often; timeout is punishment. Emphasize two points for parents. Timeout might work because the child moves from a more reinforcing to a less reinforcing place. This provides another opportunity to discuss the importance of praise. Parents are encouraged to monitor tone of the house, to have fun and enjoy their children. Timeout is more effective when the tone in family interaction is positive because the child truly loses positive time. Timeout may also work because it interrupts arguments and yelling between children and adults.

Three decisions. Describe timeout, but before using timeout for the first time, parents go home and make three decisions to discuss at the next session. First, parents decide exactly what behaviors result in timeout. Parents have the option of selecting up to two individually defined target behaviors (in addition to noncompliance after the warning) for which timeout would be the consequence. Typically, parents choose responses such as physical aggression, tantrums, property destruction, and verbal abuse. Sometimes, parents choose not to add additional target behaviors. A timeout warning does not precede intense misbehavior such as this. Instead, see the diamond above Step 12. When these additional timeout target behaviors occur, parents immediately move to the diamond above Step 12 on the BMFC and send the child directly to timeout without a warning. Help parents operationalize clear target behaviors and focus on responses indicative of ODD (e.g., aggression) and not ADHD that are nonetheless annoying to adults (e.g., fidgeting). Re-emphasize that internal sensory stimulation reinforces hyperactive motor behavior, not external consequences. There are no data showing that disciplinary consequences punish hyperactive motor behavior.

Second, parents go home and select a place for timeout that does not have reinforcing value, a "dull" place. A physical aspect of the environment that allows clear demarcation of whether a child is "in" or "out" of timeout is required. For practical purposes, parents may choose more than one location, and typical sites include the bottom of staircases, the end of a hallway, a boring room, or even a bedroom if pleasurable toys do not dominate it. Although a chair is available should the child choose to sit, we never require the child to sit in the chair. This is because children with hyperactive behavior may find required sitting aversive. We want to avoid setting the occasion for timeout resistance. We do not arrange a contingency wherein standing and moving are disciplined when we can rightly predict that the child with hyperactivity will probably move, stand, and leave the chair. There is no empirical evidence that sitting in a chair is a critical component of timeout success. Review timeout locations with parents. Remain vigilant for impractical locations (e.g., bathrooms in a one-bathroom apartment, shared bedrooms where a younger child goes to bed before the target child with ADHD) and aversive locations (a cold dark basement).

Third, parents create an individualized menu of possible backup consequences, one of which is presented contingent upon child refusal to go to timeout (Step 22). Present the back up on the same day that the child refuses timeout. Review back-up consequences for practical utility and parent willingness to administer the backup. Detail about the backup consequence is presented in Step 22.

Timeout preview. After the above have been decided and then reviewed with the trainer at session five, parents go home and with the child and calmly explain (a) the target behaviors (b) where timeout is, (c) what is expected of the child when they are told to go to timeout, and (d) the backup discipline if the child does not do the timeout correctly (see Step 22). All the adults who will be implementing timeout are part of this preview. For example, both parents, or a parent and a grandparent participate in the preview. Conceptualize the preview as a teaching and instructing moment, like previewing a command, not a reprimand. Conduct the preview when the child is behaving well. An example follows of a paraphrased script trained to a single mother for use with her 5-year old boy: "You are being a good boy right now, but sometimes you have a hard time following directions and hitting, and mommy is going to help you with that. So, every time you don't follow directions or you hit, you will have to go to your room for 5 minutes. I will not talk to you when you are in your room. Don't come out by yourself; I will tell you when you can come out. If you don't follow directions or you hit, and then you won't go to your room when I say to, you will be in big trouble (parent describes some of the backup consequences, see Step 22). But you are following directions right now so you are doing a good job now."

Completing a timeout. (a) When the target behavior occurs, parents label it and tell the child that they must go to timeout. For example, "Mark you didn't follow directions when I told you to put your coat on so you have to sit on the stairs". (b) Parents stay calm and say it only once. Parents do not talk, debate, or quarrel with the child, a task that parents report is difficult. If the child starts to follow the original command after parents tell them to go to timeout, it is too late; they still have to go to timeout. (c) When the child arrives at the timeout site, parents tell them, "Stay there for x minutes, I will decide when you can leave". The stay is 1 minute per year of developmental age. (d) Parents do not talk to the child again until the timeout is over. (e) Parents do not "guard" the child, or stare at the child; they move away and do something else. (f) Wait until the child has been in timeout for the specified duration, and has been composed and not agitated for the last few minutes of timeout. (g) Ignore the child's behavior unless it is disruptive to the house.

If the child is loud and disruptive at the end of their timeout, do not end the timeout. Instead, end timeout after they have been quiet for a few (1-3) minutes. Still, do not talk to the child. Do not wait until the child is quiet to start the timeout and do not start the timeout all over if they are disruptive. Parents are teaching the child that when they are calm, the timeout will end. Parents do not adventitiously teach the

child that disruptive behavior is consequated by timeout cessation. Do not use timeout for other misbehavior until it has been previewed with the child.

Step 13. Is the Child Completing the Timeout Correctly?

Decide whether the child has completed the timeout well. The child should stay in the timeout setting, and behave in a manner that does not disrupt others.

Step 14. End Timeout

If the child completes the timeout well, then the timeout is over. Tell the child what they did that resulted in timeout and it is over and they may come out now if they want. An example is, "Donald, you had to go to your room because you didn't put the cereal away when I told you. Your time-out is over and you can come back to the kitchen now". Then, drop the subject and start fresh with the child. Reminders here about what the child did that resulted in timeout do not help. The discipline was timeout, and it is over.

This author's experience is that some parents report that with behavior modification, parents are encouraged not to speak with their children about misbehavior. We address this issue here. First, it is not true that behavior therapists discourage parents from speaking with their children about these issues. Encourage parents to problem solve with their children. Encourage parents to seek information about antecedents to misbehavior (i.e., descriptive functional analyses). For example, a parent may ask, "What happened to make you so mad that you swore at me this morning?" Encourage parents to tell their child about the natural consequences of their disruptive behavior. For example, "When you swore at me and then kicked the wall, it made me feel sad and now we have to fix the wall". However, it is true that we discourage parents from engaging in these conversations while their child is disruptive or shortly (within minutes) thereafter. Such dialog at that time is more likely to evolve into a coercive exchange, or the emotion associated with the disruptive behavior is incompatible with productive dialog. First, after timeout get the child back into their routine and praise the next successful enterprise.

Step 15. Does the Child Still Have to do the Task from Step 1?

If the child is in timeout as a result of defiance, then after the child successfully completes timeout, decide if the child still has to do the task that they were told to do in the first place (from the original command in Step 1). The purpose is to prevent timeout from functioning as negative reinforcement that allows the child to avoid the requirements of the instruction.

Step 16. Finish.

If, for whatever reason, the child no longer has to do the task, then the interaction is complete; drop the subject. While inconsistent with behavior analytic principles, there are occasions where repeating a directive is impractical. For example, timeout may have been presented because a child refused to put on a hat, but on the way to timeout, the child puts on their hat, and when they exit timeout, the hat is on their head. On the other hand, timeout may have been presented because a child refused to shut a door on a sub-zero day. When the child is in timeout, most parents will shut the door because it is too cold. The practicing therapist will encounter many similar situations.

Steps 17 & 18. Command and Warning

If there is a remaining task that needs completion, present a command (c.f. Step 1) instructing the child to complete the task, paired with a warning (c.f., Step 7) that if they do not follow directions, they

must return to timeout. In effect, the child learns they will either go to timeout or follow directions. This prevents timeout from functioning as escape from an assigned task. Anecdotal reports by parents indicated that repeated timeouts (i.e., Steps 15-18 leading to another timeout for ongoing noncompliance) were very rare, and no child was reported to go through this loop more than three times in succession.

Step 9, again. Decide if the Child has Started to Follow Directions.

If the child follows directions now, praise them (to Step 10). If the child does not follow directions, direct them to timeout (to Step 12).

Step 19. Disruptive Behavior during Timeout, the Warning about the Timeout Backup.

If parents decide that the child is not doing timeout well in Step 13, go to Step 19. If a child (a) refuses to do timeout or leaves timeout or, (b) disturbs others during timeout, then parents give one warning that the child will receive a backup consequence if they do not complete their timeout correctly. The backup is a major consequence for refusal to do timeout. Parents select one backup consequence from the list developed earlier. An example might be, "Philip, if you do not go to your room, you are grounded, and you will stay inside the house for the rest of the day"

This step illustrates the importance of decisions made earlier. The timeout location needs features that clearly demark when a child is “in” timeout verses when they have “left” timeout. A door jam, a line on the floor or rug, the bottom of the stairs, can all serve as salient boundaries. Parents do not “play games” here. As noted above, defiance is a serious behavior problem and the treatment is a serious endeavor. If a child is in timeout in their room and mockingly stands with one foot out of the room, then the child is out of the room. Therefore, present the backup warning. The phrase “disturbs others during timeout” is deliberately ambiguous because the standards change depending upon the setting. We encourage parents to tolerate as much “disturbing” behavior as possible, but the criteria might change. For example, when the child visits grandparents, a moderate degree of noise might be disturbing, but if the child is outside in a park, an intense degree of noise might not be disturbing.

Step 20. Wait Silently

Give the child 5-10 seconds to make their choice as indicated by their behavior. Some parents have taught us that they can help the child make a good decision by clarifying the potential consequences. For example, "If you sit on the steps (for timeout), it will be for 5 minutes. If you do not sit on the steps, you will have to stay in the house for the rest of the day, three whole hours. Five minutes is a lot shorter than 3 hours".

Step 21. Is the Child Completing the Timeout Correctly?

This is the same as Step 13. Decide whether the child has completed the timeout well. The child should stay in the timeout setting and behave in a manner that does not disrupt others.

Step 22. Backup Consequence

If the child continues to refuse timeout or leave timeout, or continues to disturb others, present the backup consequence. The purpose of this consequence is to prevent timeout refusal. The backup consequence needs to be strong so that adults will not have to use it often. If the backup is weak, it may have to be used frequently, and timeout becomes less effective. This consequence is the most severe one parents are willing to use, but they must be willing to use it. The sooner the backup consequence occurs, the better, but backup consequences must occur the same day as timeout refusal. Examples of backup

consequences selected by parents include grounding, no playing outside, privileges removed (e.g., bike riding, television, computer, video games, handheld electronics devices, fishing, the telephone, favorite toy, special food treat, etc), early bedtime, loss of opportunity to engage in special event such as a school field trip, soccer, little league, sleep over, or after school sports or activity. As part of their backup menu, all parents include the consequence of not allowing the child to continue whatever activity in which the child is currently engaged (e.g., playing with cars). The logic is that if a child is currently engaged in an activity, then the activity is acutely reinforcing.

Step 23. Are Parents Willing to Present Another Backup Consequence?

After applying the backup consequence for incorrect timeout, parents decide if they are willing, or have time, to give another backup consequence for this episode of misbehavior. The question for parents is, "Am I willing to give another backup punishment if this child continues to refuse timeout?" This is an adult decision, and although the option is inconsistent with behavioral doctrine, the issue is practical. Parents have concurrent schedules with other work and community obligations, other children, and other stresses. If the parent training program is so indebted to behavioral doctrine that parents do not have time to meet these other obligations, then parents are less likely to follow through across time (months, perhaps years) and over settings (home and community). Behavior analysts need to recognize that parents require options within the framework of treatment programs

Step 24. Timeout

If the answer to Step 23 was "yes", then parents are willing to apply further backup consequences for failure to do timeout correctly. Therefore, go to Step 12 and direct the child to timeout again. It is vital to send a child to timeout only if parents are willing to present a backup consequence for timeout refusal. Parents reported that they never used a backup consequence more than two times in one day, by either choice or circumstance. Parents also reported that as weeks progressed the backup consequence was used less often and then timeout became less necessary whereas warnings about timeout remained common.

Step 25. Separate

If the answer to Step 23 was "no", then parents were not willing to give the child another backup consequence for refusing to do timeout. So, defuse the situation without giving in entirely. First, isolate the child from other children and adults in the setting. Since the child of interest is less likely to comply in the midst of a disruptive episode, it is best to ask other children to move away than to expect the problematic child to begin following instructions now. Second, walk gently to the child, place a hand calmly on their shoulder, and say, "We will keep on working together to help you learn to (name the behavior that resulted in timeout, e.g., follow directions, not to hit, etc.). Do not apologize; do not be conciliatory. Finally, parents physically distance themselves from the child. Do not speak to the child until they have calmed down. If the child is still in the timeout setting, leave them there. This is similar to what others have described as "nonexclusion" timeout (Brantner & Doherty, 1983) or "out of room" timeout where parents leave the room (Scarboro & Forehand, 1975).

Conclusion

Ongoing efforts to develop programs to help increase the rate of compliance behavior and decrease aggression in children with ADHD behavior are warranted. Children with hyperactive behavior remain at risk for clinically significant oppositional and disruptive behavior, and the prognosis for children with both ADHD and ODD is very poor when left untreated. Parent training is time consuming and it is important to acknowledge that behavior management procedures are deceptively complicated and difficult for parents to perform (Sajwaj & Dillon, 1977). Behavior therapists have a lot to offer such families.

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Footnotes

1 A complete copy of the supplemental written materials that correspond to each session and step of the BMFC is available from the author.