
The "Oppositional Defiant" and "Conduct Disorder" Child:

A Brief Review of Etiology, Assessment, and Treatment

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Two of the most researched disorders in child development are oppositional defiant disorder (ODD) and conduct disorder (CD). With a prevalence rate of two to 16% for ODD, and having been found to be a precursor to CD, it becomes evident that early diagnosis and proper behavioral treatment are imperative. This article provides a brief review of the literature on ODD and CD in relation to etiology, assessment, and behavior-analytic treatment. Characteristics of ODD and CD are discussed as well as problems with diagnoses and labeling. Behavior rating scales, behavioral observation, and functional assessment are recommended in assessing these disorders. General intervention strategies, such as contingency management, rule-governance, and classroom management are suggested for working effectively with disruptive youngsters' behavior. Problems with stimulant or psychotropic medications are addressed. The importance of early diagnosis and proper behavioral intervention are critical for helping these children, their families, and school personnel.

The Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV; American Psychiatric Association [APA], 1994), outlines the diagnostic criteria for many disorders, including those occurring during childhood. Two of the most researched disorders in child development are oppositional defiant disorder (ODD) and conduct disorder (CD). ODD alone represents a prevalence rate of two to 16%, and up to 52% of children with ODD still have the disorder three years after the original diagnosis. Approximately 25% of children who exhibit defiant behaviors or who have a diagnosis of ODD are at a greater risk for developing CD (Barkley, 1997). Many researchers believe that ODD is a precursor to CD when viewed along the developmental trajectory of behavior disorders (Kann & Hanna, 2000). These children are also at-risk for delinquency, criminality and antisocial personality disorder (Lilienfeld & Waldman, 1990; Mash & Barkley, 1998). The earlier the onset of initial symptoms, the poorer prognosis for the child with ODD and thus, early diagnosis and treatment are critical. This paper will briefly review the literature on ODD and CD in reference to the etiology, assessment, and some behavior-analytic treatment. The emphasis on early

diagnosis and proper treatment is imperative in working with these children, their families, and school staff.

Characteristics of ODD and CD

The essential features of the ODD disorder are that the child is disobedient, defiant, negative and behaves with hostility towards authority figures. Developmentally, this pattern of behavior must occur for 6 months, within which the child must present at least four of the following eight behaviors: (a) losing temper; (b) arguing with grown-ups; (c) defying or not complying with adult's instructions and requests; (d) deliberately behaving to annoy others; (e) blames others for his or her misbehavior; (f) easily annoyed by others; (g) exhibiting anger and resentment; and (h) showing vindictiveness (APA, 1994).

In addition, these behaviors must present more frequently than they would in other children of the same age and developmental level, causing a significant impairment in the child's social, academic, or occupational functioning (Mash & Barkley, 1998). Barkley (1997) states that only children who meet the criteria in the DSM-IV (APA, 1994) or score above the 93rd percentile on a standard rating scale meet the criteria for diagnosis. In addition, the behaviors cannot occur during the course of a mood or psychotic disorder. If the criteria are met for a diagnosis of antisocial personality disorder after the child is 18-years-old or if the criteria for CD are met, the diagnosis of ODD cannot be given (APA, 1994).

Although children with the CD diagnosis may exhibit patterns of behavior such as noncompliance and stubbornness that are consistent with ODD, there are some important differences between them. In contrast to ODD, CD is marked by the child's violation of the rights of others and societal norms and rules that are considered appropriate for the child's developmental age (Mash & Barkley, 1998). Furthermore, children with CD, compared to those with ODD, exhibit more serious behavioral violations such as property violations, aggression, truancy, and substance abuse. Therefore, children with ODD cannot receive a comorbid diagnosis of CD due to the more aggressive symptoms that compose this disorder (Mash & Barkley, 1998). Therefore, CD and ODD should be differentiated through the DSM-IV (APA, 1994) and other assessment

measures. Unfortunately, all too often in the literature, both are referred to interchangeably without distinction.

Problems with Diagnoses and Labeling

Developmental processes may influence comorbidity diagnosis in children and adolescents (Achenbach, 1998; Nottelman & Jensen, 1995). Symptomatology and behavior manifestations may appear differently at various developmental progressions. Also, ethnicity and cultural factors may impact the assessment, diagnosis, and consequences of labeling (Prinz & Miller, 1994). Another important factor is the child's gender as evidenced by the ratings and perceptions of parents, teachers, and peers (Webster-Stratton, 1996). For example, adults' tolerance level for behaviors was found to be higher for the same respective sex. Also, peer expectations may present difficulties with diagnosis as girls with behavior disorders may exhibit covert behaviors and their peers may not perceive even a potential problem (Kann & Hanna, 2000).

Etiology

According to Mash and Barkley (1998), genetic factors, family interactions, peer groups, and environmental factors/broad ecologies influence the development and maintenance of ODD and CD. These factors develop and influence each other across time and situations and cannot be separated from one another (Mash & Barkley, 1998). For instance, an infant who is temperamentally "difficult" and exhibits such characteristics as irritability, hyperactivity, and impulsivity may have a predisposition to showing behavior problems (Bates, Bayles, Benet, Ridge, & Brown, 1991; Caspi, Henry, McGee, Moffitt, & Silva, 1995), which may lead to future behavior problems as well as inhibiting parent-child interactions. Such interactions can adversely affect the quality of parent-child relations (Barkley, 1997). Consequently, it is highly common for children to present with comorbid ADHD and ODD or CD.

Many researchers have linked difficulty in parenting or inappropriate parenting practices to children with ODD and CD (e.g., Bates et al., 1991; Forehand & Scarboro, 1975; Kazdin, 1995; Mash & Barkley, 1998). Forehand and Scarboro (1975) examined oppositional behavior and found that as the number of maternal commands increased so did the amount of oppositional behavior. Moreover, this oppositional behavior was more profound immediately following the command. Patterson (1982) and Snyder (1995) further elaborated on the pattern of coercive parent-child interactions, which tends to escalate prior to the elementary school years. The coercive cycle begins because of ineffective parental management practices and the contingencies embedded within those practices. The cycle continues and increases in intensity, and family members are reinforced for aggressive behaviors (e.g., avoidance). Barkley (1997) stated that defiance becomes an effective way for the child to escape tasks or situations that he finds effortful, boring or unpleasant. The defiant behavior can also enable the child to better predict the consequences of his/her environment, even if they are negative. Moreover, these behaviors are

modeled for the child by his/her own parent(s) (Patterson, 1982).

Consequently, inconsistent parenting practices and contingencies lead to family interactions which may contribute to the development of parent-child difficulties. McCord (1988) found that a child was adequately supervised in an intact home 70% of the time; 50% of the time in a home in which the parents were in conflict; and 20% of the time in a single-parent home with an unaffectionate mother. Monitoring is influenced positively by maternal affection and negatively by parental conflict, and it is the parent's ability to monitor behavior that was most closely associated with a child's misconduct (Patterson & Loeber, 1984). Furthermore, disruptions within the home and the family may correlate positively with the development of dissident behavior in adolescents. For instance, marital conflict ultimately interferes with the parents' ability to engage in appropriate parenting practices (i.e., monitoring the child's behavior) (Mash & Barkley, 1998).

Parental antisocial personality disorder (APD) has received support as having a direct and indirect influence on the development of ODD in children (Frick & Lahey, 1992; Mash & Barkley, 1998). Frick and Lahey (1992) investigated the association of conduct problems in children (e.g., ODD and CD) with parental adjustment and family functioning. Families in this study demonstrated a high correlation between parental APD and substance abuse and children with conduct problems (e.g., ODD & CD). In addition, the poor parenting practices were once again positively correlated with the child's oppositional behavior. The authors also compared the risk factors of having a biological parent with APD to maternal parenting practices. The results indicated that parental APD was associated with childhood conduct problems independent of parenting practices, but the reverse did not hold true (Frick & Lahey, 1992). Yet, it is still undetermined whether this correlation is due more to the parents reinforcing the misbehavior of the child and/or modeling the behavior, or if it is due more to the genetic link between the parents and the child (Frick & Lahey, 1992).

Mainstream Assessments

A number of methods are available to aid in the assessment of ODD in children. Multiple methods of assessment should be used concurrently so that biases and discrepancies in measurement are noted and an accurate diagnosis made. If only one method of assessment is used, the accuracy of the diagnosis may be profoundly limited, especially when behavioral observations and functional assessment of behavior are not included.

Behavior Rating Scales

Behavior rating scales are one form of assessment commonly used to assess children, and are administered to the child, parents, and teachers (Mash & Barkley, 1998). Diagnosis of comorbid conditions can be aided by the use of these instruments as well, and behavior rating scales are often used to measure and justify the validity of treatment outcomes (Mash &

Barkley, 1998). Scales commonly used include the: 1) Child Behavior Checklist (CBCL; Achenbach, 1993) family of instruments; 2) the Child Behavior Inventory (CBI; Eyberg, 1992); 3) the Stutter-Eyberg Student Inventory (Eyberg, 1992); and 4) the Conners Teacher Rating Scale (Miller, Klein, Piacenti, Abikoff, Shah, Samoilov, & Guardino, 1995).

Behavior Observation

Behavioral observation is considered a critical component of the multiple methods of assessment of ODD (Mash & Barkley, 1998). This useful method makes it simple to compare the data gained from observation with the data gained from other types of assessments (e.g., the clinical interview and the behavior rating scales) (Mash & Barkley, 1998). Behavioral observations and functional assessment enable the clinician or behavior analyst to obtain a realistic picture of the child's behavioral functioning in his or her natural environment. However, they are not often used in the home setting due to their intrusive nature (Mash & Barkley, 1998). In addition, behavioral observation systems are not used as often as they could be, due to the amount of time it takes to train observers to use these methods properly (Mash & Barkley, 1998). Examples of commonly used observation systems include the Behavioral Coding System (Forehand & McMahon, 1981), the Dyadic Parent-child Interaction Coding System II (Eyberg, Bessemer, Newcomb, Edwards, & Robinson, 1994), and the Interpersonal Process Code (Rusby, Estes, & Dishion, 1991 as cited in Mash & Barkley, 1998).

Children's behaviors should also be observed with their peers, as these interactions may be a useful source of information. Observation of children interacting with their peer group in the natural environment provides supplemental material that can be used to validate information from other sources (Trad 1992; Kann & Hanna, 2000). Multiple methods of behavior assessment also allow for accurate diagnoses, which lead to proper behavioral interventions for these children, their families, and their schools.

Functional Assessment

Functional assessment is used to identify specific variables that predict and maintain disruptive behavior. The variables comprise the consequences, which may be termed as the "function" of the behavior, antecedents or discriminative stimuli, and setting events (Horner & Carr, 1997).

In conducting a functional assessment, it is imperative to note that environmental events should be of primary focus. From this perspective, the behavior analyst views the disruptive behavior as a result of difficult social circumstances in which the maladaptive behavior represents the child's attempted solution to his or her challenging environment (Kerr & Nelson, 1998). As a result of the functional assessment, the behavior analyst is able to focus on improving the child's overall level of functioning through several interventions, such as efficiently redesigning the child's environment to elicit and maintain adaptive behavior (Schloss & Smith, 1998).

Parent-Training and Family Systems Interventions

The majority of interventions have been designed to treat overt behavior exhibited by children with ODD and CD and are directed toward the context of the entire family since that is where most of the behaviors are believed to begin (Mash & Barkley, 1998). The family-based interventions typically consist of parent training approaches in which the parents are taught new skills to amend their previously ineffective practices. The core elements, which have been explicated by a number of researchers include the following: (1) the intervention is primarily with the parents as opposed to the child; (2) there is an emphasis on the prosocial behaviors of the child versus the oppositional behaviors; (3) social learning theory is emphasized as part of the parenting techniques (e.g., tracking the child's behavior, positive reinforcement, and response cost); and (4) there is use of didactic instruction, role playing, modeling, rehearsal and homework exercises (Kazdin, 1995; Miller & Prinz, 1990 as cited in Mash and Barkley, 1998; Webster-Stratton, 1993). Parent training has been successfully used and it is short-term efficacy has been confirmed (Brestan, 1998; Danforth, 1998; Webster-Stratton & Hammond, 1997). Yet, its generalization and social validity varies depending on the particular research cited (Mash & Barkley, 1998). As a result of these differing findings and awareness of multiple causes and maintenance factors for ODD and CD, the parent training model has been broadened to the "behavioral family therapy" model of intervention (Mash & Barkley, 1998). This expansion was done in an attempt to better encompass the large number of family contextual variables that can influence ODD (Kazdin, 1997; Mash & Barkley, 1998; Prinz & Miller, 1994; Webster-Stratton & Hammond, 1997).

Webster-Stratton and Hammond (1997) found that child training concurrent with parent training produced more clinically significant results still present at a one-year follow-up. Yet, these results did not generalize to the school environment as reported by the teacher. The efficacy of the treatment is dependent upon the context of the defiant behaviors. Often, defiant behaviors are setting specific in younger children (Egeland, Kalkoske, Gottesman, & Erickson, 1990; Webster-Stratton & Hammond, 1997). Thus, the treatment method employed should be applicable to the specific situation and the type of behaviors present (e.g., parent training when the oppositional behaviors are evident only in the home).

General Intervention Strategies

Functional analysis. Functional analysis uses the systematic manipulation of identified variables to determine their influence on problem behavior. More specifically, functional analysis comprises a formal experiment in which the antecedent and consequent events linked with the disruptive behavior associated with ODD and CD are manipulated, therefore it is not a passive direct observation as in functional assessment (Worsdell, Iwata, Conners, Kahng, & Thompson, 2000). It is not only a useful assessment tool, but also the primary method by which researchers demonstrate basic behavior principles

(Horner & Carr, 1997). Sometimes the interview and/or direct observation results are unclear. Then, a formal functional analysis can supply reliable identifying the critical controlling variables. A practical issue related to functional analysis is the time required by the analyst. However, in approximately 66% of the cases, assessment information obtained from brief analysis yields clear patterns used to design effective interventions (Kahng & Iwata, 1999; Wallace & Iwata, 1999).

Contingency management strategies for parents.

Contingency management is based on the assumption that conduct problems develop as a result of the child's failure to regulate his or her own behavior. The literature states this lack of "self-regulation" as the result of poor parenting, in which the parents fail to provide consistent and appropriate consequences for the child's behavior (Johnston, 1996; Patterson, 1982; Patterson & Loeber, 1984). However, contingency management utilizes operant conditioning to shape behavior through the systematic structuring of consequences. It establishes clear behavioral goals that include increasing positive behaviors and decreasing negative behaviors through consistent consequences. For example, positive behaviors are increased through the use of reinforcement and include prosocial interactions with peers, respectful comments to adults, and appropriate expression of anger. Negative behaviors such as aggression, noncompliance, and rule breaking are decreased through punishment and other "negative" aversive consequences (Adesso & Lipson, 1981; Frick, 1998).

Contingency management is flexible and can be used in a number of settings (e.g., residential settings, parent management training, classrooms, and peer mediated contingency programs) (Danforth, 1998; Reid, Eddy, Fetrow, & Stoolmiller, 1999). Examples of such intervention include the following: contingent attention from parent/teacher, token economies, home-school note systems (i.e., child is rewarded at home for school behavior), and time-out. If contingency management is to be effective it must be planned carefully, systematically monitored, and the contingencies must be administered consistently.

Often, contingency management programs fail because they seem deceptively simple, as they only manipulate the consequences (Frick, 1998). In such cases where contingency management programs are unsuccessful, rule-governed behavior can be implemented by manipulating antecedents, consequences, or both (Gewirtz & Peláez-Nogueras, 1991). Working from a behavior-analytical perspective, a rule comprises the three-term contingency and places importance on the interdependence of the antecedent, behavior, and consequence (Peláez-Nogueras & Gewirtz, 1995). Therefore, in particular circumstances, the use of rule-governed behavior may result in promoting and maintaining adaptive behaviors for this specific population.

Strategies for classroom management. Studies show that teachers' normal rate of praise for prosocial behavior is too low or insufficient to maintain prosocial behaviors for children with moderate conduct problems. Thus, the rate of praise, especially for noncompliant and oppositional children,

should be increased while ignoring inappropriate behaviors. Other effective elements of classroom management for children with ODD include: 1) establishing clear rules and directions and following them consistently; 2) pacing a student's progress at his or her own rate; 3) positive and corrective feedback; 4) token economies; 5) response-cost programs (i.e., for excessive behaviors that cannot be ignored); and 6) time out (i.e., for excessive behaviors that cannot be ignored). Some teachers do not believe that their behavior relates to a child's oppositional and defiant behavior. However, changing the teacher's behavior can help to alleviate the ODD symptoms, especially with children who exhibit mild ODD behaviors. Furthermore, combining contingency management strategies with classroom behavioral intervention is imperative in order to decrease the behavior for children with extremely disruptive behaviors (e.g., a token economy combined with group contingencies) (Mash & Barkley, 1998).

Problems with stimulant or psychotropic medications.

Medication trials have been unsuccessful, for the most part, in altering neurobiological factors associated with ODD or CD. Lithium is one exception to this finding, as it has been shown to reduce aggression in severe emotional aggressive children who show episodic emotional outbursts (Frick, 1998). However, there are limitations to the applicability of lithium as a treatment modality. Specifically, lithium has a number of serious side effects and the subgroup of children in the research studies was ill defined (Frick, 1998).

Many children with disruptive behavior disorders have comorbid ADHD, making the treatment of ADHD critical. An effective stimulant medication for ADHD, Methylphenidate, has been found to reduce the rate of disruptive classroom behaviors, reduce aggressive interactions with peers, increase positive interactions with peers, and enhance the quality of interactions between the child and adults (Conners, Barkley & Davis, 2000). Researchers have found stimulant medication beneficial when treating children with conduct problems (e.g., ODD) and ADHD (Frick, 1998). Yet, the effects of stimulant medications on motivation and affective self-control has not been well researched (Barkley, 1997). Adverse affects of such medication include the following: sadness, irritability, clinging behaviors, insomnia and anorexia. Furthermore, several effects related to growth such as heart rate and blood pressure changes have been found to correlate highly with stimulant medication (Bezchlibnyk-Butler & Jeffries, 1998).

Advantages of Behavior-Analytic Interventions

In general, behavior-analytic interventions consist of adding adaptive behaviors to a child's repertoire or expanding upon already existing adaptive behaviors with the goal of replacing or reducing the exhibition of maladaptive behaviors. These interventions, which are based on positive parenting models, foster healthy parent-child interactions (Ducharme, Atkinson, & Poulton, 2000). Often, as a result, the child learns that oppositional behaviors are no longer functional for engaging in parent-child interactions (Ducharme & Van Houter, 1994). Furthermore, parental responses to their child tend to change

from reactive to proactive, thus, further reducing parent-child conflict.

CONCLUSION

Considering a prevalence rate of two to 16% for ODD, and that it has been shown to be a precursor to CD, it becomes evident that early diagnosis and proper behavioral treatment are imperative for these children, their families, and teachers. The increased knowledge about the developmental pathway of these children has advanced the risk factors as well as the protective factors. Timely behavioral interventions provided to these youngsters can lead to the development of prosocial interactions with peers, parents and teachers. Also, these children can learn to regulate their own behavior, resulting in better impulse control and positive prosocial behaviors. Thus, early attention from parents and professionals can lead to an improved prognosis for this special group of children during development.

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