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FAMILY ASSESSMENT IN BEHAVIORAL PARENT TRAINING FOR ANTISOCIAL BEHAVIOR

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Family assessment as a means of guiding research and practice in mental health and pathology has been carefully examined in the preceding chapters of this text. Individuals, whether healthy or disturbed, function in a network of social interactions, with the primary system of interaction being that of the family. Children, as part of that family system, are not only influenced by other family members within the system but also influence other members and, simultaneously, the dynamics of the total system. The complex network of social interchanges that comprise human functioning begin with the parent-child relationship (see Lerner & Spanier, 1978, for a dynamic-interactional model of development). The ongoing reciprocal interaction between individual family members and its effect on child development and behavior has become an area of increasing interest to researchers (Reid, 1978; Patterson, 1982; Wahler & Dumas, 1984; Hartup & Rubin, 1986; Laosa & Sigel, 1982).

The field of behavioral parent training, with the focus on parent-child interactions, has emerged from early research in applied behav-

ioral analysis as an indirect treatment intervention, building on the skills of family members to instigate change in the management of child behaviors. Initially, empirical research in parent training consisted of investigation into the uni-directional linear effects of parent responses on child behavior. Early on, little attention was directed at exploration of the influence of child variables upon parent behavior. Research in parent training has since addressed the reciprocal nature of child behavior and parent management skills.

Until very recently, assessment of children has relied primarily on the individual child from a normative perspective to determine level of functioning, developmental status, personality characteristics, and normal and deviant behavior in order to guide clinical treatment and therapeutic processes. Within the past decade, the child assessment literature is placing an increasing emphasis on family variables and their influence on child health and pathology (Mash & Terdal, 1988; Prinz, 1986). Researchers and clinicians alike have long recognized the need to address childhood behaviors within the context of the environments in which they are manifest. The trend toward expanded assessment procedures that take into consideration family variables has also developed in response to the needs of children who exhibit antisocial behaviors and the needs of their families.

Research in the field of behavioral parent training has begun identifying family variables that place children at risk for the development of antisocial behavior patterns and has extended our understanding of the factors involved in the development, facilitation, and maintenance of various child behaviors. This understanding is especially instrumental in making determinations regarding normal and deviant functioning, prognosis for an individual and family, treatment planning, and treatment evaluation. Behavioral parent training, also referred to as child management training, is one of only a few treatment approaches that addresses the family rather than the individual child and has been found to be an effective form of treatment for children who exhibit antisocial behavior (Kazdin, 1987a). The present chapter investigates the family variables that have been found to correlate with conduct disorders and antisocial behavior in children and explores how parent management training has been used to assist families in the management of childhood behavior problems. Assessment techniques and procedures most frequently used in behavioral parent training to evaluate family interactional patterns in order to identify needs, guide the course of treatment, and determine program efficacy are described.

ANTISOCIAL BEHAVIOR IN CHILDREN

Just as there is a wide range of childhood behaviors considered normal at any age, the range of behaviors considered to be deviant is also broad. Both the determination of normality and the determination of deviancy are dependent upon contextual factors such as environment, expectations, and developmental level, as well as on the severity, intensity, and pervasiveness of the behaviors being considered (Kazdin, 1987a). In addition, what behaviors are seen as normal and what behaviors are viewed as deviant are dependent upon the perceptions of those observing or rating the behaviors. Certain antisocial behaviors are considered to be normal for a 2-year-old but are not acceptable for a 10-year-old (i.e., whining). Likewise, other behaviors such as hitting peers may be displayed normally at age 4 at a low level of intensity and because of contingencies in place in the environment, and may be extinguished before they escalate to higher levels of intensity or become pervasive. There are other behaviors, such as fire setting and cruelty to animals that are considered deviant solely on the basis of their severe ramifications, and very few occurrences of a particular behavior are enough to label the child as deviant or delinquent.

Antisocial behaviors are displayed at one time or another by almost every child and are defined by Kazdin (1987a) as violations of social rules and/or as actions against other people. Antisocial behavior becomes problematic when it is demonstrated repeatedly over long periods of time or when the intensity of the actions are severe. Conduct disorders refer to antisocial behaviors that are of clinical significance and not considered to be within the normal range of functioning (Kazdin, 1987a). For the purpose of this chapter, the terms antisocial behavior and conduct disorders will be used interchangeably and include classes of behavior that are deviant or aversive to others within a social context. These terms may be used to refer to any one or a combination of behaviors that involve breaking social rules and/or societal laws, including aggression, disruptive behavior, destructive behavior, truancy, and lying (Kazdin, Siegel, & Bass, 1992).

Conduct disorders in children have a far-reaching impact, not only for the child, but for the family, the school, the community, and society in general. Research has indicated that childhood conduct problems correlate with school achievement (Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1984), social adjustment (McMahon & Forehand, 1988), self-esteem (Capaldi & Patterson, 1991), substance

abuse (Kazdin, 1987a), depression (Patterson, Capaldi, & Bank, 1991), criminal behavior (Kazdin, 1987b), and other forms of adult antisocial behavior (Loeber, 1982). There is evidence to suggest the cycle of antisocial behavior and poor parenting is intergenerational and, therefore, the effects are not short-lived but chronic, persisting from one generation to the next (Elder, Caspi, & Downey, 1986; Kelso & Stewart, 1986; Robins, 1966).

ANTISOCIAL BEHAVIOR AND THE FAMILY

The parental role is of major importance in the process of socialization of young children. Parents through interactions with their children engage in behaviors that serve to extinguish or reinforce certain prosocial behaviors and other behaviors considered to be antisocial. Very young children typically exhibit high rates of aversive behaviors (Patterson, 1982), yet for a majority of youngsters most negative behaviors do not persist beyond early childhood. In the normal population, young children display numerous deviant and antisocial behaviors in their parents' presence at a surprisingly high rate. As children mature and acquire more appropriate means by which to achieve need fulfillment and to interact socially with others by means of parental responsiveness, the deviant behaviors diminish and are replaced with more socially appropriate behaviors (Pettit, Harrist, Bates, & Dodge, 1991). By the time most children reach elementary school age, appropriate social functioning has become the predominant mode by which they interact with other children, as well as, with adults.

There are a number of ecological, parental, and child variables that correlate with the development of deviant behaviors in childhood and later in adolescence and adulthood. Those variables range from molar or global to molecular in nature (Capaldi & Patterson, 1988). Research into the global correlates has revealed that families at highest risk for antisocial behavior are those with high levels of environmental stress (Wahler & Hann, 1986), low socioeconomic status (West, 1982), marital discord (Glueck & Glueck, 1968), multiple family transitions (Capaldi & Patterson, 1991), familial substance abuse or antisocial behavior (Kelso & Stewart, 1986), and parental depression (Biglan, Hops, & Sherman, 1987). It is important to note that many of the constructs that are related to antisocial behavior have complex paths of influence. For example, although it has been found that there is a higher incidence of antisocial behavior in families within the lower socioeconomic range, Werner (1987) observed that socioeconomic status per se was not the determining factor. Low

socioeconomic status in combination with family instability correlates with delinquent behavior in children (Capaldi & Patterson, 1991).

Although these global variables correlate with a higher incidence of problem behaviors in children, they are variables that do not explain the direct causes of conduct disorders nor do they readily address the explicit nature of the problem in a manner that would lead to practical solutions. Investigation into global variables can alert practitioners as to who is most at risk for conduct disorders, whereas a micro-analysis of interactional patterns between parents and children in normal families and in families exhibiting behavioral concerns gives a much clearer picture of changes that can be made to ameliorate the faulty patterns of familial interaction that maintain antisocial behaviors.

Johnson, Wahl, Martin, & Johanssen (1973) found, in a normal population of 4- to 6-year-old children, that prosocial behaviors accounted for only 34% of their behaviors during interactions with other family members. Deviant behaviors were estimated to occur at a mean rate of more than once per minute. Johnson et al. then analyzed the consequences of these deviant behaviors and found that parents responded with positive consequences to their children's deviant behaviors as frequently and sometimes more frequently than with the use of negative consequences.

Pettit, Harrist, Bates, and Dodge (1991) conducted research to examine the family interaction variables that were associated with the development of social competence and antisocial behavior in young children. Parenting variables during the preschool years found to correlate with prosocial skills in kindergartners, included responsiveness and proactive involvement (Pettit et al., 1991). Preschool children, whose parents engaged them in more positive social interactions through contingent attention and teaching events were rated as being socially competent by their kindergarten teachers. Pettit and colleagues found that parental use of coerciveness and intrusiveness with preschoolers correlated with antisocial behavior in kindergarten age children. Parents who engaged in aversive interchanges with their preschool age children through noncontingent attention and negative affect had children whose kindergarten teachers rated them higher on aggressive behavior.

The implications for parents regarding the processes of child development, child management, and the resulting child behaviors are that they must not only be knowledgeable about the kinds of behaviors to be expected at different ages, but they must also know how to arrange contingencies to extinguish misbehavior and to accel-

erate the occurrence of appropriate behavior. Effective child management requires parents to recognize and reinforce acceptable social behaviors when emitted by their child and to identify and efficiently ignore or use mild forms of punishment for unacceptable behaviors. Parents who are not knowledgeable about normal child development and who have inept parenting skills may have unrealistic expectations and use inadequate methods to teach and manage child behavior. Consequently, they may fail to recognize and reinforce appropriate child behavior when it occurs or they may be more aware of aversive behaviors and attend more frequently to the child when he or she is engaging in inappropriate behavior, thus creating a pattern of negative interactions with the child.

Several causal models have been developed to explain family variables influencing the development and maintenance of antisocial behaviors (Bank, Patterson, & Reid, 1987). Patterson and associates at the Oregon Social Learning Center (OSLC) have engaged in extensive research efforts since the 1960s to determine the causes and effects of antisocial behavior in boys. Longitudinal studies have explored variables associated with deviant child behaviors, family characteristics, and parent training intervention. In building their theoretical models of the emergence of antisocial behavior in children and its consequences, researchers at OSLC have continued to refine assessment techniques and to build constructs through a process referred to as bootstrapping (Patterson & Bank, 1986). Their exemplary work has offered researchers and clinicians a conceptual framework for understanding antisocial behavior and for designing effective treatment interventions.

A basic training model developed by Patterson (1986) and colleagues traces the development of antisocial behavior from a framework of coercive family process. The coercive process (Patterson, 1982) consists of a series of aversive exchanges between the parents and child that eventually result in the removal of the unpleasant or aversive stimuli for both individuals. Typically, the pattern of coercive parent-child interchanges begins when the child is young and appears to occur most often with children who have difficult temperaments and whose parents lack adequate child management skills (Patterson, 1986).

The coercive interchange between parent and child may begin with something as innocuous as a request by the parent directed at the child. The child reacts by whining and refusing to comply. The parent in turn reacts to the whining behavior and refusal by scolding the child. As the parent and child continue to engage in this series of

exchanges, one of three outcomes may occur. The parent may disengage himself or herself from the situation, consequently resulting in negative reinforcement for the child who no longer is expected to comply with the initial request and for the parent who is no longer confronted with a whining child. The second outcome may be that the child eventually complies with the parent's request, thereby reinforcing the parent's scolding behavior. The third outcome, the worst case scenario, is that the intensity of the interchange escalates, with the parent yelling louder, the child screaming and crying, leading to the exchange of verbal and physical abuses, and eventually resulting in the termination of aversive parent and child behaviors.

Over an extended time period, as these patterns of coercive exchanges continue, both parent and child are negatively reinforced for their behaviors and the child is not taught appropriate social behavior, much less, given the opportunity to develop and practice the use of appropriate problem-solving skills. The final result is that the child continues to exhibit noncompliant and antisocial behaviors not only within the family setting, but also with peers, in school, and in the community, develops a poor self-concept, is rejected by peers, experiences school failure, develops associations with other antisocial adolescents, and eventually engages in criminal activity (Patterson, 1986).

There is evidence to suggest that child temperament may play a key role in placing children at risk for the development of antisocial behaviors (Elder, Caspi, & Downey, 1986; Thomas, Chess, Birch, Hertzig, & Korn, 1963) and that the coercive process may begin as early as infancy when infants who are irritable and difficult to pacify are reinforced by parental attention after lengthy crying episodes (Thomas, Chess, & Birch, 1968). In an attempt to quiet the infant, the parent's attending behavior is negatively reinforced by the cessation of crying. As the child gets older, the crying behavior is replaced by other forms of coercive behavior, which are terminated, at least for brief periods of time by the parents' responses. Elder, Caspi, and Downey (1986) studied data from hundreds of families over the course of four generations and found that an irritable temperament, characterized by high rates of temper-tantrums during childhood correlated with marital instability and explosive parenting style by those same individuals as adults. Temperament, therefore, may have implications for the immediate family and ramifications may be manifest intergenerationally.

Coercive parent-child interactions may be affected not only by behaviors of family members but also by parental social interactions

with individuals outside the immediate family (Panaccione & Wahler, 1986). Wahler and Dumas (1984) have studied the parenting styles of insular mothers, mothers who have little or no social support through family and friends, and noninsular mothers, those who have an adequate support system. There are significant differences between the two groups in the frequency of aversive and nonaversive interactions with their child. Not only do insular mothers become involved more frequently in coercive processes with their child, but they engage in multiple coercive interchanges, with spouses, extended family members, friends, and representatives from community agencies. There appears to be a direct correlation between the number of daily coercive interchanges a mother experiences with other individuals and the frequency of aversive interactions she engages in with her child (Dumas, 1984). When designing parent training programs, the traditional assessment may be supplemented by collecting additional information regarding the parents' perceptions of their relationships with other family members, friends, and associates. If a pattern of multiple coercive exchanges has been established, parent training alone may be insufficient to meet the needs of the family and child.

PARENT TRAINING

The current trend in clinical child therapy and educational interventions for children emphasizes the importance of a systems approach to assessment and treatment (Bernstein, 1983; Christenson & Cleary, 1990; Christenson, Abery, & Weinberg, 1986; Dumas, 1984; Kramer, 1985, 1990; Patterson, 1986). Behavioral parent training is one of only a few interventions that draws on the family system to facilitate change and it has been found to be one of the most effective clinical interventions for children with conduct disorders (Kazdin, 1987a). An indirect means of intervention, behavioral parent training seeks to change maladaptive child behavior by changing the contingencies within the child's daily environment. The view that the child is influenced by his/her environment, that parents are the primary change agents in a child's environment, and that parents can learn the skills that will facilitate the development of socially appropriate behaviors for their children are basic premises upon which child management training is based. Empirical findings support the tenet that parents can acquire skills necessary to assist their children in alleviating numerous behavioral and performance deficits and excesses (Bank, Patterson, & Reid, 1987; Davies, McMahon, Flessati, & Tiedemann, 1984; Kazdin, Siegel, & Bass, 1992; Rickert, Sottolano, Parrish, Riley, Hunt, & Pelco, 1988). Consequently, the influence of

effective parent training interventions may reach far beyond the immediate parent-child realm in which they are being employed. In fact, Ramsey, Walker, Shinn, O'Neill, & Stieber (1989) found a direct correlation between child management practices used by parents in the home setting and children's behavior in the school setting.

Assuming the primacy of the parent-child relationship as the foundation for all of the child's social interactions, it follows that compliance training initiated by parents for children who display high levels of noncompliant and antisocial behavior would serve to weaken the pattern of coercive interchanges and build more acceptable styles of social intercourse. Therefore, the most effective behavioral parent training programs for families of children with conduct disorders assist parents in acquiring the skills necessary to teach their children to comply with parental requests and household rules. Of course, this requires parents to make significant changes in how they respond to their child's appropriate behaviors and misbehaviors. A number of different approaches have been developed to accomplish this task and key components of several will be briefly reviewed.

Behavioral parent training for families of children with conduct disorders teaches parents to use effective child management skills based on social learning principles. A number of different parent training programs are available for use in clinical practice, many of which have been instrumental in affecting change in both parent and child behaviors (refer to Dangel & Polster, 1984 for an extensive review; Patterson, Reid, Jones, & Conger, 1975; Forehand & McMahon, 1981; Barkley, 1987; Webster-Stratton, 1984). Methods used for training parents vary but usually include a form of didactic instruction combined with modeling, role-playing, practice, and immediate performance feedback (Dangel & Polster, 1984; Rickert et al., 1988; Davies et al., 1984) presented in a group format or individual family instruction (Webster-Stratton, 1984). Self-administered videotape training programs have also been used and found to be an effective supplement to group and individual training (Webster-Stratton, Kolpacoff, & Hollinsworth, 1988).

The primary emphasis of training programs for parents of antisocial children is on changes in parent behaviors that will result in positive changes in the child's behavior. Parents learn how to respond to the child's appropriate and inappropriate behaviors in a contingent manner to increase prosocial skills and decrease antisocial behavior. They acquire skill in the effective use of reinforcement techniques and learn how to use mild forms of punishment to extinguish negative child behaviors. Not all parent training programs

utilize the same techniques and methods to accomplish these goals; however, the end result, an increase in effective parenting skills and a decrease in antisocial child behavior, is most often achieved.

The pattern of coercive interaction that is typical of children with conduct disorders and their families is changed by parents who discontinue the reciprocal use of negative social behaviors. Parents learn to identify the types of behaviors their child is displaying and disengage themselves from the coercive cycle by ignoring mildly aversive child behaviors and using effective discipline techniques such as time-out and cost-response when more aversive behaviors are exhibited. Parents also acquire skill in eliciting child compliance by utilizing differential attention and they learn how to reinforce prosocial child behaviors using a variety of techniques including praise, positive physical contact, and token systems (Patterson et al., 1975; Dangel & Polster, 1984; Forehand & McMahon, 1981; Barkley, 1987).

OUTCOMES OF PARENT TRAINING

The efficacy of behavioral parent training in treating conduct disorders has been demonstrated in numerous studies (see Kazdin, 1985). Not only has parent training been instrumental in affecting behavioral changes for parent and child immediately following treatment, but studies have shown long term maintenance of results as well as generalization across settings and individuals (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991; Webster-Stratton, 1990; Webster-Stratton, 1984; Webster-Stratton, Kolpacoff, & Hollinsworth, 1988). In addition to the effects on behavior, parent training has also been found to have positive impact on parental knowledge of behavioral concepts, attitude toward and perceptions of the targeted child, and maternal ratings of depression (McMahon, Forehand, & Griest, 1981; Patterson et al., 1975; Spitzer, Webster-Stratton, & Hollinsworth, 1991). Diverse populations of parents, including teenage parents (Hans, Bernstein, & Percansky, 1991), low-income parents (Strayhorn & Weidman, 1989), and child abuse perpetrators (Barone, Greene, & Lutzker, 1986), have been successfully trained to acquire functional parenting skills.

The ultimate determination of efficacy of any parent training program is the observed or perceived change of child behavior; however, the variables contributing to child behavior change must be determined. Because parent training procedures are developed based upon an indirect service delivery model and involve imparting information and teaching skills to parents, which in turn will be used to influence child behavior, assessment can be used to determine the

effect of trainer-parent interaction through measures of parental behavior change, parent-child interaction by assessing child behavior change, and the dyadic parent-child relationship through observation of parent and child interactions. In order to counterbalance potential bias in data collection and to assess all relevant variables, multiple methods and sources are often used to determine the extent of behavior change and generalization across time, settings, behaviors, and individuals (Patterson & Bank, 1986).

Behavioral observations of parent-child interaction in clinic and home settings provide clinicians with information regarding the acquisition of specific skills and changes in parent and child behaviors following parent training. Pre-test/post-test comparisons of parent training intervention have shown that parents have acquired skills in the use of differential attention, giving instructions to elicit specific child behaviors, teaching their child new skills, using time-out as a discipline technique, and using token systems to increase compliance (Budd & Fabry, 1984; Budd, Riner, & Brockman, 1983). Patterson et al. (1975) reported that results of observations following family involvement in parent training showed that parents were able to use punishment more effectively to decrease the occurrence of coercive exchanges with their child and that children engaged in fewer aversive behaviors during interactions with other family members. Observations conducted by Forehand and colleagues showed parent training to be effective in increasing maternal use of rewards, attending to child following appropriate behavior and contingent attention to compliance, decreasing commands and questions, and increasing child compliance to parental requests (Forehand & McMahon, 1981).

ASSESSMENT OF PARENT TRAINING

There are a multiplicity of measurement instruments used for assessment in parent training in both research and clinical practice. Normative assessment is used to measure child behavior, self-esteem, parent perceptions and attitude, family demographics, and numerous other child and parent variables. No standard assessment battery is used in the parent training research or by clinicians, although similar classes of dependent variables are generally assessed. Typically, a combination of measures, most often child behavior rating scales, a child self-report measure, a measure of parent attitude, and a parent stress or depression index are commonly used to assess pathology and the need for treatment, to determine the course of therapy, and to evaluate treatment efficacy. These measures are convenient to use, are readily accessible to clinicians and researchers, provide global

information regarding parent and child variables, and yield normative data. Although these instruments offer valuable information to the clinician, they rely on inferences made by respondents regarding parent and child variables which are considered as separate entities, however, and do not provide information pertaining to patterns of family interaction. For example, child behavior checklists completed by parents and teachers may reveal that a child exhibits a high frequency of externalizing behaviors, including fighting, uncooperative behavior, and destructive behavior. Parental assessments indicate that the mother's stress and depression indexes are high. This information is useful, yet limited. It alerts the clinician to some of the problems the family is experiencing, but it does not provide information regarding the specific interactional patterns between parent and child or between child and other family members that may be sustaining the antisocial behaviors. Direct assessment of molecular variables through direct observation provides information regarding specific, discrete units of behavior exhibited by individual family members as they interact with one another. The observation can supply a record of sequential behaviors revealing the parental antecedents to particular child behaviors and the parents' responses to those behaviors. This information is useful in determining specific skills and behaviors that are in need of modification.

The need exists for the use of both normative and idiographic assessment in the design, implementation, and evaluation of treatment programs. Normative assessment generally identifies and measures molar variables and facilitates a summative evaluation of outcomes. The measures are generally global and rely on accurate observations and recall of respondents over extended periods of time. In addition, they do not address the interactional processes that are central to understanding family functioning and disciplinary practices. Direct observation of those interactions in the form of formative, idiographic measures can help facilitate the progress of treatment by identifying specific units of behavior as they occur. The frequency of occurrence of such molecular variables is measured, but more importantly, a chain of events involving not only the target individual, but others with whom that individual interacts can be measured. The frequency and sequence of events can be used to guide the treatment process. Ongoing measures of the frequency of the behavior identified as being in need of change can alert clinicians to the need to change training procedures if the rate of progress is minimal. The clinician is able to monitor progress by determining the change in parent-child interactions through direct observation of

those interactions. This type of formative assessment allows clinicians to identify and change procedures as needed based upon client progress or lack thereof.

The analysis of molecular variables can also assist in identifying the specific interventions and behavior changes that are responsible for specific outcomes. When global assessments are used to measure outcome, the resulting information may be useful in informing practice as to the efficacy of a particular treatment, but will leave many questions unanswered from an empirical perspective. That is to say, global assessments may inform clinicians about whether a particular treatment was effective or ineffective with certain clients, however, it does not necessarily provide information regarding the specific variables that were affected. Global measures provide information about broad behavioral or attitudinal variables that may or may not be directly applicable to the child/parent being studied or the intervention utilized. When assessment does not measure directly the behaviors or the skills being taught, then some form of generalization must occur for indirect measures to reflect changes. Behavior rating scales and measures of attitude are oftentimes completed by the very persons toward whom treatment is directed, possibly introducing bias into the assessment. Additionally, inferences must be made by those completing rating scales, thus further obscuring the assessment of discrete changes made as a result of the intervention. Each method of measuring child and family functioning has its place in assessment, dependent upon the rationale and goals of therapy. Global assessment provides information regarding more general child and family characteristics and correlates of antisocial behavior in the family. Micro-analysis of parent-child interaction offers researchers and clinicians information regarding specific communication and behavioral patterns that may be maintaining antisocial behavior.

Correlates of family functioning and conduct disorders in children have been analyzed by studying both molar and molecular variables. By studying the full range of variables associated with antisocial behavior, the child and family are viewed from multiple perspectives. The information obtained may then serve an explanatory function and pervasive effects for the entire family can be explored. Molar variables such as parental depression and socioeconomic status are not directly observable and may influence behavior indirectly. Molecular variables have a direct impact on an individual's behavior, are observable, and can be measured through observation. For example, the amount of time parents engage in monitoring of their children's behavior is highly correlated with antisocial behavior

in children. The more supervision, the less likely is the appearance of antisocial behavior. Although molar variables tend to be relatively stable over time, molecular variables may change depending upon the developmental level of the child, environmental factors, and skill levels of the parents.

Hayes, Nelson, and Jarrett (1987) recommend that assessment used in clinical practice have treatment utility. Behavioral observation can be used to formatively guide treatment and to contribute to treatment outcome. The measurement of discrete observable behaviors lends itself to formative assessment of behavioral changes occurring during family interaction. Formative assessment can be of particular value in increasing the effectiveness of parent training for individual families. The reiterative process that occurs during formative assessment provides the clinician with continual data regarding client behavior. Rather than relying on subjective judgment, a systematic means of assessing discrete behavioral change enhances the credibility of the program. The structured observation systems discussed below are suitable for this type of assessment. As part of ongoing treatment, brief observations can be conducted during therapy sessions that allow the clinician to assess interactions between parent and child, to implement treatment strategies with clients, to assess and obtain feedback regarding the effect of those strategies, to make adjustments according to that feedback, and to continually monitor the progress of therapy by collecting ongoing, objective data regarding parent-child interactions. Modification is central to the formative assessment of a program in that the clinician is constantly striving to develop the most effective treatment for clients and therefore making changes as dictated by the clients' responses to therapy. The most effective treatment is based on the individual needs of the client and the use of monitoring and feedback provide important information regarding those needs (Patterson, 1982). Observational coding systems are the few assessment instruments currently used in parent training to assess and monitor family interactions.

Several observational systems have been developed to measure family interactions, to assess acquisition of parenting skills during therapy, and to determine the extent of behavior change exhibited by the child. Clients can also make observations and record and report data (Patterson, Reid, & Maerov, 1978). Client observation can be useful in checking the reliability of observations made by independent observers, to monitor the incidence of low-frequency behaviors, and to supplement intervention by incorporating a self-monitoring procedure or parent-child monitoring component. The following

observational coding systems, developed for use in parent training programs, have been shown to have relatively high reliability and validity. They are described in order from least structured and intrusive to most structured. Generally, the less structure imposed during observations, the more varied the behaviors exhibited by the clients, whereas the more structured observation systems elicit specific behaviors of interest to the clinician.

Family Interaction Coding System

The Family Interaction Coding System (FICS; Patterson, Reid, & Maerov, 1978) was one of the first instruments developed for use with conduct disordered children to assess family interactions in the home setting. It is a comprehensive observational system that has been used extensively in research to assess interaction patterns that are typical of clinic-referred and non-clinic-referred families as well as in clinical practice to identify and evaluate family interaction patterns in need of modification.

Observations are done by an independent observer in the family's home. All family members are to be present during the observation and a minimal number of restrictions are reviewed with the family prior to being observed. These restrictions, regarding activities, the absence of non-family members, and interaction with the observer, were developed to facilitate the observation and to minimize extraneous behaviors not pertinent to assessment of family interactions. Each family member is observed during 5-minute intervals and his or her interactions with others are recorded. Duration and interval recording are used to collect data regarding interactions between family members.

The FICS yields a record of the frequency and duration of behavioral exchanges between the child and other family members. Data can be analyzed to produce a total deviant score and a total social score. The behaviors coded are categorized as first and second order, first order being more important diagnostically, clinically, and theoretically, and as verbal and nonverbal. The first order verbal behaviors that are subsumed within the total deviant category include: command negative, cry, humiliate, negativism, whine, and yell. First order nonverbal or verbal-deviant behaviors are destructiveness, disapproval, dependency, ignore, noncompliance, high rate (very physically active, repetitive behavior), tease, and physical negative. Other first order verbal and nonverbal behaviors include: command, laugh, approval, compliance, indulgence, play, physical positive, and work. Second order behaviors are to be coded only when it is inappropriate

to code first order behaviors and include: talk, attention, normative (routine behavior), no response, receive, self-stimulation, and touch.

Extensive training is required to teach observers to use the observation and coding system. Once didactic instruction and readings are completed and observers have memorized code abbreviations and definitions, an average of 15 to 20 hours of videotape practice is required before field experience begins. Frequent reliability checks and retraining, when needed, are recommended (Reid, 1978).

Using a small sample of observer protocols, Reid (1978) found inter-observer reliability across the 29 behavioral codes to range from 30% agreement for the self-stimulation category to 96% agreement for the no response category, with a median percentage of 72 across all 29 behavioral code categories (Reid, 1978; Patterson, 1982).

Dyadic Parent-Child Interaction Coding System

Eyberg and colleagues developed a structured observation system, the Dyadic Parent-Child Interaction Coding System (DPICS), for use in clinical practice with conduct disorder families (Robinson & Eyberg, 1981). The DPICS assesses parent-child interactions during brief observation sessions. The child-directed interaction session is less structured and requires the parent and child to interact together in child-initiated play activities. During the parent-directed interaction session, the parent and child engage in an activity that the parent has chosen and for which the parent has established rules. Observations are also conducted during a brief clean-up session. Nineteen parent and child behavioral categories are used for the child-directed interactions and 22 categories are used during the parent-directed interactions. Observations are conducted during 5-minute sessions and continuous recording of the frequency of behavioral categories is done by an independent observer for a sequential account of parent-child interactions. The component behavioral categories are used to form the following variables: total praise, which includes labeled plus unlabeled praise; total deviant, which is the total of whine, cry, physical negative, smart talk, yell, and destructive; total commands, which consists of direct commands plus indirect commands; command ratio, which is the number of direct commands divided by the total number of commands; no opportunity ratio, the number of no opportunities divided by the total commands; compliance ratio, the number of direct commands divided by total commands; and non-compliance ratio, non-complies divided by total commands.

Observer training using the DPICS involves readings, practice observations using videotaped role-plays of interactions, and practice

coding of real-life family interactions. Interobserver reliability was found to be high, with a mean reliability coefficient of .91 for parent behaviors and .92 for child behaviors. Studies of validity have demonstrated that the DPICS differentiates between families with conduct problems and normal families and also between children with conduct problems and their siblings (Robinson & Eyberg, 1981).

Behavioral Coding System

The behavioral coding systems used in the parent-training program developed by Forehand and McMahon (1981) are designed for use in clinic and home settings. Clinic observations, 5 minutes in length, are conducted in structured settings, whereas the 40-minute home observations are semistructured. Behavioral sequences during parent-child interactions are observed and recorded. The coding system includes target behaviors exhibited by the parent and child to assess parent skill in managing the child's behavior and the occurrence of contingent noncompliant, compliant, and inappropriate child behavior. The clinic observations incorporate a Child's Game condition and a Parent's Game condition within which the parent and child interact. The Child's Game is a free-play situation whereby the child determines the activities and rules of play. The Parent's Game is a command situation requiring the parent to select the activities and rules of play when parent and child interact. The observations, which last 5 minutes for both of the game conditions, serve a formative function by allowing clinicians to identify and measure the skills parents use in managing their child's behavior under different circumstances and within different contexts. Specific parent and child behaviors are coded and, through direct observation, therapists monitor the parent's use of child management skills during interaction with their child. The information is then used to develop a treatment program that assists the parent in decreasing ineffective behaviors and increasing the use of effective management techniques.

Data collection and recording are similar for both clinic observations and home observations; however, the conditions in place for the home observations are less structured. Parameters are set for the observation setting in the family's home to facilitate data collection and consistency across observations. Those parameters include a 40-minute duration for the observation, the parent and child stay in a two-room area and remain visible to the observer, restrictions are placed on activities involving board games, television, playing cards, and books, and on the presence of other people, telephone calls, and conversation between observer and the individuals being observed.

A sequential analysis of parent and child behaviors results from the observations. An interval recording system is used that allows for the recording of as many as 10 interactions within 30-second time segments. The behaviors coded and recorded include parent behaviors that serve as the antecedents to the child's behavior, the child's behavior, and the parent's response to that behavior. This sequence of interactions allows the therapist to determine the skills the parent is using to elicit and maintain compliant or noncompliant child behaviors. The analysis provides information about the rate and frequency of compliant child behavior and the parent's use of skills taught in the parent-training sessions.

Behavioral codes are included for the following parental antecedent behaviors: alpha and beta commands, warnings, questions, attends, and rewards. Child compliance and noncompliance are coded and recorded only when following the antecedent parent behavior. Also coded are consequences of attend, reward, or time-out imposed by the parent in response to the child's behavior and a notation is made to indicate whether the child's behavior is appropriate or inappropriate.

Observer training involves readings, discussion, didactic instruction, written exercises, demonstration, practice, and feedback. Small group instruction is used for training and typically a total of 20 to 25 hours is required for observers to achieve adequate levels of agreement. Forehand and associates have reported adequate levels of interobserver and test-retest reliability for this observation system (Forehand & Peed, 1979; Peed, Roberts, & Forehand, 1977).

Playroom Observations of Parent-Child Interaction

Barkley (1987) has made adaptations to the coding and observation system used by Forehand and McMahon (1981) for use in clinical training programs for parents of children whose behavior is difficult to manage. Modifications included slight changes in the behavioral categories and definitions of the coding system and different conditions during which parent-child interactions are observed. The three-step behavioral sequences of parent-child interaction beginning with parent antecedent and ending with parent response are observed and recorded during 1-minute time intervals. The coding form developed for use with this system facilitates observer coding by including abbreviations of the codes in each of the spaces designated for that coding interval.

One of the unique features of Barkley's observation system is the context in which the parent and child interact. Observations are

conducted in a clinic playroom or in the family's home. The parent and child are given time to acclimate to the playroom, or the presence of the observer in the home, during the 5 minutes before the observation begins by engaging in unstructured play activities. Immediately prior to the observation, parents are provided with a list of 10 developmentally appropriate instructions to use with their child. Parent-child interactions are recorded for 10 minutes as the parent instructs the child to accomplish the tasks on the list. The instructions given to the child are one- and two-step commands, such as "put your shoes on" and "fold these clothes neatly and put them in the box."

Parent behaviors coded include the initial command and repeat commands given by the parent, child compliant, noncompliant or negative behavior, and parent approval or negative response to the child's behavior. Data analysis yields rate of parental commands per minute, rate of repeat commands per original command, percentage of total child compliance during the observation session, percentage of negative child responses for each command, rate of parent approvals per minute, and rate of parent negatives per minute.

Structured Observation System

The structured observation system developed by Budd and associates directly assesses parent-child interactions as parents demonstrate their skill mastery in the use of selected child management techniques (Budd, Riner, & Brockman, 1983). The observation system was designed as a standardized, formative assessment instrument to be used in conjunction with behavioral parent training to monitor parents' skill acquisition. It is especially suited for clinicians because it yields information pertinent to the needs of clients, minimal observer training is required for reliable use (Budd & Fabry, 1984); it can be used with diverse populations of parents, children, and behavior problems; it takes little time to administer; and it can be used frequently to monitor client progress (Budd, Riner, & Brockman, 1983).

Observations are conducted by independent observers in the family's home or in the clinic setting. Each observation ranges in length from 5 to 12 minutes, depending upon the technique being assessed. A set of five child management techniques frequently taught in parent training are used for the observation and include: instruction giving, differential attention, the use of a token system, teaching new skills, and the use of time-out. Each technique has been task analyzed to identify the sequence of component behaviors necessary for skill mastery. As parents engage in structured activities with

their child, their mastery of the child management techniques is assessed and the child's behaviors are also recorded.

Ratings are then obtained for both parent and child behaviors according to the specific behaviors displayed during the observation period. Although child behavior is observed and noted, the emphasis of this system is assessment of change in parent behavior. Parent and child data are used to calculate the following parent scores: percentage of appropriate parent responses in comparison to the total number of available opportunities for instruction giving, teaching new skills and use of token systems and total number of praise and ignore responses contingent upon child behavior for differential attention. The assessment of the use of time-out is completed in a role-play situation with the use of a confederate, rather than with the child, and scoring is based on the total number of occurrences and nonoccurrences of correct parent behaviors compared to the total number of correct responses to yield an overall correct performance score.

Observer training is conducted through didactic instruction, videotaped practice sessions, and practice in families' home with an experienced observer. Adequate levels of observer reliability are generally achieved with approximately 2 to 8 hours of training per structured activity (Budd, Riner, & Brockman, 1983). The observation system can be learned independently with relative ease by parent trainers as demonstrated by Budd and Fabry (1984) who found the amount of training time to be considerably less than that estimated by Budd and her associates, with mean length of training being 1.3 to 5.5 hours per structured activity.

High levels of interobserver reliability have been reported for the system. Interobserver agreement was determined for the component behaviors for each of the structured activities. The mean percentage of agreement across component behaviors ranged from 82% on the teaching new skills activity to 94% on the differential attention activity, with a range of 63% to 100% agreement for component behaviors. The system was also found to be sensitive to changes in parent behavior resulting from parent training, with significant differences between pretest and post-test scores on 50 out of a total of 53 behavioral components.

CONCLUSION

Childhood conduct disorders if left untreated have significant implications for families and society in general. Assessment of family interactions has revealed the importance of measuring not only disparate parent and child variables but of evaluating the contextual environment in which antisocial behavior develops and is main-

tained. There are numerous assessment instruments available for evaluating the effectiveness of behavioral parent training. Many of the assessments currently being used for parent training are normed paper-and-pencil tasks completed from the perspective of one individual for the purpose of evaluating separate child and parent characteristics, but they do not directly assess family functioning. The observation instruments described in this chapter are the most commonly used methods to assess the interactions between parents and child and are sensitive to changes in high frequency behaviors over time.

No one method of assessment can adequately sample the array of variables associated with the effective training of parents in the use of child management skills. It is not enough to assess changes in parents, children, dyadic interactions, or even multiple familial dynamics, alone. For any program to be successful, any positive changes must be generalize to other settings, other individuals, and over extended periods of time. A wide variety of assessment methods and techniques are needed to provide a comprehensive view of children and their families as they function within the family setting and within the community.

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