

# Chapter 11

## Multidimensional Family Therapy for Adolescent Substance Abuse

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### Introduction

The ultimate goal of psychotherapy research is specification of intervention models and therapeutic strategies with documented effectiveness in treating a given disorder within a given population. A primary step in pursuing this goal is establishment of treatment efficacy. Treatment efficacy refers to intervention strength in producing an expected positive effect under optimal conditions of participant sampling, treatment setting, and treatment implementation (Hoagwood, Hibbs, Brent & Jensen, 1995; Seligman, 1996). Establishing efficacy is not a simple matter. Recent efforts to establish concrete criteria for judging whether a treatment has been proven efficacious (Chambless, 1996; Chambless & Hollon, 1998; Crits-Christoph, 1996; Task Force on Promotion and Dissemination of Psychological Procedures, 1995) have emphasized the following minimally necessary features: (a) existence of an intervention manual that specifies the hypothesized components of change within the treatment and presents guidelines for therapist training and model implementation; (b) testing of the treatment with well-defined samples from populations for whom the treatment was designed; (c) evaluation of treatment processes and outcomes using assessment instruments with established psychometric quality and clinical utility; and (d) controlled research involving comparison of the treatment with appropriate control groups in randomized clinical trials. While not without its critics (e.g., Garfield, 1996), the movement toward codifying criteria for treatment efficacy is noteworthy at the least for galvanizing intervention researchers to scrutinize their methods, identify gaps in basic scientific knowledge as well as applied efficacy concerns, and consider issues related to transporting and disseminating efficacious models to standard clinical settings (Borkovec & Castonguay, 1998; Chambless & Hollon, 1998).

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Over the past two decades, the field of child and adolescent psychotherapy has made great strides in testing the efficacy of empirically based treatments for a diverse range of childhood disorders (Durlak, Wells, Cotten & Johnson, 1995; Kazdin, 1991; Weiss, Weisz, Han, Granger & Morton, 1995). The consensus drawn from several meta-analytic reviews of controlled research is that, overall, child and adolescent psychotherapy produces substantial positive effects (Casey & Berman, 1985; Kazdin, Bass, Ayers & Rodgers, 1990; Weiss, Weisz, Alicka & Klotz, 1987; Weiss *et al.*, 1995). Moreover, Kazdin and Weiss (1998) identify several specific intervention approaches with impressive research portfolios that might be judged as meeting criteria for efficacious therapies. These include cognitive-behavioral therapy for child anxiety, parent management training for oppositional and aggressive behavior, and systemic family therapy for adolescent anti-social behavior.

There is no doubt that controlled efficacy studies have greatly advanced the empirical knowledge base on child and adolescent psychotherapy. However, Kazdin (1994) reminds us that investigating treatment efficacy is but one stage of the multistage process needed to reach the ultimate goal of specifying effective treatments. Kazdin cogently argues that, because research on child and adolescent psychotherapy is still at a relatively early stage, there is much to be gained from adopting a systematic approach to developing and validating effective interventions. That is, the progression of empirical knowledge in the field might be maximally enhanced by adherence to a plan of treatment development. This plan would map out the steps needed for building and testing efficacious treatments according to prevailing scientific standards. In the addictions field, these standards have been articulated in work that has been called the technology model of treatment research (Carroll, Rounsaville, & Keller, 1991; Carroll *et al.*, 2000). Planful treatment development has the compelling virtues of (a) offering a common metric for assessing progress in developing effective interventions of various kinds for various disorders and (b) guiding intervention researchers toward efficient, incremental, prioritized additions to the existing knowledge base.

The steps of treatment development proposed by Kazdin (1994) are reproduced in Table 1. Two aspects of this plan warrant emphasis. First, theory development, which includes conceptualization of the dysfunction being treated and the model being tested, plays a leading role. Productive theory development can contribute at both ends of the treatment development process: it promotes construction of clinically practical and targeted interventions, and it provides the basis for interpreting treatment research findings and utilizing those findings to craft successive improvements in the model being evaluated (Liddle, 1999). Theory development therefore requires attention to the original conceptual structure that supports a given model and to the evolution of that structure over the course of repeated model implementation and testing. Second, treatment efficacy research is integrated into a larger framework of psychotherapy research that also includes investigation of core mechanisms of change and treatment effectiveness across diverse populations and contexts. Efficacy research is but one stage of the treatment development process, and each stage is crucial for informing work in other stages and advancing the enterprise as a whole.

This chapter presents the treatment development history of an outpatient family-based intervention for adolescent drug use and behavior problems, multidimensional family

Table 1: Steps in Developing Effective Treatments.

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1. **Conceptualization of the Dysfunction**  
Conceptualization of key areas that relate to the development, onset, and escalation of dysfunction, proposal of key processes that are antecedents to some facet of conduct disorder and the mechanisms by which these processes emerge or operate.
  2. **Research on Processes Related to Dysfunction**  
Research that examines the relation of processes proposed to be critical to the dysfunction (conduct disorder) to test the model.
  3. **Conceptualization of Treatment**  
Conceptualization of the treatment focus, how specific procedures relate to other processes implicated in the dysfunction and to desired treatment outcomes.
  4. **Specification of Treatment**  
Concrete operationalization of the treatment, preferably in manual form, so that the integrity of treatment can be evaluated, the material learned from treatment trials can be codified, and the treatment procedures can be replicated.
  5. **Tests of Treatment Process**  
Studies to identify whether the intervention techniques, methods, and procedures within treatment actually affect those processes that are critical to the model.
  6. **Tests of Treatment Outcome**  
Treatment studies to evaluate the impact of treatment. A wide range of treatment tests (e.g., open [uncontrolled] studies, single-case designs, full-fledged clinical trials) can provide evidence that change is produced. Several types of studies (e.g., dismantling, parametric, and comparative outcome) are relevant.
  7. **Tests of the Boundary Conditions and Moderators**  
Examination of the child, parent, family, and contextual factors with which treatment interacts. The boundary conditions or limits of application are identified through interactions of treatment X diverse attributes within empirical tests.
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therapy (MDFT). Reviews of intervention research programs can illuminate progress in meeting the generic challenges in the complex world of intervention science (Forehand, 1990; O'Leary, in press). MDFT is an ecological, developmentally based psychotherapy that focuses on changing individual behavior, within-family interactions as well as interactions between the family members and relevant social systems (Liddle, 1991). Interventions target the interconnected contexts of adolescent development, and within these contexts, the circumstances and processes known to create and/or continue dysfunction (Bronfenbrenner, 1979; Hawkins, Catalano & Miller, 1992; Jessor, 1993). MDFT incorporates multiple social systems into the therapeutic work (individual family members, various family subgroups, and influential extrafamilial persons and systems) and operates within multiple domains of adolescent and family functioning (affective, behavioral, cognitive, and interpersonal). The approach strives for a consistent and obvious connection among its organizational levels — theory, principles of intervention, intervention strategies and methods, and clinical assessment of family progress. MDFT

has been recognized as one of a new generation of comprehensive, multicomponent, theoretically derived and empirically supported treatments for adolescent drug abuse (Center for Substance Abuse Treatment, 1998; Kazdin, 1999; Lebow & Gurman, 1995; National Institute on Drug Abuse, 1999; Nichols & Schwartz, 1998; Selekman & Todd, 1991; Stanton & Shadish, 1997; Waldron, 1997; Weinberg, Rahdert, Collier & Glantz, 1998; Winters, Latimer & Stinchfield, 1999).

The present chapter describes how MDFT has been articulated, tested, and refined in accordance with standards of intervention science and in pursuit of empirical support as an efficacious treatment for adolescent substance abuse and related behavior problems. In our view, Kazdin's (1994) plan for treatment development is a constructive framework for organizing the discussion of our ongoing treatment validation efforts. The chapter is therefore sectioned to correspond with the seven steps outlined by Kazdin's blueprint. Just as importantly, Kazdin's plan is an excellent mission statement for judging the extensiveness and coherence of our progress to date and charting new work to enhance our interventions effectiveness.

## **Steps 1 and 2: Conceptualization of the Dysfunction and Research on Processes Related to Dysfunction**

Ideally, presumptions about how dysfunction develops, maintains, and exacerbates are fundamental to every intervention and to the overall model in which interventions reside. Theory about the nature of the dysfunction being treated should guide assessment, intervention decision-making and execution, orient therapist training in the model, and be used to gauge the treatment's results. Furthermore, treatment models should specify the processes or mechanisms by which therapy techniques are expected to impact the targets of the intervention. This includes statements about how interventions influence the relevant domains of functioning considered central to the development of dysfunction.

### ***Theory of Dysfunction***

Epidemiological, clinical and basic research studies indicate that adolescent drug use is a multidimensional problem (Brook, Whiteman, Nomura, Gordon & Cohen, 1988; Bukstein, 1995). Both experimental substance use by adolescents not yet committed to continued use (see Petraitis, Flay & Miller, 1995) and the diagnosable disorders, adolescent substance abuse and substance dependence (see Weinberg *et al.*, 1998), result from a confluence of etiological factors. Contemporary studies on the correlates of drug use and abuse typically encompass several domains of functioning: individual, family, peer, school, neighborhood/community and societal (Hawkins, Arthur & Catalano, 1995; Hawkins *et al.*, 1992). Molar level, distal factors such as extreme economic deprivation and neighborhood influences can have a role in problem development. Proximal factors such as family conflict and disruptions in family management (Dishion, Capaldi, Spracklen & Li, 1995; Jessor, 1993) can also contribute to poor developmental outcomes.

Individual factors pertaining to parents and adolescents, such as parental psychopathology and substance use, adolescent's lack of bonding to and success in school, adolescent problems in emotion regulation, and poor interpersonal skill and peer relations are all additional factors predisposing drug use (Brook *et al.*, 1988; Gottfredson & Koper, 1996; Jessor, Van Den Bos, Vanderryn, Costa & Turbin, 1995; Kandel & Andrews, 1987; Newcomb & Felix-Ortiz, 1992; O'Donnell, Hawkins & Abbott, 1995; Pickens & Svikis, 1991). In addition, substance abuse portends a myriad of negative life events for the individual adolescent, including physical health risks (Achterberg & Shannon, 1993; Anderson, 1991), retarded emotional development and problem-solving experiences (Baumrind & Moselle, 1985; Coombs, Paulson & Palley, 1988), impaired interpersonal relationships (Newcomb & Bentler, 1988), school failure (Steinberg, Elmen & Mounts, 1989), and poor investment in prosocial activities (Shilts, 1991; Steinberg, 1991). In short, there are multiple pathways to, and multiple consequences of, adolescent substance use.

Our own conceptualization of adolescent substance use is grounded in three theoretical frameworks that serve as reference points for incorporating the extensive knowledge base on teen drug use into a concrete, feasible treatment plan for each family. The first framework is *risk and protection theory*. According to risk and protection theory, psychological dysfunction is determined by the interaction between risk factors, which predispose an individual to the development of disorder, and protective factors, which predispose positive outcomes and buffer individuals against disorder (Jessor *et al.*, 1995). Complex behavioral problems such as drug use and conduct disorder do not stem from a single causal variable or a fixed set of specifiable precursors; instead, there are several pathways to developing these disorders, and various contributing risk and protective influences can be identified in the psychological, biological, and environmental realms (Bukoski, 1991). Also, risk factors are thought to have a multiplicative effect, such that overall risk increases exponentially with the addition of each new risk factor. That is, risk factors tend to exacerbate one another in synergistic fashion (Newcomb, Maddahian & Bentler, 1986; Rutter, 1987). Protective factors are thought to exert both a direct, positive influence on behavior and a moderating influence on the relation between risk factors and behavior (Jessor *et al.*, 1995).

Profiles of risk and protective factors are used to identify individuals considered to be at risk for behavioral problems, so that appropriate intervention steps can be taken. In the case of MDFT, we pay special attention to risk and protective factors in the family arena. The list of family factors that create vulnerabilities for adolescent drug abuse is too great to catalogue here, but among the most empirically supported are: deficiencies in parental monitoring and discipline practices (Baumrind, 1991; Steinberg, Fletcher & Darling, 1994); high rates of conflict and low rates of communication and involvement between parents and children (Baumrind, 1991; Newcomb & Felix-Ortiz, 1992); lack of parental investment in and attachment to their children (Brook, Nomura & Cohen, 1989); and parental attitudes about and history of drug use (Hawkins *et al.*, 1992). The quality of the child's relationship with his or her parents is a particularly critical factor. Youths who do not use drugs report that their parents provide more praise and encouragement, are perceived as more trusting and helpful, and set clear and consistent limits; in comparison, adolescent drug users describe their parents as having unclear or inconsistent rules, responding only to negative behaviors, and unavailable to discuss important problems (Baumrind, 1991; Block, Block & Keyes, 1988; Coombs & Paulson, 1988; Dembo,

Farrow, Des Jarlais, Burgos & Schmeidler, 1981). Emotional support from the family and the perceived quality of the affective relationship with parents are also strong predictors of general adolescent well-being that insulate youths from negative environmental influences (Resnick *et al.*, 1997; Wills, 1990).

The second framework is *developmental psychopathology*. The goal of developmental psychopathology is to examine the course of individual adaptation and dysfunction through the lens of normative development, so that truly maladaptive behavior patterns can be distinguished from expectable variations within the normative range (Sroufe & Rutter, 1984). Developmental psychopathology is concerned not so much with specific symptoms in a given youth as with (a) the youth's ability to cope with the developmental tasks at hand and (b) the implications of stressful experiences in one developmental period for (mal)adaptation in future periods. Because multiple pathways of adjustment and deviation may unfold from any given point, emphasis is placed equally on understanding competence and resilience in the face of great risk (Garmezy, Masten & Tellegen, 1984). For adolescents, developmental issues that bear upon the initiation and course of drug abuse include self-regulation and exploratory behavior (Hill & Holmbeck, 1986), increased autonomy seeking and emotional perturbations within the family (Steinberg, 1990), and increased peer group involvement (Brown, 1990). Adolescent substance abuse can be conceptualized as a problem of development — a deviation from the normal developmental pathway, or a failure in negotiating and successfully meeting developmental challenges.

The third framework is *ecological theory*. Ecological theory is concerned with understanding the intersecting web of social influences that form the context of human development (Bronfenbrenner, 1986a; Brook *et al.*, 1989). Ecological theory regards the family as the principal context in which human development takes place, and it takes a keen interest in how intrafamilial processes are affected by extrafamilial systems (Bronfenbrenner, 1986b). This theory coincides with contemporary ideas about reciprocal effects in human relationships (Lerner & Spanier, 1978; Sameroff, 1975) and underscores how problems are nested at different levels and how circumstances in one domain can impact other domains. For example, an adolescent's low commitment to school, learning problems, and academic failure might interact with normal developmental issues at home (e.g., exacerbate tensions about autonomy striving) and thereby precipitate risk-taking behavior such as drug use. Or, a parent's poor family management skills may be related to deteriorated functioning in related domains such as periodic depression, a weak social support network, or family disruption created by unemployment. Family management deficiencies also may relate to intrapersonal cognitive processes (e.g., memories and perceptions about past frustrations in parenting). Family management difficulties and inconsistent parental monitoring can provoke increased frustration and inability to address the normal challenges of parenting teenagers. In interaction, these circumstances may create motivation and opportunity for a drug-involved or delinquent adolescent to affiliate with like-problem peers.

### ***Targets for Developmental–Ecological Intervention***

Because of the many factors involved in the initiation and continuation of adolescent drug use and abuse, and the number of functional impairments that exist with drug-abusing

adolescents, we conclude, as have others, that broad-based, comprehensive treatment strategies are necessary (Hawkins *et al.*, 1992; Newcomb, 1992). Such strategies target the youth's functioning and relationships across multiple ecological niches. The primary treatment goal is to alter the developmental trajectory of the adolescent and his or her social context in a way that establishes healthy and prosocial socialization. That is to say, if adolescent drug abuse is a manifestation of a particular lifestyle (Newcomb & Bentler, 1989), then it is the lifestyle, in its many manifestations, that needs to change. Therefore, our developmental–ecological treatment model intervenes simultaneously in the multiple social systems that are developmentally salient for the adolescent. This is consistent with recommendations in the field about the needed focus in clinical work with multi-problem teenagers and families (Tolan, Guerra & Kendall, 1995). This commitment results in social spheres outside the individual and family being the subject of assessment and intervention. These social systems include assessment and consideration of the neighborhood in which a family resides, the adolescent's school, the adolescent's peer network, and, for some teenagers, the juvenile justice system. Note that developmental–ecological models do not require practitioners to change schools or neighborhoods *per se*. Instead, interventions attempt to influence how family members relate to (i.e., think about and interact with) these systems (Liddle, 1995).

How do interventions select which risk and protective factors to target? This work involves a complex decision-making process. Generally, however, we act and make decisions on the basis of a principle of greatest jeopardy. That is, we assess which aspects of the case and which areas of functioning are presenting the most harm or potential jeopardy to the lives of the adolescent and family. In cases where there are significant legal problems, and these pose the possibility of the teen being removed from the home, we would act to buy time with the legal/juvenile justice system so that the teen's functioning can be stabilized. In situations with parental dysfunction (e.g., parental psychopathology, parental substance abuse), we address these clinical issues directly and immediately. Family functioning and the parent–teenager relationship are not likely to improve until these aspects of functioning are addressed or at least stabilized.

Thinking in terms of risk and protective factors means understanding how personal characteristics or processes are manifest within and across several interlocking social systems. Our treatment development work aims to establish practiced guidelines by which basic and applied developmental research can enhance our clinical model (e.g., Liddle, Rowe, Dakof & Lyke, 1998; Liddle *et al.*, 2000). MDFT therapists are trained to recognize and take therapeutic action upon risk factors known to be associated with the progression of drug use and antisocial behavior. These actions might be a direct blocking of the continued manifestation of the risk factor, the minimization of the risk factor's influence or impact, or the indirect mitigation of the risk factor's impact by focusing on change in another sphere (e.g., minimizing other, related risk factors or promoting buffering or protective factors). Therapists are practical about not trying to change risk factors that are not malleable. Additionally, because each family with a drug-using adolescent has traveled a unique path to the expression of dysfunction, therapists are also sensitive to the idiosyncratic pitfalls and derailments experienced by their clients. This directive encourages therapists to think in terms of helping adolescents and families get back on an adaptive developmental track, rather than in terms of curing a disorder. Thus, a therapist's challenge

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is not to simply memorize the list of risk and protective factors and to seize opportunities to discuss them, but rather to assess and intervene into multiple systemic and inter-institutional processes, by means of contextualizing the risk and protection profile of a given adolescent and family.

### **Step 3: Conceptualization of Treatment**

#### *MDFT Core Operating Principles*

Treatment development is grounded in the clear articulation, and ongoing re-assessment and re-articulation, of the core operating principles of the psychotherapy model. Core operating principles are defined as conceptually grounded rules of therapeutic practice that guide clinical orientation, decision-making and intervention. Integrative, multicomponent treatments such as MDFT face a formidable challenge in delineating their operating principles. A broadened treatment scope makes for more complex treatments and effectively makes impossible invariant, formulaic implementation protocols (Addis, 1997). Additionally, more complex treatments may be more difficult to teach and to deliver, and so transportability may be compromised (Liddle, 1982). At the same time we know this work, although difficult, is possible. There are now several examples of empirically based, family-oriented treatments with carefully articulated operating principles (Fruzetti & Linehan, in press; Henggeler *et al.*, 1998; Miklowitz & Goldstein, 1998).

There are ten core operating principles of MDFT:

1. Adolescent drug abuse is a multidimensional phenomenon, and its conceptualization and treatment are guided by an ecological and developmental perspective. Developmental knowledge informs interventions; presenting problems are defined multidimensionally. This includes intrapersonal, interpersonal, and contextual perspectives, as well as a dynamic perspective that includes an appreciation of the interaction of multiple systems and levels of influence.
2. Current symptoms of the adolescent or other family members, as well as crises and complaints pertaining to the adolescent, not only provide critical assessment information but important intervention opportunities as well.
3. Change is a multifaceted phenomenon. It emerges out of the synergistic effects of interaction among different systems and levels of systems, different people, domains of functioning, time periods, and intrapersonal and interpersonal processes. Assessment and intervention give indications, but not guarantees, about the timing, routes, or kinds of change that are accessible with a particular case at a specific point in time. A multivariate conception of change commits the therapist to a coordinated and sequential working of multiple change pathways and methods.
4. Motivation to change is not assumed to be present with adolescents or their parents. Treatment receptivity and motivation varies across individuals involved in the treatment. We understand a process sometimes known as “resistance” as normative. Although “resistant” behaviors are barriers to successful treatment implementation, they point to processes of important therapeutic focus. Focusing on this reluctance and difficulty regarding change in a non-judgmental way is



- critical. We appreciate the adolescent's and family's difficulties in creating lasting lifestyle change.
5. The therapist makes treatment possible through practically oriented, outcome-focused working relationships with family members and extrafamilial sources of influence, and through the exploration of personally meaningful relationship and life themes. These therapeutic themes are emergent — they become specified as a result of inquiry about generic individual and family developmental tasks and about idiosyncratic aspects of the adolescent's and family's history.
  6. Interventions are individualized according to each family and their environmental circumstances. Interventions target etiologic risk factors for drug abuse and problem behaviors, and they promote protective processes associated with positive developmental outcomes.
  7. Planning and flexibility are critical and complementary. Case formulations are collaboratively constructed blueprints that guide the beginning of treatment and the course of treatment. Formulations are revised based on new information and in-treatment experiences. In partnership with family members and relevant extrafamilial others, therapists continually evaluate the results of all interventions. Using this feedback, they alter the intervention plan and modify particular interventions on a day-to-day basis.
  8. Therapist responsibility is emphasized. Therapists feel responsibility for: promoting participation and enhancing motivation of all relevant persons; creating a workable agenda and clinical focus; devising multidimensional and multisystemic treatment options; providing thematic focus and consistency throughout treatment; prompting behavior change; evaluating with participants the ongoing success of interventions; and revising interventions as necessary.
  9. Therapists think in terms of stages of work. Particular therapeutic operations (e.g., adolescent engagement and theme formation), parts of a session, whole sessions, phases of therapy, and therapy overall are conceived and organized phasically.
  10. Therapist attitude is fundamental to success. Therapists are advocates of the adolescent and family. They are neither child savers nor proponents of "tough love" who focus exclusively on granting authority and control to parents. Therapists are optimistic but not naïve about change. Their sensitivity to environmental or societal influences stimulates ideas about interventions rather than the offering of reasons for why problems began or excuses for why change is not occurring. As instruments of change, therapists know that their personal functioning can facilitate or handicap their work.

### **MDFT Treatment Parameters**

Psychotherapy research makes a valuable distinction between treatment *parameters* and treatment *techniques*. Treatment parameters are program-delivery aspects of the intervention that dictate its timing, intensity, duration, and intended targets (Clarke, 1995; Kazdin *et al.*, 1990). These factors may influence outcome to a significant degree (Borkovec & Castonguay, 1998; Heinicke, 1990). In contrast, treatment techniques are the

“active ingredients” of the model. This includes the essential therapist behaviors utilized during case contacts and counseling sessions (Elkin, Pilkonis, Docherty & Sotsky, 1988; Sechrest, 1994). Treatment techniques connect to the model’s hypothesized processes of change — what therapist behaviors, in what combinations and during which treatment phases, are provided in response to given client problems.

Several treatment parameters guide MDFT. Sessions are routinely conducted in the clinic, but on occasion, particularly during a crisis, sessions might be held in the family’s home or at other appropriate locales (e.g., school, family court). The location also can vary according to the phase of treatment, the living circumstances and preferences of the youth and family, and the session’s objectives. Decisions about session composition are made according to one’s therapeutic objective at the time. Thus, who to include in one’s next contact is made on a session-by-session basis. Both individual and conjoint sessions are regularly used, and it is common for a single session to contain a mixture of individual and conjoint mini-sessions. Indeed, more recent extensions of the model have redefined the concept of session altogether. Phone contact with individual family members may be extended conversations, “sessions” in an extended sense of the term, that occur during the week in-between face-to-face contact time. Thus, as we have conducted studies with more and more difficult cases over time, we think less in terms of numbers of sessions and more in terms of case contact time. The therapist’s role in MDFT is broad, to match the intended scope of the intervention. Therapists function as *de facto* case managers who contact schools, churches, community sites (e.g., job training), and juvenile justice facilities in order to incorporate non-familial adults and institutional resources into treatment activities. These activities also facilitate the therapist’s focus on changing family members’ behavior relative to these influential extrafamilial social systems.

Multidimensional family therapy is a treatment framework that has been developed and tested with different populations, versions, and settings. We have tested different variations of MDFT treatment duration and intensity. Treatment durations of (1) 16 sessions over five months, (2) 15–25 sessions over six months, and (3) 15–25 sessions over three months have been examined. We have successfully piloted and are currently testing an intensive outpatient version on MDFT intended to work with adolescents who have comorbid diagnoses, are deeply involved in the juvenile system, and who have been referred for residential care. This study is testing the intensive outpatient version of MDFT as a clinical and cost-beneficial alternative to residential treatment. In general, more frequent contact with family members occurs during the initial period of therapy, and in the last month the amount of contact decreases. Face-to-face sessions last between one and two hours. Additionally, frequent phone contact with both parents and the adolescent is used to follow up and extend in-session work and to trouble-shoot within the home environment.

### ***MDFT Focal Treatment Areas***

MDFT emphasizes four focal treatment areas, each associated with a core roster of treatment goals and techniques: adolescent; parent(s) and other family members; family

interactional patterns; and extrafamilial systems of influence. MDFT therapists rely on training, experience, and accumulating knowledge of the family to coordinate intervention efforts within and among the four focal areas. Depending on the family's profile of risk and protective factors, more time is devoted to some foci than others. Progress in one area tends to potentiate work in others, and critical themes are cycled throughout different areas and sometimes recycled within a given area throughout treatment.

**Adolescent focus.** In this focal area, therapists concentrate on the role of individual adolescents within the family system, as well as their membership within other social systems, principally school and peer groups. Adolescents with drug and behavior problems approach therapy reluctantly (Liddle, Dakof & Diamond, 1991; Taylor, Adelman & Kaser-Boyd, 1985) and with more negativity than other family members (Robbins, Alexander, Newell & Turner, 1996), making therapist-adolescent working alliances especially difficult to build (DiGiuseppe, Linscott & Jilton, 1996). At the outset of treatment, MDFT therapists spend much time alone with adolescents to engage them in treatment and to craft personally meaningful agendas — reasons for a given adolescent to participate that may or may not coincide with agendas set by others (Diamond, Liddle, Hogue & Dakof, 1999). To accomplish this, the therapist works to discover topics of personal significance to the adolescent and to understand, in detail, the current functioning of the extended social systems in which the teen exists. MDFT therapists help adolescents give detailed pictures of how they make decisions, how they relate to their peer networks, how they are adjusting to achievement and maturity demands, and feelings they have about met and unmet personal goals. In this way therapists gain better access to the everyday world of adolescents and the risk and protective factors found there. This information forms the basis for designing treatment goals that are practical and relevant for the teenager and his or her family.

Gradually in this initial engagement phase, individual sessions with the teenager focus on his or her drug-taking and other problem behaviors. Both intrapersonal and interpersonal aspects of drug-taking and delinquent behaviors are discussed, with considerable therapeutic emphasis placed upon the teenager's relationship orientation. Therapists focus on drug use on the assumption that it both reflects problems in developmental functioning and is itself a stimulus for other behavioral problems and negative relations. That is, substance abuse may be a marker of current or past problems in family functioning, but it may also create disharmony or exacerbate only mildly conflictual family relationships — relationships without a history of dysfunction. The adolescent's relationships outside of the family also are examined. Therapists explore how drug-taking and antisocial behavior delimits the quality of available peer and mentoring relationships, promote prosocial interaction with peers and extrafamilial adults, and discuss and create the motivation, opportunities, rewards, and requisite skills for cultivating prosocial relationships.

**Parent and family focus.** In this focal area, therapists work with parents in their roles as adults who are often managing difficult life circumstances and parents who have often lost faith in their ability to influence their adolescents. The quality of a teenager's relationship with his or her parents is perhaps the most powerful protector against the development of problem behaviors (e.g., Resnick *et al.*, 1997). Unfortunately, parents of adolescents with

drug use problems have typically tried many things over the years to curb these behaviors, often stringing together a succession of defeated attempts to enact more effective parenting practices (Patterson, Reid & Dishion, 1992). At the same time, parents of drug-using adolescents are typically under considerable stress from a variety of sources: poor personal and social support, economic hardships, negative feelings about the parenting in their own families of origin, and history of depression or other psychopathology, to name a few (Luster & Okagaki, 1993; Robinson & Garber, 1995). Therefore, prior to or concurrently with addressing adolescent-related issues therapists may devote a significant portion of the treatment to (a) identifying how personal stressors affect the parenting environment, (b) determining how the adolescent (and other children) can be shielded from their effects, and (c) helping parents access various social (and, if needed, psychiatric) resources for themselves.

MDFT therapists look to implement parent-focused interventions in stages. First, therapists assess the status of the attachment relationship between the parent and adolescent. Failure to maintain both autonomy and relatedness in the parent-adolescent relationship creates significant risk for a variety of developmental outcomes (Allen, Hauser & Borman-Spurrell, 1996; Greenberg, Speltz & DeKlyen, 1993), and emotional disengagement is a signature feature of families with drug-using adolescents (Patterson & Stouthamer-Loeber, 1984; Volk, Edwards, Lewis, Sprenkle and Piercy, 1989). As a first step toward behavioral (parenting practices) change, therapists seek to lessen the emotional distance between parent and adolescent. We do this by: (1) enhancing or rekindling the parent's sense of love and commitment to the teen; (2) validating previous attempts to deal with the teen; (3) acknowledging stressful past and present circumstances in the parent's personal life; and (4) generating hope via an increase in the sense of mastery and control (Liddle *et al.*, 1998). These parent-teen reconnection efforts aim to reinstall belief in the need and the possibility of having corrective influence on the teenager. After accomplishing these shifts in the emotion realm, therapists assess and intervene in parenting style and parenting practices, including monitoring, discipline, and limit-setting, fostering a supportive emotional climate, and modeling coping strategies (Diamond & Liddle, 1996). Parental attitudes about and parenting behaviors in relation to the adolescent's drug use are a major focus of this stage.

Whereas individual and interactional work with the adolescent and her/his primary parent are core to MDFT, other family members can also be instrumental in promoting the adolescent's drug-taking or in fostering adaptive socialization. Siblings, family members living outside the home, and extended family members are included in assessment, case formulation, and interventions. Individuals with a key role in the adolescent's life are invited to participate in family and individual sessions as indicated. Cooperation is achieved by highlighting the current serious circumstances of the youth and the need for all potentially influential others, particularly prosocial adults, to join forces in helping the adolescent.

**Family interactional focus.** This focal area facilitates change in family relationship patterns by providing an interactional context wherein families develop the motivation, skills, and experience to modify relationship bonds and interact in more adaptive ways. Various kinds of negative family interactions are linked to the development and

maintenance of adolescent drug use (Baumrind, 1991; Brook *et al.*, 1989; Hawkins *et al.*, 1992). The renegotiation of the parent–adolescent relationship during this stage of the family life cycle is delicate, is accomplished in subtle ways, and is important to short- and longer-term developmental outcomes (Ferrari & Olivette, 1993; Fuligni & Eccles, 1993; Pardeck & Pardeck, 1990). Critically, family therapy research has shown that changes in family interactional patterns are associated with changes in problem behavior, including adolescent drug use (Mann, Borduin, Henggeler & Blaske, 1990; Robbins *et al.*, 1996; Schmidt, Liddle & Dakof, 1996; Szapocznik, Perez-Vidal, Hervis, Brickman & Kurtines, 1989).

MDFT therapists seek to understand, and ultimately modify, the current context of the parent–adolescent relationship by evaluating and coaching family members' unrehearsed interactions in session via the classic family therapy technique of enactment (Minuchin & Fishman, 1981). Conversations are sometimes prompted by therapists in direct attempts to change interactional patterns and, thus, change the relationship; at other times, the conversations occur spontaneously. Therapists watch how parents and adolescents communicate, how they solve or fail to solve problems, and how the viewpoint of each is validated or thwarted. Therapists then shape interactions in an attempt to provide new experiences of existing relationships and to break new relationship ground, thereby instilling more adaptive and protective relationship habits (Diamond & Liddle, 1999). This may involve the therapist translating or extrapolating a communication from one person to another, interpreting new meaning to an interaction as it unfolds, or pushing the content or intensity of dialogue into new areas (Diamond & Liddle, 1996). The opportunity for families to practice new relationship patterns, and to do so in a context in which new behaviors are supported and refined, is crucial for their acceptability and long-term durability. Moreover, as families practice adaptive relationship behaviors in session, they become more able to recognize what good conversations (which are signs of positive relationships) sound and feel like. This process promotes the generalizability of the interventions.

For in-session discussions to be productive in a problem-solving sense, parents and adolescents must first be able to communicate without excessive blame, defensiveness, or recrimination. Interactional interventions with the parent and adolescent therefore aim to reduce negativity (see Robbins *et al.*, 1996) and position each for more constructive discussion and negotiation. Teenagers and parents may need considerable coaching from the therapist before they can begin productive in-session conversations. This coaching is carried out in joint and one-to-one sessions dedicated to preparing participants individually for later, joint sessions where particular, important conversations are sponsored. The overall objectives of preparatory individual coaching include helping each participant formulate the content of what is to be said, prepare for potential reactions by other participants, and solidify a mini-contract that enables the therapist to challenge the participant to follow through as planned once the interaction begins. Preparatory coaching often centers on encouraging participants to express less extreme, emotionally hardened positions. By pre-processing intensely experienced feelings or entrenched opinions in this manner, family members can take a needed first step toward defusing habitual problems in communication. These activities also acknowledge the difficulty in bringing up difficult but important topics. Critically, this piece of the clinical work breaks down the impasse into

workable components, emphasizing the need to approach the problem area systematically and with careful planning.

**Extrafamilial focus.** MDFT therapists seek to develop a high level of collaboration between the family and all other ecological environments in which the adolescent lives — including school, recreational, and juvenile justice systems. We do not assume that changing family interaction patterns alone is sufficient to eradicate the symptoms of problem behavior in youth. Development is influenced for better or worse by many extra-familial and social forces, and these aspects of the teen's ecology are also assessed and targeted as necessary (and, as possible) for intervention. Intervention objectives for the adolescent and family parallel those in the other focal areas: to introduce new kinds of emotional reactions and processing, new appraisals and attitudes, and new behavioral alternatives for interacting with key extrafamilial influences.

To accomplish these objectives, therapists practice intensive case management with family members directly, and indirectly via systems outside the family. For an overburdened parent, help in negotiating complex bureaucracies or obtaining adjunctive services is crucial. Parents may need assistance to secure fundamental services such as housing, medical care, and transportation to job training or self-help programs. Addressing these concrete needs is instrumental in promoting the family's ability to attend to key therapeutic tasks (Prinz & Miller, 1991). The therapist's multisystems work is important in itself, and it is also facilitative of access to and work in other domains. Therapists routinely work with school personnel to assist in enhancing the adolescent's school attendance and performance, and family sessions focus on devising plans for improving school-related behavior and advocating for the teen's unique educational needs (e.g., transfer to an alternative school). Therapists assist families in locating structured after-school and recreational activities suited to the interests and abilities of the adolescent. Also, close collaboration with juvenile justice systems has been found to be a determinative factor in the success of some adolescent drug treatment programs (Pompi, 1994). When there is legal or court involvement, intensive working relationships are swiftly established with the probation officer or other court staff assigned to the adolescent. These relationships foster partnerships and reciprocity between therapeutic and legal systems and their representatives. Therapists work to include treatment generally, and particular aspects of treatment such as curfew, school or job attendance and drug testing, as coordinated, mutually monitored efforts of the legal and treatment systems (Liddle, 2000).

## **Steps 4, 5, and 6: Specification of Treatment, Tests of Treatment Process, and Tests of Treatment Outcome**

### ***Treatment Adherence Monitoring and Evaluation***

Treatment adherence, also known as treatment integrity, refers to the degree to which a given therapy is implemented in accordance with essential theoretical and procedural aspects of the model (Moncher & Prinz, 1991). Treatment adherence has important implications for the strength, replicability, and transportability of therapy models (Moncher &

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Prinz, 1991; Yeaton & Sechrest, 1981). In fact, the widespread adoption of psychotherapy treatment manuals can be viewed as an effort to make model implementation more specific and standardized, such that prescribed interventions can be delivered reliably, and conceptually inconsistent interventions can be avoided (Waltz, Addis, Koerner & Jacobson, 1993). For these reasons, treatment adherence procedures are required to verify that interventions are practiced according to model specifications. Treatment adherence procedures operate along two complementary dimensions: adherence monitoring and adherence evaluation (Hogue, Liddle & Rowe, 1996). *Adherence monitoring* refers to “quality control” procedures exercised prior to and concurrently with ongoing treatment provision. Training, supervision, and performance review of therapists, along with documentation of clinical procedures in the form of case notes and treatment plans, are elements of adherence monitoring. *Adherence evaluation* refers to systematic *post-hoc* review of treatment implementation for the purpose of determining the degree of adherence actually obtained. Common evaluation methods include session analysis by experts in the model, therapist self-report measures, and process coding of session audiotapes or videotapes.

As a complex and intensive family therapy model, MDFT devotes great attention to therapist training and supervision (Liddle, Becker & Diamond, 1997). Prior to training, MDFT therapists are required to have at least a master’s degree and two years of post-masters experience in family-based intervention. Training in MDFT includes approximately 100 hours of model-related literature review, didactic seminars, review of videotapes with an MDFT supervisor and previously trained therapists, and completion of two to three pilot cases. These sessions are supervised live or by videotape. Following training, MDFT therapists routinely receive one to two hours of face-to-face supervision per week that includes a review of developments and case conceptualization for every case, videotape review of sessions, and live supervision of current cases. Case logs are used to track, among other things, which family members and which ecological systems (e.g., school, recreational, religious, legal) are being included in treatment planning and implementation, the time spent in each area of work week by week, and the therapist’s and supervisor’s written evaluation of week-by-week, and sometimes daily, outcomes.

A process-based adherence study confirmed that MDFT can be implemented with a high degree of treatment integrity (Hogue *et al.*, 1998). We compared intervention techniques of MDFT therapists to intervention techniques of cognitive-behavioral therapists during a randomized controlled trial for treating adolescent substance abuse. Non-participant coders observed videotapes of randomly selected sessions from the MDFT and cognitive-behavioral conditions using an adherence evaluation instrument designed to identify therapeutic techniques and facilitative interventions associated with the two treatment models. Coders estimated both the frequency and the thoroughness (i.e., depth, complexity, or persistence) with which techniques were delivered. Results demonstrated that MDFT therapists reliably utilized the core systemic interventions prescribed by the model: focusing on individual teen and parent functioning, shaping parenting skills, preparing for and coaching multiparticipant interactions in session, and facilitating change with multiple family members. Moreover, in keeping with MDFT’s commitment to working on family attachment bonds and developmental themes, MDFT therapists focused significantly on establishing a supportive therapeutic environment, encouraging discussion and expression of affect, engaging clients in crafting a collaborative treatment

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agenda, and exploring everyday behavior related to normative adolescent development. This study illustrates how fine-grained process-oriented adherence evaluation can contribute to treatment development and therapist training for well-specified therapy models.

### ***MDFT Process Research***

There is a great need for research in child and adolescent psychotherapy and adolescent drug treatment on the processes of change within effective therapy models (Kazdin & Kagan, 1994; Ozechowski & Liddle, 2000). Contemporary treatment process research advocates a research agenda that combines clinical validity with theoretical relevance and treatment model-building (Hayes, Castonguay & Goldfried, 1996; Omer & Dar, 1992), with an emphasis on discovery-oriented investigation of change-producing client-therapist interactions (Diamond & Diamond, in press; Russell, 1994). This research agenda is timely for the field of adolescent substance abuse treatment. Efficacy evidence exists for family-based approaches for adolescent drug problems (Liddle & Dakof, 1995; Waldron, 1997). In fact, some reviewers have concluded that family therapy approaches are the most effective and promising treatments for adolescent substance abuse that are available today (Stanton & Shadish, 1997; Williams & Chang, 2000). At the same time, the mechanisms of change hypothesized to account for successful outcome in these approaches remain unverified and poorly understood (Ozechowski & Liddle, 2000). Theory-driven process research is poised to fill this void, thereby stimulating clinical model-building and facilitating dissemination of effective intervention techniques (Diamond & Diamond, in press).

We have conducted a program of process research on the MDFT approach. This work has attempted to illuminate some key but murky or difficult aspects of therapy with drug-using teenagers. We have addressed core challenges such as how to engage adolescents and parents in treatment, and how to address some fundamental aspects of dysfunction that present with significant regularity across many cases. The process studies have focused both on the description and clarification of the core client processes of dysfunction and healing or improvement as well as on the therapist behaviors that intersect with these client processes. These studies provide a first wave of insights, systematically derived, about mechanisms of change within the model. The process studies have employed both hypothesis-driven (focus on confirming clinical theory) and discovery-oriented (focus on refining or extending existing theory and exploring unspecified phenomena) methodological approaches (Hill, 1994; Shoham-Salomon, 1990). The studies to date have addressed four questions that are fundamental to understanding how MDFT pursues clinical change: (1) Does MDFT produce change in family interactions as the model specifies? (2) Does MDFT improve those parenting behaviors that are linked to adolescent drug use and behavior problems, and are these changes in parenting related to reductions in drug and behavior problems? (3) Can MDFT therapists establish productive working alliances with multi-problem, ethnic minority, inner-city youths? and (4) Can MDFT therapists engender culturally meaningful interventions that enhance treatment engagement of African-American adolescents?



**Resolving parent–adolescent impasses.** Diamond and Liddle (1996, 1999) used task analysis to identify the combination of clinical interventions and family interactions necessary to resolve in-session impasses. These are clinical situations characterized by negative exchanges, emotional disengagement, and poor problem-solving between parents and adolescents. The sample in this process study was substance-abusing, juvenile-justice-referred teenagers and their families. Therapist behaviors that contributed to defusing these negative interactions included: (a) actively blocking, diverting, or addressing and working through negative affect; (b) implanting, evoking, and amplifying thoughts and feelings that promote constructive dialogue; and (c) creating emotional treaties among family members by alternately working in session with parents alone and adolescents alone — a kind of shuttle diplomacy. In cases with successful resolution of the impasse, the therapist transformed the nature and tone of the conversation in the session. The therapist shifted the parent's blaming and hopelessness to attention to their feelings of regret and loss and perhaps sadness about what was occurring with their child. At the same time, the therapist elicited the adolescent's thoughts and feelings about relationship roadblocks with the parent and others. These in-session shifts of attention and emotion made new conversations between parent and adolescent possible. In the process, the parents developed empathy for the difficult experiences of their teenager and offered support, even admiration, for their teen's coping. These interventions and processes facilitated personal disclosure by the adolescent and created give and take exchanges with a different emotional tone than was previously occurring. Severity of family conflict and pessimism predicted successful resolution of the impasse, with the most conflicted and pessimistic families less likely to move to a new conversational level.

This study yielded clinical insights in four areas. First, we found a theory-based way to reliably define and identify family transactional processes that are known determinants of poor developmental outcomes in children and teenagers. Second, we broke down in behavioral terms the components of the impasse, defining the unfolding sequential contributions of both parent and adolescent. Third, we specified the relation of different therapist actions to the impasse. And fourth, we demonstrated that therapists can change an in-session therapeutic impasse, and thus impact one of the putative mechanisms of developmental dysfunction related to drug abuse.

**Changing parenting practices.** Schmidt, Liddle, and Dakof (1996) investigated the nature and extent of change in parenting behaviors, as well as the link between parental subsystem change and reduction in adolescent symptomatology. In a sample of parents whose teenagers were juvenile justice referred and showed significant drug and mental health problems, parents showed significant decreases in negative parenting behaviors (e.g., negative affect, verbal aggression) and increases in positive parenting (e.g., monitoring and limit-setting, positive affect and commitment) over the course of therapy. Moreover, these changes in parenting behaviors were associated with reductions in adolescent drug use and problem behaviors. Four different patterns of parent–adolescent tandem change were isolated: 59 percent of families showed improvement in both parenting practices and adolescent symptomatology; 21 percent evidenced improved parenting but no change in adolescent problems; ten percent showed improved adolescent symptoms in the absence of improved parenting; and ten percent showed no improvement in either

parenting or adolescent functioning. These results support a tenet of family-based treatments: change in a fundamental aspect of the family system (parenting practices) is related to change at the critical level of interest — reduction of adolescent symptoms, including drug abuse. Furthermore, these data suggest that parenting risk and protective factors for drug use are accessible to intervention within a therapeutic environment. Subsequent work has clarified the theory and empirical basis of interventions in the parenting realm (Liddle *et al.*, 1998).

**Building therapist-adolescent alliances.** We examined the impact of adolescent engagement interventions on improving initially poor therapist-adolescent alliances (Diamond, Liddle, Hogue & Dakof, 1999). The sample was juvenile-justice-involved, substance-abusing inner city teens, most of whom had a dual diagnosis substance abuse and a mental health disorder (Rowe, Liddle & Dakof, in press). Cases with weak therapist-adolescent alliances in the first treatment session were observed over the course of the first three sessions. Significant gains in working alliance were evident when therapists emphasized the following alliance-building interventions: attending to the adolescent's experience; formulating personally meaningful goals; and presenting one's self as the adolescent's ally. Lack of improvement or deterioration in alliance was associated with the therapist continually socializing the adolescent to the nature of therapy. Moreover, in improved alliance cases therapists increased their use of alliance-building interventions from session two to session three (therapist perseverance), whereas therapists in unimproved cases decreased their use (therapist resignation). These results indicate that although it is an important early-stage therapist method, when therapists overfocus on and become stuck in orienting adolescents to therapy, and thus wait too long to discuss how the therapy can be personally meaningful for the teenager, a productive working relationship is not formed. Details about how to engage teenagers in family-based therapy are described elsewhere (Liddle, 1995; Liddle & Diamond, 1991; Liddle *et al.*, 1992).

**Crafting culturally specific interventions.** Jackson-Gilfort, Liddle, Dakof & Tejada (in press) investigated whether therapeutic discussion of culturally specific themes enhanced treatment engagement of African-American male youths with an inner-city sample of juvenile-justice-involved, substance-abusing teenagers. Exploration of particular themes, such as anger and rage, alienation, and the journey from boyhood to manhood (i.e., what it means to become an African-American man), were associated with both increased participation and decreased negativity by adolescents in the very next treatment session. These results suggest that use of certain culturally meaningful themes are directly linked to adolescent investment in the treatment process. Jackson-Gilfort & Liddle (in press) describe how these themes pertaining to African-American development were derived and give illustrations of their clinical use.

### ***MDFT Outcome Research***

While surely not without its critics (Persons, 1991; Seligman, 1996), the gold standard for evaluating treatment efficacy remains controlled outcome studies. In this kind of research,

two or more clinically viable treatments are evaluated for outcome effects within a single sample of participants who have been randomly assigned to treatment condition. Comparative outcome designs offer several methodological and interpretive virtues (Basham, 1986; Davison & Lazarus, 1994; Kazdin, 1986): they facilitate informative comparisons between models with theoretically distinct, or opposed, mechanisms of change; they allow for control of theoretically shared factors such as clinical attention, therapist facilitative behaviors, and maturational effects; they avoid ethical issues related to delaying treatment and deter compromises to internal validity related to participants seeking alternative treatment options; and outcome effect sizes tend to be smaller when treatments are compared to one another (versus comparison to a no-treatment or placebo group), resulting in a more stringent test of treatment efficacy.

The efficacy of MDFT has been evaluated in three controlled comparative studies, and other large-scale studies continue to test different versions of the MDFT model with different subtypes of drug-abusing adolescents. An early intervention/prevention version of MDFT also has been tested (Hogue, Liddle, Becker, & Johnson-Leckrone, in press; Liddle & Hogue, 2000), and two other controlled studies are in process (see [www.med.miami.edu/ctrada](http://www.med.miami.edu/ctrada)). In one of the completed randomized trials, MDFT was tested against two alternative treatments, multifamily educational intervention (MFEI; Barrett, 1990) and adolescent group therapy (AGT; Concannon, McMahon & Parker, 1989). MFEI convenes groups of three to four families with one therapist who leads didactic/interactive sessions that provide stress reduction, a review of family and adolescent risk and protective factors, skills-building exercises to improve family problem-solving and communication, a forum to share family stories, and discussion of weekly homework assignments. AGT convenes six to eight adolescents with two group therapists who direct didactic presentations on drug use consequences, group discussions about shared feelings and values, and skills-building exercises in communication, self-control, self-acceptance, problem-solving, and use of peer social support. These two comparison treatments were selected to accentuate similarities and dissimilarities among the models in hypothesized key therapeutic mechanisms: both MDFT and MFEI are family-based interventions that focus on changing parenting behaviors; both MDFT and AGT work extensively on the motivational set and social skills of the individual adolescent; and both MFEI and AGT utilize group support as a primary change agent. The treatment dose of all three treatment conditions was controlled. Each treatment mandated 14–16 weekly office-based therapy sessions.

The study sample consisted of 95 drug-using adolescents and their families who completed treatment. Study eligibility criteria were marijuana use at least three times per week over the past 30 days, or single use of another drug (except alcohol) during that time. Adolescents averaged 16 years of age; 80 percent were male; 51 percent were white non-Hispanic, 18 percent African-American, 15 percent Hispanic, and 16 percent other; 48 percent came from single-parent households, 31 percent two-parent, and 21 percent step-parent; median yearly family income was \$25,000; 51 percent were polydrug users, and 49 percent used only marijuana and alcohol; and 61 percent were involved in the juvenile justice system. Assessments were conducted at intake and at six and twelve months following termination on the following outcome indicators: self-reported adolescent drug

use, parent-reported adolescent acting-out behaviors, observationally coded family competence, and adolescent grade point average (GPA) obtained from school records.

The general pattern of results indicates improvement among youth in all three conditions, with MDFT participants showing the largest and most diverse gains. All three conditions experienced significant declines in both drug use and acting-out behaviors. MDFT displayed greater reductions in the teen's drug use than the other two conditions. Forty-five percent of adolescents in MDFT (versus 32 percent in AGT and 26 percent in MFEI) demonstrated clinically significant change in drug use, such that their drug use profiles at follow-up fell below intake eligibility criteria. In addition, only MDFT participants reported significant improvement in family competence and GPA. MDFT, as a family-based treatment, aims to change family functioning because a dysfunctional family environment is one of the known determinants and facilitators of adolescent drug problems. Hence this finding is significant in that it addresses one of the presumed mechanisms of action in the approach.

Another important psychosocial protective factor that is targeted by MDFT is the teen's academic performance — a well-established and important dimension of adolescent functioning (Hawkins *et al.*, 1992). The percentage of adolescents achieving a GPA above 2.0 (passing) rose from 25 percent at intake to 68 percent at follow-up in MDFT, 43 percent at intake to 60 percent at follow-up in AGT, and 33 percent at intake to 41 percent at follow-up in MFEI. Finally, MDFT outperformed AGT but not MFEI in preventing treatment attrition: 33 of 45 MDFT participants completed treatment (73 percent); 34 of 52 in MFEI (65 percent), and 29 of 55 in AGT (52 percent).

In a second treatment efficacy study, MDFT was compared to individual cognitive-behavioral therapy for adolescent drug abuse (CBT; Turner, 1992, 1993). CBT for adolescent drug use is divided into three stages. Stage one, treatment planning and engagement, focuses on identifying and prioritizing adolescent problems and constructing the treatment contract. Stage two begins an intensive cognitive-behavioral treatment program with the goals of increasing coping competence and behavioral control over drug use. Core interventions include: contingency contracting, self-monitoring, problem-solving and communication skills training, training in identifying cognitive distortions, increasing prosocial activities, and homework assignments. Stage three focuses on termination issues and relapse prevention with the goal of enhancing long-term self-management skills. CBT was selected as a comparison treatment condition because it is a commonly practiced, empirically supported therapeutic modality. In both conditions, therapy sessions were held primarily once a week in a clinic office.

Participants in the study sample were 224 drug-using adolescents and their families randomly assigned to treatment. At intake all adolescents met criteria for diagnosis of substance abuse or dependence (70 percent reported initiation of marijuana use prior to age 15), and 78 percent had at least one comorbid diagnosis. Adolescents averaged 15 years of age; 80 percent were male; 72 percent were African-American, 18 percent white non-Hispanic, and ten percent Hispanic; median yearly family income was \$11,000–\$13,000, and 41 percent of families were on public assistance; most lived in the highest crime rate neighborhoods in Philadelphia; 75 percent of adolescents were referred from the juvenile justice system, and 55 percent were on probation at intake.

Self-reported adolescent drug use, and adolescent-reported and parent-reported externalizing and internalizing symptomatology, were assessed at intake and again at six and twelve months following treatment termination. Although both treatments produced a significant decrease in drug use, externalizing problems, and internalizing problems from intake to termination, only MDFT, perhaps because of its more comprehensive, multiple systems therapeutic focus, was able to maintain the symptomatic gain after termination of treatment. Multidimensional family therapy showed a significantly different slope from cognitive-behavioral therapy, suggesting that youth who received family therapy continued to evidence treatment improvement after termination.

A third completed randomized study tested MDFT in a multisite field effectiveness trial — the CSAT Cannabis Youth Treatment (CYT) study (Dennis *et al.*, 2000). Consistent with previous findings, MDFT had a positive impact on drug use and other problem behaviors, and it also showed the capacity to promote positive gains. In the CYT study, which tested a 12–15-session version of MDFT over a three-month treatment delivery period, MDFT reduced days of marijuana use by 27 percent from baseline to three months. At a three-month follow-up assessment, 42 percent of teens were abstinent and nearly two-thirds (65 percent) had no past-month substance abuse disorder symptoms.

The CYT study was the first project in which cost issues of MDFT were addressed. These data indicate that MDFT compares quite favorably to current cost parameters of outpatient adolescent treatment. The National Treatment Improvement Study (NTIES) (Center for Substance Abuse Treatment, 1998; Gerstein & Johnson, 1999) is one of the few studies to provide formal cost estimates of adolescent outpatient drug treatment. The NTIES study surveyed a nationally representative sample of adolescent treatment program directors who estimated the costs of outpatient adolescent drug treatment. The CYT study (Dennis *et al.*, in press) used NTIES data as a benchmark against which to compare the five tested adolescent marijuana treatments in CYT. The economic cost of each treatment in the CYT was determined using the Drug Abuse Treatment Cost Analysis Program (DATCAP) (French *et al.*, in press). The average weekly cost of MDFT was less than the lower weekly estimate from the program directors. The median weekly cost of outpatient adolescent drug treatment in the NTIES study was \$267, and the weekly mean (average) treatment cost was \$365. The average weekly cost of providing MDFT per adolescent was \$164. Given these treatment cost findings, Dennis *et al.* (in press) concluded that it is affordable and programmatically sustainable at current funding levels.

In sum, three major controlled clinical trials have found MDFT to be an efficacious treatment for adolescent drug problems. The approach also demonstrated the capacity to promote protective factors instrumental to the continuation of changes in drug problems. As Brown (1993) has noted in her discussion of recovery patterns of drug-using teens, treatments must not only show that they can reduce drug taking *per se*, but their efficacy evidence should also include changes in the everyday social ecology in which adolescents live. The evidence that MDFT can change dysfunctional family interaction patterns (Diamond & Liddle, 1996), parenting practices (Schmidt *et al.*, 1996), and impact school performance (Liddle *et al.*, in press) suggest that the MDFT approach addresses theory- and research-based, contextually oriented effectiveness criteria.

## Step 7: Tests of the Boundary Conditions and Moderators

Planful treatment development requires not only evaluation of treatment success with targeted populations, but also consideration of how treatment models can be enhanced or adapted to serve populations who have special needs, exhibit different kinds of symptom severity levels, or have proven difficult to treat or resistant to treatment effects. We are in the process of testing modified versions of MDFT in three current studies with samples that have notably different risk profiles from those treated in previous efficacy studies. The first is a prevention strategy for a population of high-risk young adolescents recruited from inner-city community sites (Hogue *et al.*, in press; Liddle & Hogue, 2000). The second is a treatment population of adolescents with at least two diagnoses (e.g., substance abuse and conduct disorder) referred for placement in a residential drug treatment facility. The third is an early intervention controlled trial with an equal number of male and female substance-abusing adolescents with minimal juvenile justice involvement (mean age 14–15). We discuss the first of these new studies since it represents movement into the prevention intervention specialty, a sphere that is very different from the treatment research area.

### *Adapting MDFT to High-Risk Early Adolescent Prevention Populations*

We modified MDFT's core operating principles and focal treatment areas to build a developmental–ecological prevention model for young adolescents at high risk for drug use and behavior problems (Liddle & Hogue, 2000). It has been suggested that psychotherapy approaches with antisocial youth yield comparatively little gain in light of the high toll exacted on therapists and treatment systems, so that prevention and early intervention are seen as hopeful alternatives (Reid, 1993). Promisingly, family prevention approaches have demonstrated success in preventing drug use and antisocial behavior (Ashery, Robertson, & Kumpfer, 1998; Hogue & Liddle, 1999; Kumpfer & Alvarado, 1995), with family skills training showing the greatest empirical support (e.g., Dishion & Andrews, 1995; Kumpfer, Molgaard & Spoth, 1996; McMahon, Slough & Conduct Problems Prevention Research Group, 1996; Spoth, Redmond & Shin, 1998).

However, family skills training models typically restrict their focus to stimulating or remediating intrafamilial skills such as problem-solving, communicating, family bonding, and negotiating behavioral limits and contracts. For this reason, the family skills training paradigm may be less suited for intervening into the wider social ecology of the family: dealing with parental psychopathology; strengthening social support systems for families; intervening in multiple social contexts that are sources of youth risk and family stress; and incorporating extrafamilial resources into intervention efforts (Blechman, 1998; Griest & Forehand, 1982; Prinz & Miller, 1996; Tolan & McKay, 1996; Webster-Stratton & Herbert, 1993). A more broad-based, comprehensive prevention strategy may be needed for children and adolescents who belong to the highest-risk groups — when they have incipient behavior problems (Tolan, 1996) and their families experience the greatest levels of stress and symptomatology and maintain the weakest support networks (Miller & Prinz, 1990).

By importing MDFT into the prevention context, we have developed and piloted a family-based prevention model specifically designed for high-risk young adolescents (ages 11–14) (Hogue *et al.*, in press). Our MDFT prevention model differs from standard skills-based family prevention in two ways. First, it is a flexibly delivered intervention that assesses the unique profile of risk and protective factors presented by each family in order to establish an individually tailored prevention agenda. The work is conducted in a one-to-one (individual family) setting, and teaching generic skills is secondary to centralizing the idiosyncratic history, problems, and goals of the individual family and its members. Second, the model takes an ecological approach to prevention that systematically assesses and, when indicated, intervenes into the numerous social contexts in which adolescents participate (e.g., family, school, peer, community). It focuses on both the adolescent's level of functioning within these diverse systems and the parents' knowledge about and direct participation in each system. By working to help parents become developmentally savvy navigators of the extended adolescent ecosystem, the model endeavors to create a more flexible and resilient family environment to protect against the onset of antisocial behavior.

## Summary and Conclusions

This chapter has described the development of a developmentally and ecologically oriented and family-based comprehensive treatment for adolescent drug problems. While the developments in MDFT theory have been described elsewhere (Liddle, 1999), this chapter traced the model's evolution from the perspective of Kazdin's (1994) framework for treatment development. This approach has been able to attend to and produce empirical work appropriate to the treatment development framework's stages. The studies have been conducted in diverse treatment settings, addressed different sub-populations of adolescent drug abusers, included male and females, and included racially and ethnically diverse samples. The positive results of significantly reducing teen drug abuse at treatment termination and at follow-up periods occurred without any booster sessions post termination. Additionally, the changes in protective or positive factors in the lives of the teenagers and their parents are significant because they are in accord with the recommendations of the treatment field on the importance of measuring and impacting functioning in these important realms.

Our current and future treatment development work exists in several areas. First, we continue to refine and test the approach in different treatment settings, and with different sub-populations of adolescent substance abusers. Relatedly, we are quite involved in the movement to adapt, transport, and test empirically supported approaches in a diversity of drug treatment settings. One of our current studies is determining the process components and treatment outcomes of adapting and adding the MDFT approach to a day treatment program for drug-abusing teens. We also are interested in adapting the approach to residential care settings. On another but related front, we have been contacted by several state substance abuse organizations to collaborate on projects that would implement and test the MDFT approach within statewide adolescent substance abuse treatment systems. There are many challenges in projects of these types. These are practice research projects, studies that will require a new attention not only to the adaptation of clinical methods but also to

issues of therapist supervision and training. New training materials are being developed to meet these diverse, practice-setting-specific needs.

Our work on the basic aspects of the treatment model continues as well. Our clinically focused research is exploring the complex factors of co-occurring disorders with adolescent substance abusers (Rowe *et al.*, in press) and adolescent female-specific processes (Dakof, 2000). This work operates, as is always the case in the MDFT research program, within the treatment development thematic.

Although we have organized the telling of the empirical side of the MDFT story to date within the treatment development perspective and specifically within Kazdin's extraordinary treatment development framework, we feel compelled to close with a caveat. That is, we are quite aware of the role of values in the conduct of the kind of science that we have done and continue to do. The values in our work have to do with many things. Primary among these is our continued assumption about the importance of focusing on families and the immediate social contexts of the adolescent who has lost his or her way in a downward cascade of drug use, delinquency, school and relationship failure, legal troubles, and societal alienation. Additionally, in their discussion of the politics and pressures to disseminate empirically supported therapies, Addis and Hatgis (2000) remind us that researchers' values and practices are not superior to those of other parties. This reminder, as well as the periodic values check about the premises that underpin our research program, seems as fitting a close as any to our summary of our efforts to date to devise an effective treatment for adolescent drug problems.

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