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Treating Adolescent Substance Abuse Using Multidimensional Family Therapy

HOWARD A. LIDDLE

OVERVIEW OF THE CLINICAL PROBLEM

The nature of a clinically referred adolescent's presenting problems makes treating teen drug abuse challenging. These problems are multivariate, such as the often secretive aspects of drug use; involvement in illegal and criminal activities with antisocial or drug-using peers; despairing, stressed, and poorly functioning families; involvement in multiple social agencies; disengagement from school and other prosocial contexts of development; and lack of intrinsic motivation to change. Many new developments in the drug abuse and delinquency specialties provide guidance and hope. We have witnessed an unprecedented volume of basic and treatment research, increased funding for specialized youth services, and a burgeoning interest in the problems of youths from basic research and applied prevention and treatment scientists, policymakers, clinicians and prevention programmers, professional and scientific societies, mass media and the arts, and the public at large. Developmental psychology and developmental psychopathology research has revealed the forces and factors that combine and contribute to the genesis of teen drug experimentation and abuse. Perhaps a consensus about a preferred conceptualization and intervention strategy has been reached. Leading figures in the field now conclude that drug abuse results from both intraindividual and environmental factors. For this reason, unidimensional models of drug abuse are inadequate and multidimensional research and intervention approaches are necessary.

This chapter summarizes multidimensional family therapy (MDFT), a family-based therapy with considerable empirical support for its effectiveness with teen drug abuse and delinquency (Liddle, 2004). Three frameworks help therapists use the research knowledge base on teen drug use. The *risk and protective factor* framework informs clini-

cians about the known antecedents of dysfunction and resilience. It identifies factors from different domains of functioning (psychological, social, biological, neighborhood/community) relevant to positive adaptation and threats to development. It also helps therapists to think in interactional or process terms about the many clinically germane dimensions of a teen's and family's current life circumstances.

The *developmental perspective* (developmental psychology and developmental psychopathology research) is another useful framework. This knowledge base informs therapists about the course of individual adaptation and dysfunction through the lens of normative development. Developmental psychopathology moves beyond considerations of symptoms only to understand a youth's ability to cope with the developmental milestones at hand, and considers the implications of stressful experiences and developmental failures 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 risk. Adolescent substance abuse is conceptualized as a problem of development, a deviation from the normal developmental pathway. Substance abuse is a failure to meet developmental challenges and a set of behaviors that compromises hope to achieve future developmental milestones.

The third framework, the *ecological perspective*, articulates the intersecting web of social influences that form the context of human development. Ecological theory regards the family as a principal developmental arena, and it takes a keen interest in how both intrapersonal and intrafamilial processes are affected by and affect extrafamilial systems (i.e., significant others involved with the youth and family, such as school, job, or juvenile justice personnel). This theory coincides with contemporary ideas about reciprocal effects in human relationships, and it underscores how problems nest at different levels and how circumstances in one domain can affect other domains.

Assumptions Underlying Treatment: Ten Principles of MDFT

1. *Adolescent drug abuse is a multidimensional phenomenon.* Individual biological, social, cognitive, personality, interpersonal, familial, developmental, and social ecological aspects can all contribute to the development, continuation, worsening, and chronicity of drug problems.

2. *Family functioning is instrumental in creating new, developmentally adaptive lifestyle alternatives for adolescents.* The teen's relationships with parents, siblings, and other family members are fundamental areas of assessment and change. The adolescent's day-to-day family environment offers numerous and essential opportunities to retrack developmental functioning.

3. *Problem situations provide information and opportunity.* Symptoms and problem situations provide assessment information as well as essential intervention opportunities.

4. *Change is multifaceted, multidetermined, and stage oriented.* Behavioral change emerges from interaction among systems and levels of systems, people, domains of functioning, and intrapersonal and interpersonal processes. A multivariate conception of change commits the clinician to a coordinated, sequential use of multiple change methods and to working multiple change pathways.

5. *Motivation is malleable but it is not assumed.* Motivation to enter treatment or to change will not always be present with adolescents or their parents. Treatment receptivity

ity and motivation vary in individual family members and relevant extrafamilial others. Treatment reluctance is not pathologized. Motivating teens and family members about treatment participation and change is a fundamental therapeutic task.

6. *Multiple therapeutic alliances are required and they create a foundation for change.* Therapists create individual working relationships with the adolescent, individual parents or caregivers, and individuals outside of the family who are or should be involved with the youth.

7. *Individualized interventions foster developmental competencies.* Interventions have generic or universal aspects. For instance, one always wants to create opportunities to build adolescent and parental competence during and between sessions, but all interventions must be personalized, tailored or individualized to each person and situation. Interventions are customized according to the family's background, history, interactional style, culture, and experiences. Structure and flexibility are two sides of the same therapeutic coin.

8. *Treatment occurs in stages; continuity is stressed.* Core operations (e.g., adolescent or parent treatment engagement and theme formation), parts of a session, whole sessions, stages of therapy, and therapy overall are conceived and organized in stages. Continuity—linking pieces of therapeutic work together—is critical. A session's components and the parts of treatment overall are woven together; continuity across sessions creates change-enabling circumstances.

9. *Therapist responsibility is emphasized.* Therapists promote participation and enhance motivation of all relevant persons; create a workable agenda and clinical focus; provide thematic focus and consistency throughout treatment; prompt behavior change; evaluate, with the family and extrafamilial others, the ongoing success of interventions; and, per this feedback, collaboratively revise interventions as needed.

10. *Therapist attitude is fundamental to success.* Clinicians are neither “child savers” nor unidimensional “tough love” proponents; they advocate for adolescents *and* parents. Therapists are optimistic but not naïve or Pollyannaish about change. Their sensitivity to contextual or societal influences stimulates intervention possibilities rather than reasons for how problems began or excuses for why change is not occurring. As instruments of change, a clinician's personal functioning enhances or handicaps one's work.

CHARACTERISTICS OF THE TREATMENT PROGRAM

Multidimensional Assessment

Assessment yields a therapeutic blueprint, an indication about where and how to intervene across multiple domains and settings of the teen's life. A comprehensive, multidimensional assessment process identifies risk and protective factors in relevant areas and prioritizes and targets specific areas for change. Information about functioning in each target area comes from referral source information and dynamics, individual and family interviews, observations of spontaneous and instigated family interactions, and interchanges with influential others outside of the family. MDFT's four overall targets are (1) adolescent, (2) parent, (3) family interaction, and (4) extrafamilial social systems. Attending to deficits and hidden areas of strength, we obtain a clinical picture of the unique combination of weaknesses and assets in the adolescent, family, and social

system. A contextualized portrait includes a multisystems formulation of how the current situation and behaviors are understandable, given the youth's and family's developmental history and current risk and resilience profile. Interventions decrease risk processes known to be related to dysfunction development or progression (e.g., parenting problems, affiliation with drug-using peers, disengagement from and poor outcomes in school) and enhance protection, first within what the therapist finds to be the most accessible and malleable domains. An ongoing process rather than a single event, assessment continues throughout treatment as new information emerges and experience accumulates. Assessments and therapeutic planning overall are revised according to feedback from our interventions.

A home-based or clinic-based family session generally starts treatment. Telephone conversations with a parent, and sometimes the teen, typically precede the first session. These calls may be important in beginning motivation enhancement and the assessment process. Therapists stimulate family interaction on important topics, noting to themselves how individuals contribute to the adolescent's life and current circumstances. We also meet alone with the youth, the parents, and other family members within the first session or two. These meetings reveal the unique perspective of each family member, how events have transpired (e.g., legal and drug problems, neighborhood and negative peer influences, school and family relationship difficulties), what family members have done to address the problems, what they believe needs to change with the youth and family, as well as their own concerns and problems, perhaps unrelated to the adolescent.

Therapists elicit the adolescent's life story during early individual sessions. Sharing one's life experiences facilitates teen engagement. It provides a detailed picture of the nature and severity of the youth's circumstances and drug use, individual beliefs and attitude about drugs, trajectory of drug use over time, family history, peer relationships, school and legal problems, any other social context factors, and important life events. Adolescents sketch out an eco-map, representing one's current life space. This includes the neighborhood, indicating where the teen hangs or buys and uses drugs, where friends live, and school or work locales. Per protocols (Marvel, Rowe, Colon, DiClemente, & Liddle, 2009), clinicians inquire about health and lifestyle issues, including sexual behavior. Comorbid mental health problems are assessed by reviewing records and reports, the clinical interview process, and psychiatric evaluations. Adolescent substance abuse screening devices, including urine drug screens (used extensively in therapy), are invaluable in obtaining a comprehensive picture of the teen's and family's circumstances.

Parents assessment includes their functioning both as parents and as adults, with individual, unique histories, and concerns. We assess strengths and weaknesses in terms of parenting knowledge, skills and parenting style, parenting beliefs, and emotional connection to one's child. Inquiring in detail about parenting practices, clinicians promote parent-teen discussions and in this process watch for relationship indicators such as supportiveness and attachment. Parents discuss their experiences of family life when they were growing up, because these may be used to motivate or shape needed changes in current parenting style and beliefs. Nothing is more vital to ascertain and facilitate than parents' emotional connection to and investment in their child. Parent mental health and substance use are also appraised and addressed directly as potential challenges to improved parenting. On occasion we make referrals for a parent's adjunctive treatment of drug or alcohol abuse or serious mental health problems.

Information on extrafamilial influences is integrated with the adolescent's and family's reports to yield a comprehensive picture of individual and family functioning relative to external systems. A new component of our approach provides on-site educational academic tutoring that meshes with core MDFT work. We assess school- and job-related issues thoroughly, and well-planned parent–teen meetings with school personnel are frequent. Therapists cultivate relationships and work closely with juvenile court personnel, particularly probation officers, who sort out the youth's charges and legal requirements. Facing juvenile justice and legal issues can become emotional. Clinicians help parents understand the potential harm of continued negative or deepening legal outcomes. Using a nonpunitive tone, we help teens face and take needed action regarding their legal situation. Friendship network assessment encourages teens to talk forthrightly and in detail about peers, school, and neighborhoods. Friends may be asked to be part of sessions. They can be met during sessions in the family's home. A driving force in MDFT is the creation of concrete alternatives that use family, community, or other resources to provide prosocial, development-enhancing day-to-day activities.

Adolescent Focus

Clinicians build a firm therapeutic foundation by establishing a working alliance with the teenager, a relationship that is distinct from but related to identical efforts with the parent. We present therapy as a collaborative process, following through on this proposition by collaboratively establishing therapeutic goals that are practical and personally meaningful to the adolescent. Goals become apparent as teens express their experience and evaluation of their life so far. Treatment attends to these “big picture” dimensions. Problem solving, creating practical, attainable alternatives to a drug-using and delinquent lifestyle—these remediation efforts exist within an approach that addresses an adolescent's conception of his or her own life, values, life's direction, and meaning. Success in one's alliance with the teenager is noticed by parents. Parents expect and appreciate how clinicians reach out to and form a distinct relationship and therapeutic focus with their child. Individual sessions are indispensable; their purpose is defined in “both/and” terms. These sessions access and focus on individual and parent–teen and other relationship issues through methods that might be construed as belonging within an individual therapy (vs. multiple systems) approach. Individual parent and teen meetings also prepare (i.e., motivate, coach, rehearse) for joint sessions.

Parent Focus

We focus on reaching the caregivers as adults with individual issues and needs and as parents who may have declining motivation or faith in their ability to influence the child. Objectives include enhancing feelings of parental love and emotional connection, underscoring parents' past efforts, acknowledging difficult past and present circumstances, generating hope, and improving parenting. When parents enter into, think, talk about, and experience these processes, their emotional and behavioral investment in their adolescent deepens. This process, the expansion of parents' commitment to their child's welfare, is fundamental to the MDFT change model. Achieving these therapeutic tasks sets the stage for later changes. Taking the first step toward change with the par-

ents, these interventions grow parents' motivation and, gradually, parents' capacity to address relationship improvement and parenting strategies. Increasing parental involvement with one's adolescent (e.g., showing an interest, initiating conversations, creating a new interpersonal environment in day-to-day transactions) creates a new foundation for attitudinal shifts, enhanced repertoire, and changes in parenting. We foster parental competence by teaching and behavioral coaching about normative characteristics of parent-adolescent relationships, consistent and age-appropriate limit setting, monitoring, and emotional support, all research-established parental behaviors that enhance relationships, individual, and family development.

Cooperation is achieved and motivation enhanced by underscoring the serious, often life-threatening circumstances of the youth's life and establishing an overt, discussable connection (i.e., a logic model) between that caregiver's involvement and creating behavioral and relational alternatives for the adolescent. This follows the general procedure used with parents, promoting caring and connection through several means: First through an intense focusing and detailing of the youth's difficult and sometimes dire circumstances, making sure that these realities are experienced deeply by the parent (although there is description of the youth's circumstances, the presumed mechanism of action here is experiential and not didactic or psychoeducational), which then flows into the need for the parents to reengage and work hard to help the youth change.

Parent-Adolescent Interaction Focus

MDFT interventions also change development-detouring transactions directly. Shaping changes in the parent-adolescent relationship are made in sessions through the structural family therapy technique of enactment. A clinical method and a set of ideas about how change occurs, enactment involves elicitation and frank discussion in family sessions of important topics or relationship themes. These discussions reveal relationship strengths and problems. Expanding their repertoire of experience, perceptions, and behavioral alternatives, therapists assist family members to discuss and solve problems in new ways. This method creates behavioral alternatives as clinicians actively guide, coach, and shape increasingly positive and constructive family interactions. For discussions to involve problem solving and relationship healing, family members must be able to communicate without excessive blame, defensiveness, or recrimination. Therapists guide retreats from extreme stances, because these actions undermine problem solving, instigate hurt feelings, and discourage motivation and hope for change. Individual sessions sharpen and process these important issues and prepare family members for family sessions where the issues are discussed and new ways of relating are attempted. The content focus of any given session is important. Skilled therapists focus in-session conversations on personal and meaningful topics in a patient, sensitive way.

Focus on Social Systems External to the Family

Clinicians help the family and adolescent interact more effectively with extrafamilial systems. Families may be involved with multiple community agencies. Success or failure in interacting with these systems affects short term, and in some cases longer term, outcomes. A give-and-take collaboration with school, legal, employment, mental health, and

health systems influencing the youth's life is critical for engagement and durable change. An overwhelmed parent appreciates a therapist who can understand and negotiate with complex and intimidating bureaucracies and obtain adjunctive services. Achieving these practical outcomes lessens parental stress and burden, enhances engagement, and bolsters parental efficacy. Therapists team with parents to organize meetings with school personnel or probation officers. Because successful compliance with the legal supervision requirements is an instrumental therapeutic focus, therapists prepare the family for and attend the youth's disposition hearings. School or job placement outcomes are additional core aspects: They represent real-world settings where the teen can develop competence and build escape routes from deviant peers and drugs. In some cases, medical or immigration matters or financial problems may be urgent areas of stress and need. We understand the interconnection and synergy of these life circumstances in improving family life, parenting, and a teen's reclaiming of his or her life from the perils of the street. Not all multisystem problems are solvable. Nonetheless, in every case, our rule of thumb is to assess comprehensively, declare priorities, and, as much as possible, work actively and directly to help the family achieve better day-to-day outcomes relative to the most consequential and malleable areas in the four target domains.

Decision Rules about Individual, Family, or Extrafamilial Sessions

MDFT works from "parts" (subsystems) to larger "wholes" (systems) as well as from these larger units (families/family relationships) back down to smaller units (individuals). Session composition is not random or at the discretion of the family or extrafamilial others, although sometimes this is unavoidable. Session goals drive decisions about session participants. Goals may exist in one or more categories. At any given point there may be session-specific goals suggesting who should be present for all or part of an interview. For instance, a significant part of the first sessions, from strategic (i.e., relationship formation, giving a message about family involvement) and information-gathering (i.e., family interaction is a key part of what therapists assess, assess and ultimately attempt to change) perspectives, include all family members.

MDFT works in four interdependent and mutually influencing subsystems with each case. The rationale for this multiperson focus is theory based and practical. Some family-based interventions might address parenting practices by working alone with the parent for most or all of treatment. Others might only conduct whole-family sessions throughout (i.e., family interaction as the single pathway of youth change). MDFT is unique in how it works with the parents alone and with the teen alone as well, apart from the parent and family sessions, in addition to targeting family-level change *in vivo* and multisystems change efforts (i.e., multiple pathways of change). Individual sessions have communicational, relationship-building, strategic, and substantive (change focused) value. They provide "point of view" information and reveal feeling states and historical events not always forthcoming in family sessions. We establish multiple therapeutic relationships rather than a single alliance, as is the case in individual treatment. Success in those relationships connects to clinical success. A therapist's relationship with different people in the mosaic comprising the teen's and family's lives is the starting place for inviting and instigating change attempts. The strategic aspects of these actions are probably obvious by now. There is a leveraging, a shuttle diplomacy, that occurs in the individual sessions

as they work to determine content and grow motivation, readiness, and capability to address other family members in joint sessions.

Manuals and Other Supporting Materials

A new version of the MDFT manual containing all core sessions and clinical and supervision protocols is forthcoming (Liddle, in press). MDFT has an online training program, which includes a curriculum, worksheets, and therapy video segments for clinical sites training in the approach. A multistep certification procedure includes site readiness preparation; clinical and supervision training procedures, including supervisor/trainer preparation protocols; and adherence and quality assurance procedures. Independent MDFT training institutes have been established in the United States and Europe. Many clinical articles have been written over the years, and two MDFT DVDs are available (Liddle, 1994, 2008, 2009; Rodriguez, Dakof, Kanzki, & Marvel, 2005).

EVIDENCE ON THE EFFECTS OF TREATMENT

MDFT has been developed and tested since 1985. In 2010, we will complete our 10th MDFT randomized controlled trial (RCT). This research program has produced considerable evidence supporting the intervention's effectiveness for adolescent substance abuse and antisocial behavior. Four types of studies have been conducted: efficacy/effectiveness RCTs, process studies, cost studies, and implementation/dissemination studies. The projects have been conducted at sites across the United States with diverse samples of adolescents (African American, Hispanic, and Caucasian youths ages 11–18) of varying socioeconomic backgrounds. Internationally, a multinational MDFT controlled trial in Germany, France, Switzerland, Belgium, and the Netherlands is complete and publications are forthcoming. Study participants across studies met diagnostic criteria for adolescent substance abuse disorder and included teens with serious drug abuse and delinquency. MDFT has demonstrated efficacy in comparison to several other state-of-the-art active treatments, including a psychoeducational multifamily group intervention, peer group treatment, individual cognitive-behavioral therapy (CBT), and residential treatment. Table 27.1 summarizes key outcomes and studies contributing to the MDFT evidence base.

Substance Abuse

MDFT participants' substance use is reduced significantly. Using an example from one study, MDFT youths reduced drug use by 41–66% from baseline to treatment completion. These outcomes remained consistent at 1-year follow-up (Liddle et al., 2001; Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008; Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009; Liddle, Rowe, Ungaro, Dakof, & Henderson, 2004). MDFT youths also have demonstrated abstinence from illicit drugs after treatment significantly more than teens in comparison treatments (Liddle & Dakof, 2002; Liddle et al., 2001, 2008,

(text resumes on p. 427)

TABLE 27.1. Multidimensional Family Therapy (MDFT) Representative Controlled Trials: Summary of Primary Outcomes

Study	Population	Treatment conditions	Assessments	Findings
Liddle et al. (2001)	N = 182; mean age, 16 (range: 13–18); 80% male; 51% white, non-Hispanic; 18% African American; 15% Hispanic; 6% Asian; 10% other; 61% juvenile justice involved	Adolescent group therapy (AGT); multifamily educational intervention (MEI); vs. MDFT, once weekly for 4 months, clinic based	Baseline, treatment termination, 6 and 12 months	MDFT youths showed greater reduction in substance use ($\eta^2 = .12$). MDFT reduced substance use 54%; group therapy, 18%; multifamily therapy, 24%. MDFT substance use reduction retained at 12 months, MDFT youths showed greater increase in school grades ($\eta^2 = .09$) and improved family functioning ($\eta^2 = .16$) (videotape ratings).
Liddle & Dakof (2002)	N = 113; mean age, 15; 67% male; 79% Hispanic; 81% juvenile justice involved	Residential treatment (RT) vs. MDFT, 1–3 sessions weekly for 4–6 months, clinic and home based	4, 12, 18, 24, 36, and 48 months	MDFT retained 95% for 90 days or more. Compared with RT, MDFT youths more rapidly decreased drug use problem severity, self- and parent-reported aggressive behavior and delinquent activity, and substance use frequency. RT youths spent an average of 60 more days in controlled environments (jail, RT) during the 18-month follow-up (FU) period than MDFT youths. Treatment differences between intake and 18-month FU favor MDFT in parent-reported aggressive behavior and delinquent activity maintained at 4-year FU. RT: Drug use problems increased from 18 month to 4-year FU; MDFT maintained treatment gains. Substance use increased over the 4-year FU period for RT youths and treatment gains remained level for MDFT teens. At 4-year FU, RT youths increased their HIV risk more than MDFT youths.
Dennis et al. (2004)	N = 300; mean age, 15; 18% female, 82% male; 49% Caucasian, 49% African American; 82% juvenile justice involved	Adolescent community reinforcement approach (ACRA), motivational enhancement treatment/cognitive-behavior therapy, 5 sessions (MET/CBT5) vs. MDFT, once weekly for 12 weeks, clinic based	Baseline, 6, 12, and 30 months	All Cannabis Youth Treatment (CYT) treatments are more effective clinically and cost less than current practice (treatment administrators' report). MDFT assessment by an independent investigator (Dennis, 2000; Dennis, personal communication, February 23, 2001) found that MDFT delivered at two sites (per study design) replicates results from earlier RCTs. At 6-month FU, MDFT youths reported 49% and 36% reductions (two sites). MDFT and other treatment costs were significantly less than both the mean and median costs of adolescent outpatient treatment. Benefit–cost analysis indicated that MDFT had a statistically significant baseline to

12-month reduction in drug use, consequences. MDFT had approximately equivalent net benefits associated with reduced drug use consequences as MET/CBT5, and both had relatively greater net benefits than ACRA.

Liddle et al. (2006)	<p>N = 104; mean age, 15; 77% males, 23% females; 79% Hispanic (38% of Cuban descent), 13% African American, 1% white, non-Hispanic, 7% other (Haitian, Jamaican)</p>	<p>Quasi-experimental; interrupted-time series design; MDFT, 1–3 sessions per week, clinic based</p>	<p>1 month after intake, discharge from treatment, and 9 months after intake</p>	<p>Following training, therapists successfully delivered MDFT, with 36% increase in number of weekly individual therapy sessions, 150% increase in number of weekly family sessions, 390% increase in contact with probation officers, and 1,400% increase in school contacts compared with baseline (before training). Following withdrawal of all MDFT clinical staff, therapists continued to deliver MDFT according to protocol. Program factors (organization, clarity in expectations) improved after introduction of MDFT. Client outcomes significantly improved after staff MDFT training (substance use, internalizing and externalizing symptoms, fewer out-of-home placements). Improvements were sustained in durability phase, 1 year after withdrawal of MDFT trainers.</p>
Liddle et al. (2008)	<p>N = 224; mean age, 15 (range: 12–17.5); 81% male; 72% African American, 18% white, non-Hispanic, 10% Hispanic</p>	<p>Individual CBT vs. MDFT, once weekly for 4–6 months, clinic based</p>	<p>Baseline, 12 months</p>	<p>MDFT showed greater reductions in substance use problem severity, drug use, abstinence; impact was strongest after treatment completion. MDFT youths had 77% decrease in hard drug use; CBT teens increased drug use over the same time period. One year after intake 64% of MDFT youths showed minimal use compared with 44% for CBT youths. MDFT was more effective than CBT with more impaired cases.</p>
Liddle et al. (2004, 2009)	<p>N = 83; mean age, 14 (range: 11–15); 74% male; 42% Hispanic, 38% African American</p>	<p>Manualized peer group therapy vs. MDFT, 1–3 sessions per week for 3–4 months, clinic based</p>	<p>6 weeks from intake; treatment discharge; 6 and 12 months from intake</p>	<p>MDFT youths: more improvement than group treatment on all outcomes, demonstrated more improvement in substance use, delinquency, affiliation with delinquent peers, internalized distress, family and school functioning. MDFT youths were 2.3 times more likely to progress from having substance use problems at intake to not having problems at 12 months. At 12-month FU, MDFT teens were less likely to be arrested (23% vs. 44%), placed on probation (10% vs. 30%), and report delinquent behavior than group therapy participants.</p>

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TABLE 27.1. (cont.)

Study	Population	Treatment conditions	Assessments	Findings
Liddle et al. (in press)	N = 154; mean age, 15; 82% male; 60% African American; 22% Hispanic, 17% white, non-Hispanic	Enhanced services as usual (ESAU) vs. MDFT, 1–3 sessions per week, clinic based	Discharge from detention and at 3, 6, 9, and 24 months after detention release	MDFT-HIV intervention engaged 99% of youths successfully in detention and 97% in outpatient phase. Across treatments, drug use between intake and the 9-month FU decreased. Baseline: average of 46 days of drug use in the previous 90 days (measured by a timeline follow-back procedure) and decreased it over 60% over the 9-month FU. Between-treatment effects favored MDFT, especially those who received MDFT at the site characterized by greater therapist-JPO collaboration and more severely impaired youth ($d = .75$). MDFT reduced delinquency and days confined in detention (following the initial release from detention). MDFT youth showed superior outcomes for comorbid internalizing and externalizing problems—these youths continued to improve between 6 and 9 months, whereas comparison youths' symptoms increased. HIV prevention and reduction of high-risk sexual behavior outcomes: 76% of participants at intake engaged in moderate- to high-risk behaviors over the previous 90 days, and 11% of the sample tested positive for an STD. FU: MDFT youth were less likely to engage in unprotected sex acts over the 9-month FU than ESAU youth.

2009). For instance, in a recent study (at posttreatment and at 1-year follow-up) MDFT participants had 64% drug abstinence rates compared with 44% for CBT (Liddle et al., 2008); in another study, MDFT achieved a 93% abstinence outcome compared with 67% for group treatment (Liddle et al., 2009). MDFT has been effective as a community-based drug prevention program as well. And using a brief 12-session (over 3 months), in-clinic (community treatment setting) weekly protocol, MDFT has successfully treated clinically referred younger adolescents who recently initiated drug use (Liddle et al., 2009).

Substance abuse-related problems (e.g., antisocial, delinquent, externalizing behaviors) were reduced significantly in MDFT versus comparison interventions, including manual-guided active treatments. Ninety-three percent of MDFT youths report no substance-related problems at 1-year follow-up (Liddle et al., 2009).

School Functioning

School functioning improves more dramatically in MDFT versus comparison treatments. MDFT clients have been shown to return to school and receive passing grades at higher rates (Liddle et al., 2001, 2009) and also show significantly greater increases in conduct grades than a comparison peer group treatment (Liddle et al., 2009).

Psychiatric Symptoms

Psychiatric symptoms show greater reductions during treatment in MDFT than comparison treatments (30–85% within-treatment reductions in behavior problems, including delinquent acts and mental health problems such as anxiety and depression; Liddle et al., 2006, 2009). Compared with individual CBT, MDFT had better drug abuse outcomes for teens with co-occurring problems and decreased externalizing and internalizing symptoms, thus demonstrating superior and stable outcomes (1 year) with the more severely impaired adolescents (Liddle et al., 2008).

Delinquent Behavior and Association with Delinquent Peers

MDFT-treated youths have shown decreased delinquent behavior and associations with delinquent peers, whereas peer group treatment comparisons reported increases in delinquency and affiliation with delinquent peers. These outcomes maintain at 1-year follow-up (Liddle et al., 2004, 2009; Liddle, Dakof, Henderson, & Rowe, in press). Department of Juvenile Justice records indicate that, compared with teens in usual services, MDFT participants are less likely to be arrested or placed on probation and have fewer findings of wrongdoing during the study period. MDFT-treated youths also require fewer out-of-home placements than comparison teens (Liddle et al., 2006). Importantly, parents, teens, and collaborating professionals have found the approach acceptable and feasible to administer and participate in (Liddle et al., in press).

Theory-Related Changes: Family Functioning

MDFT youths report improvements in relationships with their parents (Liddle et al., 2009). On behavioral ratings, family functioning improves (e.g., reductions in family

conflict, increases in family cohesion) to a greater extent in MDFT than family group therapy or peer group therapy (observational measures), and these gains are seen at 1-year follow-up (Liddle et al., 2001). In another example, MDFT-treated youths report gains in individual, developmental functioning on self-esteem and social skill measures.

Studies on the Therapeutic Process and Change Mechanisms

MDFT studies show improvements in family functioning by targeting in-session family interaction (Diamond & Liddle, 1996) and how therapists build productive therapeutic alliances with teens and parents (Diamond, Liddle, Hogue, & Dakof, 1999). Adolescents are more likely to complete treatment and decrease their drug taking when therapists have effective therapeutic relationships with their parents (Hogue, Liddle, Singer, & Leckrone, 2005) and with the teens as well (Robbins et al., 2006). Strong therapeutic alliances with adolescents predict greater decreases in their drug use (Shelef, Diamond, & Liddle, 2005). Another process study found a linear adherence–outcome relation for drug use and externalizing symptoms (Hogue et al., 2005). MDFT process studies found that parents' skills improve during therapy and, critically, these changes predict teen symptom reduction (Henderson, Rowe, Dakof, Hawes, & Liddle, 2009; Schmidt, Liddle, & Dakof, 1996). Culturally responsive protocols have demonstrated increases in adolescent treatment participation (Jackson-Gilfort, Liddle, Tejada, & Dakof, 2001). We are beginning to understand the relationship of particular kinds of interventions to key target outcomes. In one example, interventions focusing on in-session family change produced differences in drug use and emotional and behavioral problems (Hogue, Liddle, Dauber, & Samuolis, 2004).

Economic Analyses

The average weekly costs of treatment are significantly less for MDFT (\$164) than for standard treatment (\$365). An intensive version of MDFT has been designed as an alternative to residential treatment and provides superior clinical outcomes at significantly less cost (average weekly costs of \$384 vs. \$1,068 [French et al., 2003; Zavala et al., 2005]).

Implementation Research

MDFT integrated successfully into a representative day treatment program for adolescent drug abusers (Liddle et al., 2006). There were several noteworthy findings. First, after training, therapists delivered MDFT with superb fidelity (e.g., broadened treatment focus posttraining, addressed more approach-specific content themes, focused more on adolescents' thoughts and feelings about themselves and extrafamilial systems), with model adherence at 1-year follow-up. Second, client outcomes were significantly better, and these outcomes maintained at follow-up as well. Third, association with delinquent peers decreased more rapidly after therapists received MDFT training (Liddle et al., 2006) and drug use decreased by 25% before and 50% after a MDFT training and organizational intervention (and the probability of out-of-home placements for non-MDFT youths was significantly greater before MDFT was used in the program). Fourth, pro-

gram or system-level factors improved dramatically as well, according to, for example, adolescents' perceptions of a program's increased organization and clarity of expectations (Liddle et al., 2004).

DIRECTIONS FOR RESEARCH

Our newest projects all address the model's capacity to retain efficacy while expanding the range of settings in which the approach can be used. A juvenile drug court study and a new juvenile justice diversion study are testing in controlled trials the additive value of MDFT when integrated into juvenile justice programs. This work is in accord with other juvenile-justice focused projects that demonstrated success with a version of MDFT that began with the youth in a juvenile detention facility (and conducted parent sessions in the home) and then continued upon the youth's release (Liddle et al., in press). Another adaptation of the approach is being tested in a controlled study that integrates evidence-based trauma and loss focused methods with the core MDFT approach for adolescents and families who suffered in the disaster of Hurricane Katrina.

Additional work focuses on new avenues of model refinement in the area of HIV prevention. We developed a standardized protocol that included parents in targeting the high-risk sexual behavior of their adolescents (Marvel et al., 2009). We tested this approach with a juvenile offender sample and found the intervention to be feasible and acceptable; interim findings show it to be effective as well, as evidenced by biological markers of sexually transmitted disease (STD) acquisition. This new protocol, in conjunction with the standard MDFT approach, reduced youths' high-risk sexual behavior, HIV, and STD risk (laboratory-confirmed STDs; Liddle et al., in press). Another area of current and future work concerns additional moderator and mediator analyses. Using formal mediational analyses, for instance, we have established a causal link between MDFT changes in parenting practices and posttreatment youth outcomes (Henderson et al., 2009). This work complements earlier therapy process studies, research that used intensive videotape analysis to articulate facilitative in-session therapeutic processes and assess the connection of therapists' technique to desired changes in sessions and beyond. Future work will include more independent national and international evaluations and dissemination, additional moderator and mediator analyses to understand how MDFT achieves its effects, and continued implementation research investigating the most effective ways to teach and supervise clinicians as well as, relatedly, the kind of systemic and organizational systems issues that enable or constrain the implementation of evidence-based programs.

CONCLUSIONS

MDFT is one of the most extensively studied therapies for teen substance abuse and delinquency. Several aspects of the approach can be highlighted at this stage of its 25-year history. MDFT is a flexible treatment system. Different versions of the model have been implemented successfully in diverse community settings by agency clinicians with both male and female adolescents from varied ethnic, minority, and racial groups. Study participants were not narrowly defined, rarefied research samples: Participants

were drug users and generally showed psychiatric comorbidity and delinquency, with juvenile justice involvement. Assessments included state-of-the-science measures, theory-related dimensions, and measures of clinical and practical knowledge, important to the everyday functioning of target youth and families. MDFT has been tested against active, empirically validated treatments, including individual CBT and high-quality peer group and multifamily approaches as well as treatment as usual. It has been varied on dimensions such as treatment intensity and has demonstrated favorable outcomes in its different forms. An intensive version of MDFT was found to be a clinically effective alternative to residential treatment. On the other end of the spectrum, MDFT has been effective as a prevention program with at-risk, nonclinically referred youths and as an effective intervention for clinically referred young adolescents in the early stages of drug and criminal justice involvement. The research program has used the most rigorous designs in conducting efficacy/effectiveness trials, followed Consolidated Standards of Reporting Trials guidelines, used intent-to-treat analyses, and has been tested in multisite RCTs. We developed psychometrically sound adherence measures (Hogue et al., 1998) and successfully trained therapists, supervisors, and trainers in drug abuse and criminal justice settings nationally and internationally. MDFT process studies have illuminated the model's internal workings and confirmed hypotheses about the model's mechanisms of action. Cost analyses indicate that MDFT is an affordable alternative compared with standard outpatient or inpatient treatment costs. Although often thought of as a drug abuse treatment only, MDFT also has generated evidence in multiple trials of favorable outcomes far beyond drug taking and drug abuse. Delinquency and externalizing, and internalizing symptoms have improved significantly in MDFT trials. HIV and STD risks have decreased in our newest work (developing a family-based HIV prevention module). We have also demonstrated the capacity to target and change key components of the outcome equation (e.g., affiliation with drug-using peers, family and school functioning). Our RCTs routinely track outcomes with 1-year follow-ups, and the outcomes are maintained at this assessment. Newer studies include 4-year postintake assessments.

MDFT offers a unique clinical focus in how it establishes individual relationships with parents and teens, works with each alone in individual sessions, targets family interactional changes, and also works with individuals and parents vis-à-vis teens' and their family's social context. MDFT's treatment development tradition is strong, given its process studies and use of behavioral ratings of videotapes. The approach's revisions and extensions now include manual-guided modules that begin MDFT with youths in juvenile detention and continue after release as part of the regular MDFT outpatient phase (3–4 months) and an integrated parent-involved youth HIV/STD prevention intervention. Training, supervision, and quality assurance protocols are well developed, and our online training course includes the model's core sessions and clinician microskills via streaming video segments.

Impressive advances have been made in the development and testing of evidence-based treatments for adolescents, as this current volume testifies. At the same time, the pace of implementing these interventions into, for example, regular community settings of mental health and addictions clinics, schools, and juvenile justice remains painfully and unacceptably slow. Clearly, although treatment developers and researchers have responded admirably in many ways to previous developmental eras that questioned the relevance of their treatments and research, much more needs to be done to create effective therapies for nonresearch contexts.

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