

Family-Based Treatment Models Targeting Substance Use and High-Risk Behaviors Among Adolescents: A Review

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SUMMARY. Recent reviews of services for families with youths coping with a wide variety of problems have strongly urged inclusion of families in all services. This manuscript will review family-based intervention models that have considerable empirical support for treating adolescent substance abuse and have demonstrated success in preventing substance use. Major interventions reviewed include: Multisystemic Family Therapy, Strengthening Families Program, Brief Strategic Family Therapy,

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Multidimensional Family Therapy, and Integrated Behavioral Family Therapy. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

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FAMILIES AND HIGH-RISK YOUTH

Some have argued that families are central to the process of youth developing emotional and behavioral problems (Paradise, Cauce, Ginzler et al., 2001). Researchers contend that the relationship between vulnerability and risk becomes cemented early in life through a series of negative interactions between parent and child. The resulting difficulties in family relationships persist throughout childhood and adolescence. Poor family management, lack of positive parenting skills, and dysfunctional caregiving have been strongly related to substance use and delinquency of youth (Formoso, Gonzales, & Aiken, 2000). Conversely, family support has been shown to predict positive adjustment in childhood and adolescence; indirect evidence suggests that family support is a protective factor for adolescent substance use and conduct problems (Cauce, Reid, Landesman, & Gonzales, 1990; Wills & McNamara, 1992).

Given the family's fundamental influence on a child's life, research has consistently suggested potential benefits for including families in treatment of high-risk youth. Prevention efforts with delinquent and drug-abusing youth suggest that the single most effective form of prevention involves working with the total family system (Kumpfer, Alexander, McDonald, & Olds, 1998). Identification of situations where families may be engaged in services is a potentially beneficial method for addressing problems experienced by youth.

SUBSTANCE USE AND ADOLESCENTS

Rates of substance use among adolescent populations have become an increasing problem as the rates of substance use and abuse among American high school and college students is the highest in the industri-

alized world (Johnston, O'Malley, & Bachman, 2002). In 1997, rates of substance use among youth 12 to 17-years of age rose to 11.7% and illicit drug use among 12-13 year-olds increased from 2.2% to 3.8% during this time period (Winters, 1999). It appears that substance use is occurring at earlier ages; some report that by age 16, half of male and female adolescents use alcohol regularly and one-quarter use marijuana (Huizinga, Loeber, & Thornberry, 1994).

Data from Monitoring the Future study (Johnston et al., 2002) suggest that adolescent drug users are often found in the juvenile justice and educational systems. Adolescents with alcohol/drug problems are often identified as delinquent, having histories of child abuse and neglect, and suffering from comorbid psychiatric conditions, especially depression and suicidality (Hawkins, Catalano, & Miller, 1992; Rahdert, & Czechowicz, 1995). Adolescents with family histories of alcoholism also report greater positive expectancies related to using substances, such as sexual enhancement and feelings of power/aggression, than do youth without family histories of alcohol abuse (Lundahl, Davis, Adesso, & Lukas, 1997).

FAMILY-BASED INTERVENTIONS

Recent reviews of services for families with youths coping with a wide variety of problems have strongly urged inclusion of families in all services (Burns, & Weisz, 2000). Many studies (e.g., Liddle, Dakof, Parker et al., 2001; Kumpfer, 1998; Henggeler, Borduin, Melton et al., 1991; Szapocznik & Williams, 2000) have demonstrated that family-oriented interventions are critical in reducing risk factors associated with substance use and these intervention models have considerable empirical support for demonstrated success in preventing adolescent substance use. Family therapies have developed from two foundational therapies that originated in the early 1970s. Structural Family Therapy, developed by Salvador Minuchin, and Strategic Family Therapy, developed by Jay Haley, are built on the assumptions that (1) families are rule-governed systems that can best be understood in context, (2) the presenting problem serves a function within the family, and (3) the concepts of boundaries, coalitions, hierarchy, power, metaphor, family life cycle development and triangles are basic to the development of a "stuck" family (Minuchin, 1974; Haley, 1973; Nichols & Schwartz, 1995). These therapeutic models are the core theories from which later models developed.

Currently, research studies have been initiated that evaluate various treatment modalities targeting adolescent substance use. Many of these studies include testing structured and manualized family interventions developed during the past two decades. For example, multi-systemic therapy (MST), strengthening family program (SFP), brief strategic family therapy (BSFT), multidimensional family therapy (MDFT), and integrated behavioral family therapy (IBFT). This manuscript reviews the empirical studies of these family-based interventions that have an emphasis on adolescent substance use. See Table 1 for a brief description of these studies.

MULTISYSTEMIC THERAPY

Multisystemic therapy (MST) treatment views individuals in terms of the complex systems in which they are embedded (Letourneau, Cunningham, & Henggeler, 2002). Individuals restructure their environments while simultaneously being influenced by them. Behavior is best understood when viewed within broader contexts, such as school, family, peers, neighborhood, services, and community institutions (Henggeler, Schoenwald, Borduin et al., 1998).

MST has been extensively evaluated, and suggests that antisocial behavior in youth is determined by a variety of correlates (Henggeler et al., 1998). These factors, along with other antisocial behaviors, such as conduct disorder and delinquency, are relevant for substance abuse (Hawkins et al., 1992; Kumpfer, DeMarsh, & Child, 1989); MST lends itself to these complex issues. The number of individual therapy sessions varies depending on the problems within the system; however, parent training typically occurs in 10 sessions (Henggeler et al., 1998).

Growing evidence supports the effectiveness of MST for substance-using adolescents. Stanton and Shadish (1997) conducted a meta-analysis of family-based treatments for drug use and found that MST effect sizes were among the highest of those reviewed. An early MST outcome study (Henggeler, 1986) used a quasi-experimental design to study youth and their families in a delinquency diversion program. Findings showed the MST was more effective than usual community services in terms of client behaviors and family relationships. Subsequently, MST has been substantiated as an evidenced-based treatment for adolescents and their families in randomized clinical trials. It has been effective in reducing out-of-home placements, delinquent behavior, substance use, and psychiatric disorders (Sheidow & Woodford, 2003).

TABLE 1. Studies of family-based treatment with focus on adolescent substance use.

Reference	Design	Sample	Outcome Variables
Multi-Systemic Therapy			
Henggeler, 1986	Quasi-Experimental; pre- and post-treatment assessments	n = 57—family ecological n = 23—alternative n = 44—control Youth and families in a delinquency diversion program	Personality Inventory Family relations Behavior Problems: conduct problems, anxious-withdrawn behaviors, immaturity, and association with delinquent peers
Henggeler, Melton, & Smith, 1992; Henggeler et al., 1991	MSFT vs. standard juvenile justice services	n = 84 juvenile offenders Random assignment	Alcohol and marijuana use Incarceration/recidivism Violence Criminal Activity
Henggeler et al., 1993	MST vs. standard juvenile justice services follow-up	n = 84 juvenile offenders Random assignment	Alcohol and marijuana use Incarceration/recidivism Aggression with peers Criminal activity Family cohesion
Borduin et al., 1995; Henggeler et al., 1991	MST vs. individual therapy	n = 200 violent juvenile offenders and families Random assignment	Arrest types: Substance use/violent crimes Arrest recidivism
Henggeler, Pickrel, & Brondino, 1996	Home-based MST vs. usual community services	n = 118 substance abusing or dependent juvenile delinquents and families Random assignment	Retention rates
Schoenwald, Ward, & Henggeler, 1996	Home-based MST vs. usual community services	n = 118 substance abusing or dependent juvenile delinquents and families Random assignment	Costs of treatment
Henggeler, Melton, Brondino, Scherer, & Hanley, 1997	MST vs. standard juvenile justice services follow-up	n = 155 adolescents Random assignment	Adherence to MST Arrests/recidivism Incarceration/recidivism
Brown, Henggeler, & Schoenwald, 1999	MST vs. standard community-based service	n = 118 substance abusing or dependent juvenile delinquents with co-morbid psychiatric disorders and families Random assignment	School attendance Mental health Adherence to MST Arrests/recidivism Incarceration/recidivism

TABLE 1 (continued)

Reference	Design	Sample	Outcome Variables
Multi-Systemic Therapy			
Henggeler, Pickrel, & Brondino, 1999	MST vs. standard juvenile justice services follow-up	n = 118 substance abusing or dependent juvenile delinquents and their families	Alcohol and marijuana use Psychiatric Symptoms Arrest/incarceration/recidivism
Henggeler, Pickrel, & Brondino, 1999	MST vs. standard juvenile justice services follow-up	n = 118 substance abusing or dependent juvenile delinquents and their families	Alcohol and marijuana use Psychiatric Symptoms Arrest/incarceration/recidivism
Henggeler, Clingempeel, Brondino, & Pickrel, 2002	MST vs. standard community-based services; 4 year follow-up	n = 80 substance abusing or dependent juvenile delinquents and their families	Alcohol and marijuana use Criminal Behavior Illicit Drug Use Psychiatric Symptoms Arrest/incarceration/recidivism
Schoenwald, Halliday-Boykins, & Henggeler, 2003	Multi-site comparison of MST	n = 233 families n = 66 therapists (16 teams in 9 organizations)	Adherence Criminal offenses Substance abuse Arrests/recidivism School suspensions Caregiver/therapist ethnic match Economic disadvantage
Strengthening Families Program			
Kumpfer, Molgaard, and Spoth, 1996	Quasi-Experimental with 5 year follow-up	n = 421 parents and 703 high risk youth (6-13 yrs.)	Family conflict/communication Parenting behavior Child emotional status
Aktan, Kumpfer, & Turner, 1996	Quasi-Experimental with matched comparison	n = 88 Inner City African-American youth (age 6-12) and families with substance-using parent n = 56 comparison group	Parenting efficacy Parental substance use Retention/completion in treatment
Kamoeoka, 1996	Quasi-Experimental	n = 136 Asian and Pacific-Island youth and families	Substance use Retention in treatment Parenting skills Depression Children behaviors
Spoth, Redmond, & Shin, 1998	"Preparing for the drug free years" program vs. SFP vs. minimal contact control	n = 523 families of students in 33 rural Midwestern schools	Parenting methods Retention in treatment Child academic status

Reference	Design	Sample	Outcome Variables
Multi-Systemic Therapy			
Spoth, Reyes, & Redmond, 1999	"Preparing for the drug free years" program vs. SFP vs. control follow-up	n = 329 10th grade adolescents	Current and past use of Alcohol/tobacco/marijuana Parenting methods Retention in treatment Child academic status
Spoth, Redmond, & Lepper, 1999	Longitudinal, efficacy study	n = 446 adolescents and families	Alcohol initiation behaviors Parenting methods Retention in treatment Child academic status
Spoth, Redmond, & Shin, 2001; Spoth, Gyll, & Day, 2002	"Preparing for the drug free years" program vs. SFP vs. control	n = 667 6th graders and their families in 33 public schools Random assignment	Cost of treatment Current and past use of Alcohol/tobacco/marijuana Parenting methods Retention in treatment Child academic status
Kumpfer, Alvarado, & Tait, 2002	"I Can Problem Solve" program vs. "I Can Problem Solve" program combined with SFP vs. SFP only	n = 655 1st graders from 12 rural schools Random assignment	Social competency Self-regulations Family relationships Parenting School bonding Parenting skills
Spoth, Gyll, & Chao, 2003	Exploratory with wait list control	n = 85 African-American families with youth 10-14 years of age from general population Random selection	Retention rates Treatment adherence Child behaviors Child participation in family meetings Child and family living skills
Brief Strategic Family Therapy			
Szapocznik, Santisteban, Rio, Perez-Vidal, & Kurtines, 1986	BSFT vs. Bicultural Effectiveness Training	n = 41 Cuban American adolescents with a behavior problem and families Random assignment	Adolescent problem behaviors Family functioning
Szapocznik, Santisteban, Rio, Perez-Vidal, Kurtines, & Hervis, 1986	Family Effectiveness Training vs. Minimum Contact Control	n = 79 Hispanic 6- to 11-year-old children with emotional and behavior problems and families Random assignment	Structural family functioning Child behavior problems Child self-concept
Szapocznik, 1986	Conjoint family therapy with entire family versus One-person family therapy	n = 35 Hispanic-American families with drug-using adolescents	Individual and family Functioning Behavioral acculturation

TABLE 1 (continued)

Reference	Design	Sample	Outcome Variables
Multi-Systemic Therapy			
Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1983, 1986	Conjoint family therapy with entire family vs. One-person family therapy	n = 72 Hispanic drug abusing 12- to 17-year-old adolescent and families Random assignment	Youth drug use Behavior problems Family functioning
Szapocznik et al., 1988	Engagement as Usual vs. Strategic Structural Systems Engagement	n = 108 Cuban Hispanic families and adolescents suspected of/observed using drugs by their parents or school counselors Random assignment	Engagement in treatment Retention to treatment Family functioning
Szapocznik, Rio, Murray et al., 1989	BSFT vs Psychodynamic Child Therapy vs. Recreational Control Condition	n = 69 Hispanic boys with emotional and behavioral problems (aged 6 to 12) Random Assignment	Emotional and behavioral problems Retention in treatment Child functioning Family integrity
Santisteban et al., 1996	BSFT plus Strategic Structural Systems Engagement vs. BSFT plus Engagement as usual vs. group counseling plus Engagement as usual	n = 193 Hispanic families Random Assignment	Engagement in treatment Retention to treatment Hispanic cultural/ethnic identity
Coatsworth, Santisteban, & McBride, 2001	BSFT vs. standard community services	n = 104 African American or Hispanic families and adolescents with behavioral, emotional, academic and substance use problems Random Assignment	Engagement to treatment Retention to treatment Conduct problems Anxiety Disruptive behaviors
Santisteban, Coatsworth, & Perez-Vidal, 2003	BSFT vs. Group treatment control	n = 126 Hispanic families and adolescents with behavioral problems and drug-use Random assignment	Conduct problems Delinquency Substance use Family functioning
Multi-Dimensional Family Therapy			
Liddle et al., 2001	MDFT vs. adolescent group therapy and multifamily educational intervention	n = 182 clinically referred marijuana and alcohol-abusing 13-18-yr.-olds and families Random Assignment	Substance use Acting out GPA Family competence

Reference	Design	Sample	Outcome Variables
Multi-Systemic Therapy			
Liddle, in press	MDFT vs. Cognitive-Behavioral Therapy	n = 224 African-American males from low-income families Random Assignment	Substance use Conduct problems Anxiety/depression Family functioning
Dennis et al., in press	MDFT vs. Motivational Enhancement Therapy (MET) vs. Cognitive Behavioral Therapy (CBT) vs. Family Support Network (FSN), vs. Adolescent Community Reinforcement Approach (ACRA) vs. Multidimensional Family Therapy (MDFT)	n = 600 adolescents between 12- 18 years of age, used marijuana in the past 90 days, and met one or more criteria of abuse or dependence Random assignment	Substance use Cost and cost/benefit ratio Substance use Conduct problems Anxiety/depression Family functioning Academic behaviors
Hogue, Liddle, Becker, & Johnson-Leckrone, 2002	MDFT vs. control condition	n = 124 inner-city African-American youths (11-14 yrs.) Random assignment	Drug use Self-competence Family functioning School involvement Peer associations Global self-worth Family cohesion
Integrated Behavioral Family Therapy			
Waldron, Slesnick, & Brody, 2001	IBFT vs. individual cognitive behavioral therapy vs. combination	n = 114 substance-abusing adolescents Random assignment	Substance use
Latimer, Winters, & D'Zurilla, 2003	IBFT vs. "Drug's Harm" psycho-educational curriculum	n = 43 adolescents meeting diagnostic criteria for substance use disorder	Alcohol and marijuana use Rational problem solving Learning strategy skills Problem avoidance skills

The effects of MST on drug use have been examined in trials using juvenile offenders as participants (Henggeler et al., 1991; Henggeler, Melton, & Smith, 1992; Borduin, Mann, Cone et al., 1995). In these trials, MST significantly reduced self-reported drug use, criminal activity, violence, incarceration (Henggeler, et al., 1992), incarceration recidivism, aggression with peers, family cohesion (Henggeler, Melton, Smith et al., 1993), and drug-related and other arrests (Borduin et al., 1995).

An experimentally designed study compared home-based MST with usual community services for 118 substance using juvenile delinquents. MST showed higher rates of client completion of the full course of the treatment, which averaged 130 days (Henggeler, Pickrel, Brondino, & Crouch, 1996). The MST group showed significantly decreased self-reported alcohol and marijuana use, although urine screen results did not confirm the youth self-reports and the positive outcomes were not maintained at 6 months post-treatment (Henggeler, Pickrel, & Brondino, 1999). However, the MST group showed increased school attendance and these treatment gains were maintained at 6-month follow-up (Brown, Henggeler, & Schoenwald, 1999). Additionally, it was found that the cost of MST was mitigated by the reduced incarceration costs (Schoenwald, Ward, & Henggeler, 1996).

Based on the negative results related to urine screening for substance use, several enhancements were made to the MST treatment protocol to thoroughly address adolescent substance use. These enhancements were based on the Community Reinforcement Approach (CRA), an approach specifically geared toward substance use (Randall & Cunningham, 2003; Randall, Henggeler, & Cunningham, 2001). In a recent follow-up study, MST was compared with usual community services among substance abusing juvenile offenders four years following participation. Significantly less aggressive criminal activity was found. While findings for illicit drug use were mixed, significantly higher rates of marijuana abstinence was found among MST participants (Henggeler, Clingempeel, Brondino, & Pickrel, 2002).

In terms of adherence to MST, a recent study of 233 families indicated that adherence ratings were lower for youths referred for both criminal offenses and substance abuse, but not for either referral individually. Adherence ratings were negatively associated with pretreatment arrests and school suspensions, and positively associated with education disadvantage and caregiver-therapist ethnic match. They were also marginally associated with economic disadvantage (Schoenwald, Halliday-Boykins, & Henggeler, 2003).

STRENGTHENING FAMILIES PROGRAM

The Strengthening Families Program (SFP) provides a family-based intervention for families with substance abusing parents aimed at developing drug resistance skills in their children. Framed within the social ecological model of adolescent substance abuse (Kumpfer & Turner,

1990-1991), the SFP holds that the family climate is responsible for child substance abuse. Based on this model, the family influences school bonding and self-efficacy, which in turn determines the amount of peer influence and later alcohol and drug use (Kumpfer, Molgaard, & Spoth, 1996; Kumpfer & Turner, 1990-1991; Oetting, 1992; Newcomb, 1992). The SFP program focuses on strengthening the family in order to mediate peer influence related to drug and alcohol use in adolescents.

The highly structured SFP program consists of a 14-week curriculum involving parent training, child skills training, and family skills training (Kumpfer et al., 1996). The approach is highly detailed in terms of manuals and training (Kumpfer et al., 1989). In fact, versions of SFP have been culturally-adapted for African-Americans, Hispanic-Americans, Asian/Pacific Islanders, and American-Indian families. The culturally adapted versions can increase retention, but may reduce positive outcomes (Kumpfer, Alvarado, & Smith, 2002).

SFP references empirical research that focuses on risk and protective factors in order to examine the family's influence on child's substance use. It is believed that a child's risk of substance use increases as the number of risk factors increases relative to protective factors (Kumpfer et al., 1996). This is especially true when the level of risk is elevated above one or two risk factors (Bry & Krinsley, 1992; Newcomb & Bentler, 1989).

Research suggests that SFP has been effective with substance-abusing parents and parents from racial and ethnic minority groups (Kumpfer et al., 1996; Kumpfer & Alvarado, 1995; Kumpfer, Alvarado, & Tait, 2002; Aktan, Kumpfer, & Turner, 1996; Kamoeoka, 1996; Kumpfer, Wamberg, & Martinez, 1996). In a recent study, 56 rigorous evaluations of interventions for alcohol misuse were reviewed and summarized. It was noted that SFP showed promise as an effective prevention intervention (Foxcroft, Ireland, & Lister-Sharp, 2003)

The program's effectiveness was originally established with school-aged children of drug abusers (Kumpfer et al., 1989). Three groups (parent training program only, parent training with a children's training program, and parent and child training with a family skills training and relationship enhancement program) were compared. The study concluded that the combined intervention including all three components caused the most improvement on: (1) children's problem behaviors, emotional status, and prosocial skills, (2) parents' parenting skills, and (3) family environment and family functioning. Each program component was effective in reducing risk factors targeted by that component.

Subsequent studies have found consistent support for SFP with parent and child behaviors and drug use (Aktan, 1995; Aktan et al., 1996), especially for high-risk families (Kumpfer et al., 1996). SFP has also been found effective with modifications for African-American, Hawaiian, Hispanic, rural, and multi-ethnic families (Spoth, Guyll, & Chao, 2003). For example, a five-year follow-up of high risk, ethnic minority families demonstrated that family management skills were still in use many years following participation in SFP (Kumpfer et al., 1996).

Using a substance initiation index, Spoth and colleagues have consistently found evidence suggesting the potential of SFP to delay the onset of substance use and the possibility of avoiding substantial costs to society with relatively small intervention costs (Spoth, Guyll, & Day, 2002; Spoth, Redmond, & Trudeau, 2002; Spoth, Reyes, & Redmond, 1999; Spoth, Redmond, & Lepper, 1999; Spoth, Redmond, & Shin, 1998; Spoth, Redmond, & Shin, 2001; Spoth, Redmond, & Trudeau, 2002). A seven-session version of SFP, developed for early adolescence and based on resilience principles, showed positive results during a 5-year randomized clinical trial with rural sixth-grade students (Kumpfer, 1998). Spoth (1998) also found positive results in terms of tobacco and alcohol rates with this program.

In a recent study (Kumpfer, Alvarado, & Tait, 2002), 655 first graders from 12 rural schools were randomly assigned to either the “I Can Problem Solve” program alone, in combination with SFP, or parent training only. Results suggested that there were significant improvements on school bonding, parenting skills, family relationships, social competency, and behavioral self-regulation for the group receiving the combined intervention. Adding the parenting skills program only, social competency and self-regulation were more improved, but family relationships were negatively impacted. Alternatively, adding SFP improved family relationships, parenting, and school bonding.

BRIEF STRATEGIC FAMILY THERAPY

Brief Strategic Family Therapy (BSFT) was developed through the integration of theory, research, and practice of structural and strategic methods (Szapocznik & Williams, 2000). BSFT is especially appropriate for treatment of substance use that co-occurs with other behavior problems, including conduct disorders, oppositional behavior, delinquency, associating with antisocial peers, aggressive and violent behavior, and risky sexual behavior (Szapocznik, Rio, & Murray, 1989; San-

tisteban, Szapocznik, Perez-Vidal et al., 2000; Newcomb and Bentler, 1989; Perrino, Gonzalez-Soldevilla, Pantin & Szapocznik, 2000). BSFT is a family-based intervention specifically created to address conduct problems and drug abuse among Hispanic (Szapocznik & Williams, 2000; Robbins, Szapocznik, & Santisteban, 2003; Robbins, Mitrani, & Zarate, 2002) and African American youths (Szapocznik & Williams, 2000), and has been proposed for use with other populations as well, such as Chinese Americans (Soo-Hoo, 1999).

Three basic principles typify BSFT: The family as a system, structure/patterns of interactions, and strategy (Szapocznik & Kurtines, 1989). The concept of family systems reflects the understanding that family members are interdependent and that individual behaviors affect others in the family. The structure/patterns of interactions indicate that the behaviors of family members are habitual and repeat over time. This structure contributes to behavior problems, such as substance abuse and BSFT targets these interactions. The third principle relates to the notion that intervention must be practical and deliberate, and linked directly to problem behaviors (Szapocznik & Williams, 2000).

BSFT is built into the youth's daily family life and can be implemented in eight to twenty-four sessions. The therapy is manualized (Szapocznik, Hervis, & Schwartz, 2001), with training programs available. BSFT is a flexible approach that appeals to cultures that emphasize family and interpersonal relationships. BSFT has been well established in the treatment of adolescents with problems ranging from substance use to conduct problems, associations with antisocial peers, and impaired family functioning (Szapocznik, Perez-Vidal, Hervis et al., 1989).

Engagement and retention issues have also been examined, with encouraging results. Structural Strategic Systems Engagement was developed specifically in relation to family therapy, with the belief that resistance to treatment can be understood in terms of family interactions (Szapocznik & Kurtines, 1989; Szapocznik et al. 1989). Studies have shown positive results in engaging and retaining clients in BSFT (Coatsworth, Santisteban, & McBride, 2001), and in Structural Strategic Systems Engagement specifically (Santisteban, Szapocznik, Perez-Vidal et al., 1996; Szapocznik, Perez-Vidal, Brickman et al., 1988).

In clinical trials, BSFT has been compared with other therapies. Individual psychodynamic child therapy and a recreational control condition were compared with BSFT in a randomized study with sixty-nine Hispanic boys with emotional and behavioral problems, aged six to eleven. Findings indicated that the control condition was significantly less effective in retaining cases, the two treatment conditions were equally

effective in reducing emotional and behavior problems, and the BSFT group alone reported continued significant improvement of family functioning at the one-year follow-up (Szapocznik, Rio, & Murray, 1989; Szapocznik, Santisteban, Rio et al., 1986).

Other studies have compared BSFT in conjunction with other methods. For example, BSFT was compared to a Bicultural Effectiveness Training; however, no significant differences were found (Szapocznik et al., 1986). Following these results, the researchers compared a combination of BSFT and Bicultural Effectiveness Training (Family Effectiveness Training) and group controls. The Family Effectiveness Training condition showed significantly greater improvement than control families on structural family functioning, child behavior problems, and child self-concept (Szapocznik, Santisteban, Rio et al., 1986).

Two types of BSFT have also been compared: conjoint family therapy (including the entire family) with one-person family therapy. In a study with 35 Hispanic-American families (Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1983), it was found that one-person family therapy was as effective as conjoint family therapy in reducing youth drug use and behavior problems, as well as improving individual and family functioning. Additionally, one-person family therapy was more effective in sustaining improved family functioning at follow-up (Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1986).

BSFT has been shown to be effective with adolescent behavior problems. One study (Santisteban et al., 2000) reviewed the ability of BSFT to reduce behavior problems in twelve to eighteen year old Hispanic adolescents and their families. In this study, BSFT was compared to a group control condition. Adolescents in the BSFT condition showed significantly decreased levels of conduct disorder and socialized aggression from pre- to post-treatment, while the control condition showed no change. Another recent study compared BSFT to a group treatment control (Santisteban, Coatsworth, & Perez-Vidal, 2003). One hundred twenty-six Hispanic families were randomly assigned to one of the two conditions. BSFT families showed significant improvement in conduct problems and delinquency, as well as marijuana use and family functioning.

MULTIDIMENSIONAL FAMILY THERAPY (MDFT)

Multidimensional Family Therapy (MDFT) focuses on changing systemic influences that establish and maintain problem behaviors in adolescents. MDFT was first introduced as a weekly, clinic-based inter-

vention (Liddle & Hogue, 2000). A newer version provides a home-based, intensive intervention that incorporates alterations for severely impaired co-morbid substance abusing youth. MDFT is based on the integration of existing therapeutic work in areas such as case management, school interventions, drug counseling methods, use of multimedia, and HIV/AIDS prevention (Rowe, Liddle, & McClintic, 2002).

MDFT is manualized and treatment duration and intensity has been tested for 16 sessions over five months, as well as a variable number of sessions over six months. Generally, an average of 2-3 sessions with various combinations of family members is held weekly, averaging 1-2 hours each. Phone contacts should be frequent and provide opportunities for "mini-sessions." MDFT assesses and intervenes in five domains: Interventions with the adolescent, parent, parent-adolescent relationship, other family members, and systems external to the family (Liddle & Dakof, 1995). MDFT encompasses a collaborative, individualized approach that requires a high degree of engagement by families. Strategies for engagement is employed to capture the interest of the family and assess risk and protective factors within the specific ecological context of the family in order to create a working agenda for preventive intervention (Becker, Hogue, & Liddle, 2002).

MDFT has been empirically supported as a therapy for substance abusing teens. Its efficacy has been supported by studies comparing MDFT with alternate therapies in four controlled trials (Dennis, Titus, Diaond et al., in press; Hogue, Liddle, Becker, & Johnson-Leckrone, 2002; Liddle et al., 2001). Specifically, three randomized clinical trials have explored the use of MDFT with adolescent substance use cessation. The first study split 182 substance-using adolescents of varying ethnicities into three groups: MDFT, Adolescent Group Therapy, and Multifamily Education Intervention (Liddle et al., 2001). The results showed overall improvement for all three groups, but the greatest improvement for the MDFT group. Only the MDFT group reported significant improvement in family competence and academic grades. The MDFT group also maintained the improvement at 3-month and 12-month follow-ups.

The second study compared MDFT to Cognitive-Behavioral Therapy (Liddle, Dakof, Turner, & Tejada, in press). The clients were primarily African-American males from low-income families. It was found that both treatments were somewhat efficacious from intake to termination. However, clients who participated in MDFT maintained gains after termination. The third study focused on issues of cost and suggested that MDFT compared favorably in terms of cost (less than the

median). MDFT was also found to have an impact that was maintained at three-month follow-up (Dennis et al., in press).

A prevention study with Multidimensional Family Prevention (MDFP) (Hogue & Liddle, 1999; Liddle & Hogue, 2000) showed greater gains when compared to controls on mediators of substance use. Domains studied included self-competence, family functioning, school involvement, and peer associations. Preliminary evidence of short-term efficacy indicated strengthened family cohesion, school bonding, and reduced peer delinquency compared to controls (Hogue et al., 2002).

INTEGRATED BEHAVIORAL FAMILY THERAPY

There is some evidence for the effectiveness of IBFT, especially in terms of long-term maintenance of results. The therapy combines two common and well-established family treatment approaches for adolescent substance abuse: family systems therapy and individual cognitive-behavioral therapy. IBFT has been manualized and typically includes weekly or bi-weekly meetings with the adolescent and the parents. The duration of the intervention usually ranges from a few months to a year, depending on the need for the intensity of the treatment. Booster sessions have been used following termination of treatment, and are recommended beginning at three months after treatment termination, as this is a typical time for recurrences in substance abuse (Whisman, 1990). The use of IBFT with minority clients has also been explored (Moncher, Holden, & Schinke, 1990).

IBFT (also known as Targeted Family Intervention) involves assessment and intervention based on assessment. During the assessment phase, the therapist elicits statements regarding desired outcomes, assesses past attempts to address the problem, collects information about current reinforcement of the problem, and elicits maladaptive explanatory statements from the family. The intervention goal is to help families establish environments that will promote desired behaviors. This is accomplished by taking one complaint at a time, modeling and coaching non-aversive communication behaviors, modeling and guiding members through sequential verbal problem-solving, focusing on consistent consequences for undesired behavior, and suggesting evidence for more adaptive explanatory statements about undesired outcomes (Bry & Krinsley, 1992).

In a randomized trial comparing IBFT, individual cognitive-behavioral therapy, and IBFT combined with individual cognitive-behavioral

therapy, each intervention demonstrated a level of efficacy (Waldron, Slesnick, & Brody, 2001). However, the IBFT alone and in combination with individual therapy showed a significant decrease in days of substance use. In order to explore ways to lengthen the effects of IBFT and other family therapies, the long-term effects of IBFT on substance abuse have been examined. In a small group of subjects receiving IBFT ($n = 1$ control, 3 experimental), maintenance of decreased substance use was seen after six months in youth that received booster sessions (Bry & Krinsley, 1992).

In another recent study (Latimer, Winters, & D'Zurilla, 2003), IBFT was compared with a psychoeducational curriculum. Forty-three substance abusing youth participated in the study. During the 6-month post-treatment period, the IBFT group showed significantly lower rates of alcohol and marijuana use, and problem avoidance; significantly higher levels of rational problem-solving and learning strategy skills was also found.

OTHER FAMILY THERAPIES

Other family therapies have been developed and are currently being examined; however, limited empirical support exists. Some of the leading therapies in this category will be discussed briefly and include: Purdue Brief Family Therapy, Project STAR, the Seattle Social Development Project, and the Community Reinforcement Approach and Family Training.

Purdue Brief Family Therapy (PBFT) integrates structural, strategic, functional, and behavioral family therapies. Goals include reduction of resistance to change, restraint of immediate change, reestablishment of parental control, assessment, and interruption of dysfunctional patterns, provision of adolescent assertion skills training and positive therapeutic changes (Trepper, Piercy, & Lewis, 1993). In a study of 84 adolescents and their families (Lewis, Piercy, & Sprenkle, 1990), the Purdue Brief Family Therapy model was compared to a parenting skills program. Both programs were found to significantly reduce drug use, but a greater percentage of the PBFT group showed decreased drug use.

Project STAR has gained recognition focusing on prevention with preschool children. The program includes a classroom-based curriculum and also parent training and home visits. In a longitudinal study (Kaminski, Stormshak, Good, & Goodman, 2002), Head Start classrooms were randomly assigned to experimental and control groups. An increase in posi-

tive parenting and parent-school involvement over the first year of intervention and positive parenting and social competence through kindergarten suggests the possible usefulness of this program in preventing substance abuse.

The Seattle Social Development Project (SSDP) is based on the social development model, which incorporates empirical predictive and protective factors related to antisocial behavior in adolescents. The social development model is based on control theory, social learning theory, and differential association theory (Catalano & Hawkins, 1996). One study (Lonczak, 2000) found encouraging results for risky sexual abuse in adolescents. Additionally, it has been tested for use with adolescent substance use and findings indicate that the model's factors are potential targets for the prevention or reduction of adolescent alcohol use (Lonczak, Huang, & Catalano, 2001; Catalano, Kosterman, & Hawkins, 1996). Positive effects of the program have been found for students' attitudes, achievement, and behavior (Hawkins, Catalano, & Morrison, 1992).

CONCLUSIONS

From this review of the literature it is evident that most studies indicated the effectiveness of family-based interventions in reducing youth substance use behaviors. Although the findings are somewhat inconclusive concerning the lasting effects, the evidence clearly indicates that these interventions are helpful in reducing youth substance use and other high-risk behaviors. Various studies demonstrated that the short-term effectiveness of these interventions appear comparable to the effectiveness of individually based interventions; however, long-term effects of family-based interventions appear more promising than adolescent therapy alone. Also encouraging is the fact that these treatments are manualized, making future replication possible.

However, many of the studies reviewed used quasi-experimental or exploratory methods with a small sample sizes. Very few studies meet the criteria for strong validity in experimental design and sensitivity (Spoth, 1998). Additionally, the validity of some studies is questionable, as self-report measures of substance use and other highly sensitive issues were employed. Some studies measured potential substance use based on indirect measures, such as drug-related arrests or family functioning measures. Clearly, the issue of social desirability in self-report findings may affect the validity of the results; thus, future studies on family-based inter-

ventions must utilize multi-method, multi-informant measurement procedures.

Although adaptation of existing successful family-based models to address substance use among youth is needed, few studies of family-based interventions addressed the serious problem of engagement and retention in the treatment process. Research has shown that time in treatment (retention) is the single best predictor of positive outcomes (Simpson, 2001) and higher levels of engagement early in treatment lead to extended retention rates (Joe, Simpson, & Broome, 1998; Simpson, Joe, Rowan-Szal, & Greener, 1995). Engagement is typically defined across general dimensions of therapeutic involvement and session participation (Joe et al., 1998) and involves rapport, treatment confidence, and commitment (De Leon, 1996; Simpson, Joe, & Brown, 1997). Thus, a client who is 'engaged' is more likely to bond with counselors, endorse treatment goals, and participate to a greater degree (Broome, Joe, & Simpson, 2001). In addition, a high degree of treatment readiness is considered an important predictor of client participation and positive outcomes (Broome, Knight, Hiller, & Simpson, 1997; Gainey, Wells, Hawkins, & Catalano, 1993). Treatment retention is highly associated with engagement and, like engagement, is considered an important criterion for judging the effectiveness of an intervention (Szapocznik & Kurtines, 1990). These studies point to the need for further development and research of strategies to improve engagement and retention, especially for difficult to recruit and retain populations.

In light of these findings, more studies are needed to explore the use of family-based interventions for this population. These findings should be replicated in experimental studies with larger sample sizes and more rigorous methodologies. Additionally, the treatments should be studied across diverse ethnic groups, and developed with cultural sensitivity. Given the encouraging results related to the long-term effects of family-based interventions on adolescent substance use, factors related to these positive findings should be explored in more depth.

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