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Family-Based Treatments for Adolescent Substance Abuse: Advances Yield New Developmental Challenges

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The Oxford Handbook of Adolescent Substance Abuse

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Abstract and Keywords

Adolescent drug and alcohol abuse remains a serious health problem. Family-based treatments are recognized as among the most effective interventions for youth with drug and alcohol problems. This chapter presents the state of the science of the family-based adolescent substance abuse treatment field, summarizing the advances, methodological features, and outcomes of 36 randomized controlled trials, representing 18 distinct models of family-based therapies for youth substance abuse. The chapter reviews developments and gaps in this specialty, including theory issues, treatment development, research, and services for referred youths. The chapter also discusses the unknowns of the field, including the topic of treatment mechanisms and moderators, and deliberates on the complicated topic of implementing evidence-based therapies in usual care settings.

Keywords: adolescent substance abuse, family-based treatment, adolescent treatment research, evidence-based therapies, treatment development

Adolescent drug and alcohol abuse continue to pose global public health challenges (Toumbourou et al., 2007). Epidemiological studies, expert-authored reports from private and government agencies, media coverage, and accumulating research all reveal a consistent concern with the consequences and costs of substance misuse and related problems among adolescents (Armstrong & Costello, 2002; CASA, 2011; Costello, Foley, & Angold, 2006; Meier et al., 2012; O'Connor, 2013; World Health Organization [WHO], 2009). Scientific advances in the youth substance abuse specialty are numerous, and these are summarized in basic science reviews (Squeglia, Jacobus, & Tapert, 2009; Steinberg, Fletcher, & Darling, 1994) and the increasing number of intervention-focused reviews (Akram & Copello, 2013; Winters, Tanner-Smith, Bresani, & Myers, 2014). Scholars in developmental psychology and developmental psychopathology have specified the continuing importance of developmental considerations (Brown, 2004; Brown et al., 2008; Windle & Zucker, 2010), positive and long-term relationships, and a youth's family relationships in particular to short and long-term developmental outcomes (Cranford, Zucker, Jester, Puttler, & Fitzgerald, 2010). Longitudinal studies about risk and protective factors that influence the development of drug and alcohol problems (Corte & Zucker, 2008; Cranford et al., 2010; Zucker, 2008; Zucker, Donovan, Masten, Mattson, & Moss, 2008) have created a clinically relevant knowledge base unavailable in youth treatment's earliest days.

Family-based conceptual frameworks, theories of change, and intervention programs have been specified over the past four or so decades and influenced the major disciplines and sectors of clinical care (Akram & Copello, 2013). Ecological, contextual, developmental, and dynamic systems theories and research have all been represented in the family-based therapies for youth substance abuse, and the research base of these treatments has grown in size and quality over the years.

Amid these accomplishments, vexing clinical puzzles and numerous scientific gaps remain. Most youth in need of treatment do not receive it (Kessler et al., 2003); the treatment retention (Grella, Hser, Joshi, & Douglas Anglin, 1999) and outcomes of usual care (Weisz, Jensen-Doss, & Hawley, 2006) remain inconsistent compared to those achieved by evidence-based treatments. Clinicians across sectors of care have inadequate opportunity to learn how to provide evidence-based therapies, and those responsible for training new generations of clinicians seem to be lackadaisical about incorporating evidence-based therapies into their training (Weissman, Brown, & Talati, 2011).

Family-Based Treatments

The number of stand-alone family-based treatment models that specialize in adolescent substance abuse treatment has increased significantly since the specialty's formative days (Catalano, Hawkins, Wells, & Miller, 1990; Stanton & Shadish, 1997). Initially, approaches were more standard classic family therapy models with the aim of changing family interaction per se as the most important—and in some cases the only—

therapeutic target. Gradually, as the influence of ecological theory and research grew, and in response to changes in family therapy thinking as well, the therapeutic models tended to become more comprehensive. The more recent clinical models try to change family interaction but may also focus on extrafamilial sources of influence as change targets as well. But several approaches today retain behavioral roots and feature contingency management methods as primary methods. Parents are included, but extensive targeting of social ecological settings is generally avoided in the behavioral models.

This chapter presents a state of the science characterization of the family-based adolescent substance abuse treatment specialty. We review the scientific advances, methodological features, and outcomes of 36 randomized controlled trials, representing 18 distinct models of family-based therapies for youth substance abuse. We discuss a variety of developments and gaps in this specialty—gaps that touch on theory, clinical work, research, services for referred youths, and the complicated topic of implementing evidence-based therapies (Fixsen, Blase, Metz, & Naoom, 2014) in usual care settings.

Signs of the Times

More complex and rigorous methodological standards for reporting randomized controlled trials (RCTs) have come from diverse sources (e.g., Lindstrom, Rasmussen, Kowalski, Filges, & Klint Jorgensen, 2013). For instance, the Consolidated Standards of Reporting Trials (CONSORT) guidelines were developed by researchers and editors of medical journals to serve as “an evidence-based minimum set of recommendations for reporting RCTs” (see <http://www.consort-statement.org/home>). They address issues such as participant eligibility, randomization, sample size, and other similar methodological features. Their purpose was to enable readers to understand a trial’s design, conduct, analysis, and interpretation, and to assess the validity of its results. CONSORT guidelines have resulted in more consistent reporting of core methodological details, yet their use frequently hinges on whether journals require authors to follow the standards (Hopewell, Ravau, Baron, & Boutron, 2012; Turner, Shamseer, Altman, Schulz, & Moher, 2012). At the same time, Ladd, McCrady, Manuel, and Campbell (2010) found that authors had increased their reporting of CONSORT items in alcohol treatment research regardless of whether or not the journal required it. Tools to evaluate methodology (Miller & Wilbourne, 2002), an increase in meta-analyses (Baldwin, Christian, Berkeljon, Shadish, & Bean, 2012), and *quality of evidence* reviews (Becker & Curry, 2008; Hogue, Henderson, Ozechowski, & Robbins, 2014; Miller & Wilbourne, 2002; Sprenkle, 2012; Waldron & Turner, 2008) are other examples of attention to the methodological aspects of this specialty’s science. Overall, the major and most consistent improvements in the research base have been in reporting participant characteristics, obtaining more reliable measurements of key outcome variables, specifying and monitoring intervention delivery, and conducting more appropriate and sophisticated data analytic methods.

Defining the Evidence Base

Potential studies to discuss in this chapter were identified by searching Medline, *PsychInfo*, and the aggregated Social Sciences database on ISI Thompson’s Web of Knowledge. We created a set of search items based on a variety of addictive behaviors as well as addictive products such as marijuana, cannabis, and alcohol. Another set of terms was formed to include different types of treatment, including family therapy. We then combined these two sets and limited the search to studies of treatment outcomes published in English that examined adolescents as a target age group and involved families in treatment. Our final set of articles consisted of papers that (a) used a family-based model as either a stand-alone treatment or was combined with features of another type of treatment in an integrative model; (b) participants were between the ages of 11 and 18 years; (c) random assignment to a family/integrative treatment or an intervention intended to produce a decrease in substance use (in contrast to a no-treatment control condition or placebo treatment) occurred; (d) the study sample was drawn from a clinically referred population with adolescent substance abuse as a presenting problem; (e) substance use was a main outcome variable in the study; and (f) have a minimum of two time points (usually pre intervention and post intervention).

For some studies, more than one outcome paper was published from the same sample. In such cases, we included the most recent publication. The final sample included 36 RCTs. The comparison treatments were categorized as “active treatment” or “nonactive treatment.” To meet criteria for active treatment, treatments had to meet more stringent criteria than previous reviews to make it consistent with current standards. Active treatment is defined as (1) using a treatment manual in the study, (2) following stated supervision procedures where therapists received feedback on treatment delivery, and (3) using an instrument to conduct fidelity checks on treatment delivery.

Of the 36 studies, 12 (33%) compared the family-based treatment to an active treatment, including cognitive-behavioral therapy (CBT) (group and individual), CBT with motivational enhancement treatment, Chestnut’s Bloomington outpatient treatment, family process, functional family therapy, motivational interviewing, joint family and individual therapy, adolescent group therapy, individual CBT, residential treatment, and The 7 Challenges program/strengths-oriented family therapy (compared to each other without specification of which is the experimental condition). The other 14 studies compared the family-based therapy to nonactive comparisons. These comparison treatments were interventions described as group counseling/group therapy, individual psychotherapy/individual counseling, usual continuing care, treatment as usual/services as usual, community referral, traditional family therapy, individual cognitive problem-solving therapy, extended services, parent group, group care, and training in parenting skills.

The 36 studies occurred in diverse settings and used multiple designs—efficacy, effectiveness, and hybrid studies that blended elements of efficacy and effectiveness studies (Carroll & Rounsaville, 2003). Five of the studies are considered effectiveness studies. They were conducted within community settings, with community-based therapists providing the experimental condition within agencies. These studies are strong in external validity and provide new information about the feasibility of delivering evidence-based interventions in usual care settings. Twenty-one of the studies are considered efficacy studies. Clinicians hired specifically for the study usually provided these interventions. Generally speaking, these therapists receive high-quality supervision and have lower caseloads than they might have in a standard clinic position. Furthermore, participants (youth and families) recruited for these studies frequently need to meet certain criteria (such as diagnosis or severity of symptoms). In hybrid studies ($n = 10$), the intervention is delivered in a community setting, but it typically had involvement from the developer and/or affiliated researchers. Finally, six studies were independent replications, undertaken by a separate group of researchers, with no affiliation with the developers.

Finally, the 36 studies varied in the frequency and intervals of their research follow-up interviews. To be a part of this review, studies had to have a minimum of two time points (usually pre intervention and post intervention). Seven of the 36 studies met this minimum requirement, with other studies exceeding it ($M = 4.34$, $SD = 1.06$). Most studies had between three ($n = 7$) and seven ($n = 2$) follow-ups, with most having four ($n = 9$) or five ($n = 11$). Those with the most follow-ups assessed families up to 24 (Slesnick, Erdem, Bartle-Haring, & Brigham, 2013) and 48 months (Dembo, Wothke, Livingston, & Schmeidler, 2002; Henggeler, Clingempeel, Brondino, & Pickrel, 2002; Liddle et al., 2012).

Table 1 provides definitions for the methodological attributes used to evaluate the research quality of the included studies.¹ Table 2 provides a description of every family therapy model included in this chapter. Table 3 gives details on the studies included and summarizes the study outcomes. It also includes a methodological “score” consisting of a percentage of the number of methodological attributes included in the study divided by the total number of methodological attributes.

Table 1 Definitions of Methodological Attributes

Attribute	Criteria
1. Specific hypotheses	Specific hypotheses are explicitly established.
2. Sample description	Description of participants' baseline demographics and clinical characteristics is given in sufficient detail that a determination regarding the generalization of the findings can be made, or the study could be replicated.
3. Adequate sample size	Process for determining sample size is discussed, and the study is sufficiently powered to detect differences between treatment groups.
4. Active comparison	Experimental condition is compared to at least one active evidence-based treatment or a comparison treatment with sufficient bases for determining it was active (e.g., standardized treatment, clear supervision, and fidelity checks).
5. Random sequence	Process for generating a random sequence is described with sufficient detail to confirm that each participant had an unpredictable, independent chance of receiving each intervention.
6. Allocation concealed	Process of assigning participants to groups described with sufficient detail to confirm that investigators recruiting and conducting the initial assessment could not discern the participant's treatment group.
7. Manual	At least one treatment condition was guided by a manual.
8. Treatment ratings	Treatment adherence monitored with scales, checklists, or rating forms completed by therapist, supervisor, independent observer, and/or patient.
9. Collateral report	At least one outcome is a collateral report (e.g., parent, caregiver, teacher).
10. Objective measure	At least one outcome is an objective measure (e.g., urine, blood samples, paper records).
11. Intent-to-treat	All subjects analyzed in groups to which they were assigned, even if they did not complete assessments or treatment.
12. Blind assessment	Follow-up assessments completed by treatment-blind evaluator.
13. Effect sizes	Effect sizes are reported.
14. Clinical significance	Clinical significance outcomes are reported.
15. Therapist training	Description of therapist training procedures is provided.
16. Therapist characteristics	Description of therapist characteristics is provided.
17. Independent replication	Study is an independent replication not involving the treatment developer.

Source: Adapted from Becker and Curry (2008).

Table 2 Description of Treatment Models

Treatment	Description
1. Adolescent-Community Reinforcement Approach (ACRA) Assertive Continuing Care (ACC)	<p>ACRA is a 12-week behavioral intervention that seeks to increase positive prosocial activities in substance-abusing adolescents. ACRA's philosophy is to use the community to reward nonusing behaviors and encourage prosocial behaviors. The program begins with rapport building and a functional analysis of substance abuse behaviors and social behaviors. Client self-assessments are used to develop and monitor treatment goals. Techniques used include prosocial priming and reinforcing. Skills taught include relapse prevention, problem solving, and communication. Initially, caregivers and adolescents are seen separately and then join together. Optional modules include coping with relapse, anger management, and finding a job. Case management services are included in the ACC program (Godley et al., 2010, 2002, 2007).</p> <p>Assertive Continuing Care (ACC) is a 12- to 14-week home-based continuing care program. It is often offered following residential treatment. ACC uses an operant reinforcement and skills training model to help adolescents and their families develop prosocial skills and access community services. ACC is a combination of ACRA and case management services (Godley et al., 2007, 2010).</p>
2. Brief Strategic Family Therapy (BSFT)	<p>BSFT is a 12-week manual-based intervention that integrates strategic and structural family therapy theory techniques. The goal is to reduce problematic adolescent behavior by improving relationships with the family and other important systems such as school and peers. BSFT is problem-focused, directive, practical, and follows a prescribed format delivered in treatment phases that have specific goals. Initial sessions are focused on establishing therapeutic alliance, identifying family strengths and weaknesses, and developing a treatment plan. Sessions then address negative family interaction and implement restructuring strategies that will improve family relations (Robbins et al., 2011).</p>
3. Contingency Management	<p>The abstinence-based contingency management program (duration may vary) is an intervention that uses classic behavioral theory. Contingency management offers teenagers financial incentives for documented abstinence and participation in treatment. Parent participation and compliance is also rewarded via participation in a draw to win gift cards. Behaviors that are reinforced include attending therapy, attending urine testing appointments, implementing the Substance Monitoring Contract, completing homework, and administering breathalyzers.</p>
4. Culturally Informed and Flexible Family-Based Treatment for Adolescents (CIFTA)	<p>CIFTAA is a 14-week program that has its foundations in structural family therapy and integrates themes relevant to Hispanic families. It is delivered using a modular and flexible approach that includes about half of the sessions alone with the adolescent, and the other half with the parent alone or the family together. The family work integrates individual interventions such as motivational interviewing and skills training along with psychoeducation modules that include parenting, drug education, risky sexual behavior, and acculturation stress (Santisteban, Mena, & McCabe, 2011; Santisteban & Mena, 2009).</p>
5. Ecologically Based Family Therapy (EBFT)	<p>EBFT is a 15-session treatment used for runaway substance-abusing youth. It is based on crisis intervention theory, which postulates that families are most open to change when they are faced with a crisis, and their normal modes of coping no longer work. Individual sessions with the adolescent focus on engagement, HIV prevention, and outlining clinical tasks. With the family, the focus is on preparing the parents to come together with the adolescent to develop a new kind of relationship. Finally, family members are brought together to work on specific dysfunctional interactions using training in communication and problem-solving skills.</p>
6. Family Behavior Therapy (FBT)	<p>FBT is a 15-session, multicomponent program based on classic behavior therapy, which addresses cognitive, verbal, social, and familial factors, in addition to variables that influence drug use and antisocial behaviors. Techniques used include therapist modeling, rehearsal for each procedure, self-recording, homework assignments, and therapist praise at signs of progress. The primary interventions used are behavioral contracting, stimulus control, urge control, and communication training. Secondary procedures include anger prevention, positive request procedure, relationship enhancement, and problem-solving training (Azrin et al, 2001).</p>
7. Family Empowerment Intervention (FEI)	<p>FEI is a 10-week home-based intervention which provides families with personal in-home visits from project field consultants to work on the following goals: restore the family hierarchy; restructure boundaries between parents and children; encourage parents to take greater responsibility for family functioning; increase family structure through implementation of rules and consequences; enhance parenting skills; have parents set limits, expectations, and rules that increase the likelihood the target youth's behavior will improve; improve communication skills among all family members; improve problem-solving skills, particularly in the target youth; and where needed, connect the family to other systems—"system-fit" (e.g., school, church, community activities) (Dembo et al., 2002).</p>

8. Family Support Network (FSN) FSN is a 12-session treatment that uses cognitive-behavioral treatment to provide adolescents with substance-abuse treatment. In addition, six parent education group meetings are offered to improve parent knowledge and skills relevant to adolescent problems and family functioning. Four therapeutic home visits are also provided along with referral to self-help support groups and case management services (Dennis et al., 2004).
9. Family Systems Therapy (FST) FST is a 12-week treatment that integrates structural and strategic family therapy. The goal is to use the family system to influence change in the individual adolescent (Joanning et al., 1992).
10. Functional Family Therapy (FFT) FFT is a 24-week, systems-oriented, behaviorally based model of structured family therapy. The goal is to change dysfunctional family patterns that contribute to adolescent substance abuse. The first phase focuses on engaging families and motivating them for change. The second phase focuses on effecting behavioral changes in the family. Behavioral interventions such as contingency management, communication, problem-solving, and behavioral contracting are used (Waldron et al., 2001).
11. Integrated Family and Cognitive-Behavioral Therapy (IFCBT) IFCBT is a 16-week intervention comprised of 16 individual family therapy sessions, based on structural family therapy, and 32 peer group cognitive-behavioral sessions. The primary goal of the problem-focused family therapy component is to promote youth abstinence by fostering adaptive family communication, age-appropriate familial roles, and effective parenting skills. The cognitive-behavioral component initially introduces youth to rational-emotive and problem-solving behavior change principles, the goal of which is to promote rational beliefs that are associated with psychiatric well-being and drug abstinence (Latimer, Winters, D'Zurilla, & Nichols, 2003).
12. Integrated Cognitive-Behavioral Therapy (I-CBT) I-CBT is a 12-month intervention grounded in social cognitive learning theory and integrates CBT techniques to remediate maladaptive cognitions and behaviors found to underlie both adolescent suicidality and substance use disorders. Problems targeted include cognitive distortions as well as poor coping, communication, and parenting skills. In the acute (6 months) treatment phase, adolescents attended weekly sessions and parents attended weekly to biweekly sessions. In the continuation (3 months) treatment phase, adolescents attended biweekly sessions and parents attended biweekly to monthly sessions. In the maintenance treatment phase (3 months), adolescents attended monthly sessions and parents attended monthly sessions as needed.
13. Multidimensional Family Therapy (MDFT) MDFT is a 4- to 5-month treatment system. MDFT focuses on four interdependent treatment domains: the adolescent domain, the parent domain, the interactional domain, and the extrafamilial domain. The adolescent domain helps youths communicate effectively with parents and other adults; develop coping, emotion regulation, and problem-solving skills; improve social competence and school or work functioning; and establish alternatives to substance use and delinquency. The parent domain increases behavioral and emotional involvement with the adolescents; improves parenting skills, especially monitoring, clarifying adolescent expectations, limit setting and consequences; and addresses their individual psychosocial functioning. The interactional domain focuses upon decreasing family conflict and improving emotional attachments, communication, and problem-solving skills. The extrafamilial domain fosters family competency within all social systems in which the youth participates (e.g., school, juvenile justice, recreational) (Liddle et al., 2008).
14. Multidimensional Treatment Foster Care MTFC is a 6- to 9-month intensive intervention, based on social learning theory. MTFC is an alternative to group home treatment or state training facilities for youths who have been removed from their home due to conduct and delinquency problems, substance use, and/or involvement with the juvenile justice system. MTFC places youth with highly trained foster parents, while also preparing their family to provide effective parenting and support that will facilitate a positive reunification. Four key elements are targeted: providing a consistent reinforcing environment where they are mentored and encouraged to develop academic and positive living skills; providing daily structure with clear expectations, limits, and consequences; providing close supervision; and helping youth to avoid deviant peer associations while providing them with the support and assistance needed to establish prosocial peer relationships.
15. Multisystemic Therapy (MST) MST is a 16-week treatment based on pragmatic, problem-focused treatments such as strategic family therapy, structural family therapy, behavioral parent training, and cognitive-behavioral therapies. MST addresses the multiple determinants of youth and family problems by targeting factors at the individual, family, peer, school, and community levels. The MST therapist identifies the strengths and weaknesses of these systems to establish treatment goals in collaboration with the family. Families are encouraged to produce changes in the problem behaviors and in the adolescent's social ecology—such as the peer network—to promote long-term therapeutic gains. Intervention modalities are based on Henggeler (1999).

16. Parent Skills Training (PST) PST is an eight-session coping skills parent training program. The first session focuses on general parenting principles, stress and coping, general problem-solving skills, and the “do’s” and “don’ts” of parenting. The second through eighth sessions focus on individualized problem solving, modeling, and rehearsal, and a specific skills training such as replacing negative thoughts with positive thoughts, psychoeducation about drugs and alcohol, communication skills, using positive and negative consequences, establishing and maintaining house rules, and issues related to adolescent’s treatment and post treatment planning (McGillicuddy et al., 2001).
17. Purdue Brief Family Therapy Model PBFT is a 12-session program that combines evidence-based components of structural, strategic, functional, and behavioral family therapies. The goal is to establish rapport with the family and assist in modifying family dynamics so that the adolescent will reduce substance abuse by decreasing resistance, redefining drug use as a family problem, reestablishing appropriate parental influence, interrupting dysfunctional family behavior, implementing change strategies, and providing assertion skills training for the adolescent (Lewis, Piercy, Sprenkle, & Trepper, 1990).
18. Strengths-Oriented Family Therapy (SOFT) SOFT is a 15-session treatment that uses solution-focused language and techniques to enhance parent–adolescent communication skills. The first session focuses on a family-based assessment and motivational feedback. Then, the therapist works with individual families followed by multifamily groups. Finally, case management is provided as needed (Smith & Hall, 2007).

Table 3 Study Details and Outcomes

Study	Sample	Family-Based Treatment Details	Comparison Treatment Details	Follow-Up	Treatment Outcomes and Effect Sizes
Assertive Continuing Care					
Godley et al. (2002) <i>Efficacy Trial Attribute score: 33%</i>	N = 114, 76.3% male, ages 15–18, 16.6% African American, 73.7% Caucasian, 57.1% alcohol dependence, 90.3% marijuana dependence, 77.2% prior substance use treatment, 52.6% prior mental health treatment, 82% juvenile justice system	Usual continuing care (UCC): variable duration and locations) + Assertive continuing care (ACC): 90 days, home-based	Usual continuing care (UCC)	2 TOTAL: Baseline and post treatment (3 months)	<ul style="list-style-type: none"> • No group differences in number of sessions attended • Median days to marijuana use: 90 days vs. 31 days—64% decrease for ACC and 18% decrease for UCC • Median days to marijuana use significantly longer for ACC (90 days vs. 31 days, $d = .39$) • ACC more likely to be abstinent from marijuana (52% vs. 31%, $d = .43$) • ACC more likely than UCC to receive

					<p>continuing care services (92% vs. 59%, $d = .86$)</p> <ul style="list-style-type: none"> • ACC more continuing care sessions ($M = 14.4$ vs. $M = 7.6$, $d = .48$)
Dennis et al. (2004) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 94%</i>	Trial 2 only: N = 300, 81% male, ages 12–17, 49% White, 47% African American, 82% juvenile justice system, 76% weekly or daily substance use	Adolescent community reinforcement approach (ACRA): 12–14 weeks, location not specified Therapists: All conditions: 20% doctorates, 30% bachelors, 50% masters. Average 7 years of experience. First time using manual-guided therapy	<i>ACTIVE</i> Motivational enhancement treatment/cognitive-behavioral therapy 5 session (MET/CBT5): 6–7 weeks, location not specified <i>and</i> multidimensional family therapy (MDFT): 12–41 weeks, location not specified	5 TOTAL: Baseline, 3 months, 6 months, 9 months, 12 months follow-ups	<ul style="list-style-type: none"> • Total days of abstinence not significantly different by site or treatment • Percent in recovery not significantly different by condition across sites, but small trend (Cohen's $f = 0.16$) for ACRA (34%) higher percent of participants in recovery than MET/CBT5 (23%) and MDFT (19%) • Drug use reduced similarly across treatment conditions. ($f = 0.06$) • Trend for ACRA participants higher percent in recovery (34%) compared to MET/CBT5 (23%) and MDFT (19%) with moderate effects ($f = 0.16$), but no statistically significant differences • Cost-effectiveness of treatments significantly

					differed ($f = 0.22$) with A-CRA being the most cost-effective for cost per day abstinent (ACRA = \$6.62, MET/CBT5 = \$9.00, MDF = \$10.38)
Godley et al. (2007) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 56%</i>	N = 183, 71% male, mean age 16.2, 73% Caucasian, 18% African American, 100% substance use dependence, 82% juvenile justice system	Assertive continuing care (including ACRA): 12 weeks, home-based	Usual continuing care: duration not specified, outpatient clinic	4 TOTAL: Baseline, 3, 6, and 9 months follow-ups	<ul style="list-style-type: none"> ▪ No significant between-group differences in overall alcohol and other drugs abstinence (19% to 28% UCC and 28% to 38% ACC), and alcohol abstinence (26% to 44% UCC and 31% to 50% ACC) • ACC more effective linking clients to continuing care ($d = 1.07$) • ACC clients received more days of continuing care ($d = 0.64$) • ACC more likely to meet with parents (72% vs. 49%) and follow-up on referrals (89% vs. 68%) • ACC resulted in significantly greater marijuana abstinence at 9 months ($d = 0.32$)
Godley et al. (2010) <i>Hybrid Trial</i> <i>Attribute</i>	N = 320, 76% male, mean age 15.9, 73% Caucasian, 13%	CBOP with assertive continuing care (ACC): duration and location not specified; therapists:	<i>ACTIVE</i> : Chestnut's Bloomington Outpatient Treatment (CBOP) without ACC	5 TOTAL: Baseline, 3, 6, 9, and 12 months	<ul style="list-style-type: none"> • No statistical differences in urine test results or recovery

<i>score: 83%</i>	African American, 75% cannabis abuse or dependence, 49% alcohol abuse or dependence, 35% both cannabis and alcohol disorders, 56% co-occurring psychological problems, 73% involved in criminal justice	12.5% bachelors, 87.5% masters, 87.5% Caucasian, 12.5% African American, 62.5% females	—AND—MET/CBT 17 without ACC vs. MET/CBT 17 with ACC: 12–14 weeks, home based; therapists: 25% bachelors, 75% masters, 100% Caucasian, 75% females	follow-ups	status across conditions <ul style="list-style-type: none"> • Percent of days abstinent from alcohol or other drugs increased from 74.4% to 81% across groups • Percent of days abstinent from alcohol decreased from 95.2% to 94.1% across groups • Percent of days abstinent higher for both CBOP conditions (10.6 and 10.9%) than MET/CBT7 conditions (5% and 6.1%) ($f = .08$). ACC did not add incremental benefits • CBOP with ACC received significantly more treatment than MET/CBT7 with ACC • Most cost-effective intervention was MET/CBT7 without ACC
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Brief Strategic Family Therapy (BSFT)

Szapocznik et al. (1986) <i>Efficacy Trial Attribute</i> <i>score: 11%</i>	N = 35 families, 100% Hispanic, middle to lower class, 21% arrested	Conjoint family therapy (CFT): duration and location not specified; 1 doctoral level, over 15 years' experience	One-person family therapy (OPFT); duration and location not specified	3 TOTAL: Baseline, discharge, and 6 to 12 months follow-up	<ul style="list-style-type: none"> • There was a main effect for time, with improved psychiatric symptoms, behavior problems, and observational ratings of family functioning
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Santisteban et al. (2003) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 61%</i>	N = 126, 75% male, mean age 15.6, 100% Hispanic, 94% two or more behavior problems, 52% alcohol or drug use in past month	Brief strategic family therapy (BSFT): 4 to 20 weeks at clinic or research center; 1 child psychiatric trainee and 6 clinical psychologists	Group control (GC): 6 to 16 sessions, school-based; two child psychiatric trainee, one clinical psychologist, and one masters-level counselor	2 TOTAL: Pre and Post	<ul style="list-style-type: none"> • OPFT was marginally more effective in improving psychiatric symptoms • No group differences on behavior, family, age, gender, nationality • BSFT resulted in greater behavioral improvements than GGT, $\eta^2 = .10$ • BSFT resulted in greater reductions in marijuana use than GGT $\eta^2 = .09$ • Substantially larger proportion of family therapy cases demonstrated clinically significant improvement in behavior problems (43% vs. 11%) and marijuana use (60% vs. 17%) • Family cohesion improved to a greater extent with BSF, $\eta^2 = .08$
Robbins et al. (2008) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 56%</i>	N = 190, 78% male, mean age: 15.57, 59% Hispanic, 41% African American, mean days marijuana use in past month: 6.49; 86% co-occurring	Structural ecosystems therapy (SET): 24 sessions, in multiple locations; therapists 2 females, 1 male. From Colombia, Cuba (Afro-Cuban), and African American. 0–7 years experience. 1 postdoctoral psychologist and 2 masters	<i>ACTIVE</i> —family process-only (FAM): 12–16 sessions, location not specified) AND Community Services Control (CS): duration and location not	5 TOTAL: Baseline, 3, 6, 12, and 18 months follow-ups	<ul style="list-style-type: none"> • There was a main effect for ethnicity • More ecosystemic therapy sessions were provided in SET than in FAM, $\eta^2 = .41$

psychiatric disorder, 80% juvenile justice, 41% annual household income below \$15,000

psychologists

specified

- CS received more services at community agencies than FAM and SET, $\eta^2 = .07$
- SET focused more on changing ecosystemic interactions than FAM therapists, $\eta^2 = .05$
- FAM therapists focused more on changing within family interactions than SET, $\eta^2 = .04$
- No main effects for treatment conditions in reducing drug use
- SET reduced substance use more than CS and FAM among Hispanic adolescents only, $p = 0.32$
- SET was more efficacious at producing a linear decline in drug use over 18 months follow-up than FAM and CS
- No effect sizes reported for treatment outcomes

Robbins et al. (2011)
Effectiveness Trial
Attribute score: 67%

N = 480, 79% male, mean age: 15.5, 44% Hispanic, 30% White, and 22.9% Black; 67% marijuana abuse, 25.9% marijuana dependence, 6.7%

Brief strategic family therapy (BSFT): 12–16 weeks, flexible location: home, clinic, school, work or other
Both conditions: 49 therapists at community agencies, randomly assigned to

Treatment as usual: duration varied, community-based

4 TOTAL: Baseline, 4, 8, 12 months follow-ups

- No overall differences between conditions were observed in the trajectories of self-reports of adolescent drug use

	<p>other drug abuse, 14.6% other drug dependence; 72% juvenile justice; 60% family income below 30K</p>	<p>treatment conditions</p>			<ul style="list-style-type: none"> • Median number of days of self-reported drug use was significantly higher in TAU than BSFT at 12 months following randomization (<i>Mdn</i> = 3.5 vs. 2 occasions of use). • BSFT was significantly more effective than TAU in engaging (Risk Ratio = 0.43) and retaining adolescents (Risk Ratio = 0.71) and in improving parent reports of family functioning • No effect sizes reported
<p>Valdez et al. (2013) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 61%</i></p>	<p>N = 200, 49% male; mean age: 15.25; 100% Hispanic (Mexican-American); 55% alcohol use (40% 5 + drinks), 76.5% marijuana use, 22% crack cocaine, 13.5% heroin, 10.5% barbiturates; 55% single-parent household, 39.4% public housing; 80% family member in a gang</p>	<p>Brief strategic family therapy (BSFT): 16 weeks standard BSFT + gang diversion training 3 sessions for youth, 1 session for parents, + 1 HIV/STD prevention session; flexible location: home, clinic, school, work, or other; 2 licensed trained therapists</p>	<p>Control: referral to substance abuse counseling, duration varied, community-based</p>	<p>3 TOTAL: Baseline, treatment exit at 16 weeks, and 6 months follow-up</p>	<ul style="list-style-type: none"> • At 6 months following randomization, BSFT more effective in reducing days of alcohol use $d = 0.50$ • At 6-month follow-up, BFST parents report fewer conduct problems, $d = 0.57$ • No treatment differences in marijuana use, other illicit drugs, gang identification, family functioning, or other parent reports

Contingency Management (CM)

Stanger et al. (2009) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 72%</i>	N = 69; 82.5% male; mean age: 16; 91.5% Caucasian, 6% African American, 3% Hispanic; 45% marijuana dependence, 44.5% marijuana abuse, 21.5% alcohol abuse, 52% mental health services in past year; 31.5% juvenile justice; 7.0 mean SES (9-step scale)	Motivational enhancement/cognitive-behavioral therapy + abstinence CM + family management: 14 weeks, clinic-based Both conditions: 3 masters-level (1 male and 2 females) and 1 female postdoctoral fellow. 100% European American)	<i>ACTIVE</i> MET/CBT + attendance CM + parent psychoeducation: 14 weeks, clinic-based	5 TOTAL: Baseline + treatment exit, 3, 6, and 9 months follow-ups	<ul style="list-style-type: none"> • No group differences in attendance and provision of urine samples • Results of urine testing indicated that youth receiving MET/CBT + CM + Parent Training (EXP) had more weeks of continuous marijuana abstinence during treatment than youth receiving MET/CBT + parent psychoeducation (CON) (7.6 vs. 5.1, $d = .48$) • No treatment x time interaction significant abstinence post treatment • Both groups show decreased drug and alcohol use during treatment, increase post treatment, and stabilization to lower than pretreatment levels • EXP youth more likely to achieve ≥ 8 weeks of continuous abstinence (53% vs. 30%) • Both groups reported improved parenting (positive involvement,
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					monitoring)
					<ul style="list-style-type: none"> • Parents of EXP youth reported less negative discipline ($d = .25$), and youth reported less externalizing behavior than CON ($d = .30$)
Henggeler et al. (2012) <i>Effectiveness Trial</i> <i>Attribute score: 61%</i>	N = 104; 83% male; mean age: 15.4; 57% White, 40% African American, 3% biracial; 80% cannabis abuse, 24% cannabis dependence, 38% alcohol abuse, 25% alcohol dependence, 16% abuse and 8% dependence of other drugs; 65% co-occurring psychiatric disorder; 70% single-parent family; median annual household income: 20K–30K; 47% of families on financial assistance	Juvenile drug court with contingency management and family engagement strategies (CM-FAM): 4 months, office-base	Juvenile drug court as usual AND usual services (US) (4 months, office-based) Both conditions: community-based therapists, 76% male, 61% White, 39% African American. Mean age: 41.7 years. 29% bachelors, 69% masters, 2% doctorate. Average 11 years clinical experience, 44% certified addiction counselors	4 TOTAL: Baseline, 3, 6, 9 months follow-ups	<ul style="list-style-type: none"> • Rapid decrease in marijuana use and delinquency throughout treatment for both groups, significant differences between groups did not emerge until final assessment • At final assessment, the odds of a positive marijuana result per drug screen for US youths increased 94% (odds ratio = 1.94) and decreased for CM-FAM youths 18% (odds ratio = 0.82) • At final assessment, general delinquency a increased 14% for US youths (event rate ratio = 1.14) and decreased 53% for CM-FAM youths (event rate ratio = 0.47) • At final assessment, person offense

decreased 34% for US youths (event rate ratio = 0.66) and decreased significantly more for CM-FAM youth: 85% (event rate ratio = 0.15)

- At final assessment, property offense *increased* 91% for US youths (event rate ratio = 0.48) and decreased for CM-FAM youth: 52% (event rate ratio = 0.34)
- Significant moderators not observed

Culturally Informed and Flexible Family-Based Treatment for Adolescents

Santisteban et al. (2011)
Efficacy Trial Attribute score: 22%

N = 28; Ages 14–17 (gender and mean age not specified); 100% Hispanic; Referred by a local juvenile justice. (Clinical and SES information not provided)

The Culturally Informed and Flexible Family-Based Treatment for Adolescents (CIFFTA): 16 weeks, location not specified; experienced family therapists

Traditional family therapy. Youth and families (TFT): 16 weeks, location not specified; therapists experienced in structural family therapy and adolescent drug abuse treatment

2 TOTAL: Baseline & 8 months follow-up

- At baseline, TFT significantly more externalizing problems (added as covariate)
- No treatment differences in parent reports of adolescent behavior problems, but large time effect on child-reported externalizing behaviors over time for both groups ($\eta^2 = .27$)
- CIFTAA reduced substance use ($\eta^2 = .33$) and improved parenting

practices ($\eta^2 = .29$, teen report and $\eta^2 = .10$, parent report) more

Ecologically-Based Family Therapy

Slesnick and Prestopnik (2005) <i>Efficacy Trial Attribute</i> score: 44%	N = 124; 41% male; mean age = 14.8; 44% Hispanic, 37% Anglo, 7% African America, 4% Native American. IV drug use, 10.6%. Use of baseline alcohol or drugs, 50%. Mean lifetime runs = 3.1., 52% in school, 31% sexually abused, 55% physically abused, 37% attempted suicide	Ecologically based family therapy (EBFT): 15 sessions, home-based; master's-level licensed counselors with 2–5 years experience and trained in substance abuse treatment using cognitive-behavioral and behavioral family systems approaches	Services as usual (SAU): mean no. of sessions: 4, office-based	4 TOTAL: Baseline, 3, 6, 12 months follow-ups	<ul style="list-style-type: none"> • No treatment differences with intent-to-treat analyses • Among adolescents who completed 4 or more sessions, substance use was reduced for both groups ($\eta^2 = .10$) • Significant time main effects for HIV knowledge, psychological functioning, and family functioning • Among youth who had experienced sexual abuse, EBFT decreased substance use more than SAU
Slesnick and Prestopnik (2009) <i>Hybrid Trial Attribute</i> score: 67%	N = 119; mean age: 15.1; 45% males; 44% Hispanic, 29% Anglo, 11% Native American, 5% African American; 45% alcohol and drug abuse. Runaway shelters with alcohol problems. Mean runs = 4.79; mean arrests = 3.3. 50% enrolled in school, 39% sexually, 36% physically abused, 48% suicide	Ecologically based family therapy (EBFT) (mean 10.31 sessions, home-based); Both conditions: 2 therapists. Both females, master's level, licensed, with 2–5 years experience	Functional family therapy (<i>ACTIVE</i>): mean 6.51 sessions, office-based) AND Services as Usual: duration not specified, shelter-based	4 TOTAL: Baseline, 3, 9, and 15 months follow-ups	<ul style="list-style-type: none"> • Significant time main effects for substance use measures, for number of psychiatric diagnoses, externalizing behaviors, delinquent behaviors, verbal aggression, family cohesion, and family conflict • EBFT and FFT reduced

attempts; median
income = 25K

substance use
more than SAU
(EBFT: $\eta^2 =$
.20; FFT: $\eta^2 =$
.25)

- Youth in EBFT attended more sessions (M = 10.31) than FFT (M = 6.51). SAU was not included in these analyses.

Slesnick et
al. (2013)
Hybrid Trial
Attribute
score: 67%

N = 179; 47.5%
male; mean age:
15.4; 65.9%
African
American, 26%
Caucasian; 3.2
mean number of
runs

Ecologically based
family therapy: home-
based, average 6.5
sessions
All conditions:
therapists are 7
females, 1 male. 4
masters-level
counselors, or social
workers, 4 graduate
students in couple and
family therapy.

ACTIVE
Motivational
Intervention: home-
based, average 1.6
sessions
AND
Community
Reinforcement
Approach: home-
based, average 5.3
sessions

7 TOTAL:
Baseline,
3, 6, 9, 12,
18, and 24
months
follow-ups.

- All groups significantly decreased substance use over time, with increase at follow-up; no between treatment differences
- Teens in EBFT more likely to receive intervention than CRA and MI condition, Chi Square(2) = 7.50, $p < .05$
- No between-group differences in treatment attendance or attrition
- LTPA identified three classes (Decreasing, Fluctuating High, U Shaped). In the decreasing use class, MI produced more rapid changes but faster relapse than EBFT
- No effect sizes reported

Family Behavior Therapy (FBT)

Azrin et al. (2001) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 44%</i>	N = 56; 82% male; mean age: 15.4; 21% ethnic minority; 40% special education, 76% dual diagnosis of conduct disorder and substance dependence, 100% marijuana use history, most had also used alcohol or other "hard" drugs; 71% externally mandated to treatment; 77% previously arrested	Family behavioral therapy (FBT): 15 sessions, location not specified Both conditions: doctoral graduate students, 10 females, 9 males ages 24–33	Individual-cognitive problem-solving therapy: 15 sessions, location not specified	3 TOTAL: Baseline, treatment exit (approx. 3 months), 6 months follow-up	<ul style="list-style-type: none"> • Significant time main effects indicate reductions in substance use and conduct problems in both treatments through 6-month follow-up • No between-treatment differences on any measures • No effect sizes reported
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Family Empowerment Intervention (FEI)

Dembo et al. (2002) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 22%</i>	N = 278; 56% male; mean age: 14.5; 56% Anglo, 41% African American; 26% Hispanic; 44% special Ed, 50% repeated a grade. Prior mental health treatment (16%) or substance use treatment (4%); 100% juvenile justice	Family empowerment intervention (FEI) (10 weeks, home-based); field consultants not trained as therapists	Extended services intervention (ESI) (monthly phone contacts)	5 TOTAL: Baseline, 12 months, 24 months, 36 months, 48 months follow-ups	<ul style="list-style-type: none"> • ITT analyses showed no differences between FEI and ESI on getting very high or drunk on alcohol. • Treatment completer analyses showed FEI reduced getting very high or drunk more than ESI [critical ratio: $-1.56; .10 > p > .05$] • No effect sizes reported
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Family Support Network (FSN)

Dennis et al. (2004) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 83%</i>	(Trial 1) N = 300; 84% male, ages 12–17; 84% male; 73% White, 13% African American, 6% Hispanic; 84% juvenile justice system; 75%	Family support network (FSN) (12 group sessions + 6 parent education + 4 home visits, mixed location, including home-based) All conditions: 20% doctorates, 30% bachelors, 50%	<i>ACTIVE</i> (Trial 1) motivational enhancement treatment/cognitive-behavioral therapy 5 session (MET/CBT5E), 6–7 weeks, location not	5 TOTAL: Baseline, 3 months, 6 months, 9 months, 12 months follow-ups	<ul style="list-style-type: none"> • Total days of abstinence not significantly different by site or treatment • Percentage in recovery at the end of the study
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<p>weekly or daily substance use; 83% started using drugs or alcohol before the age of 15, 27% past substance abuse treatment, 28% past mental health treatment; 57% from single-parent families</p>	<p>masters. Average 7 years of experience. First time using manual-guided therapy</p>	<p>specified AND motivational enhancement treatment/cognitive-behavioral therapy 12 session (MET/CBT12), location not specified</p>	<p>highest in MET/CBT5 (27%) followed by FSN (22%) and MET/CBT12 (17%), Cohen's $f = 0.12$</p> <ul style="list-style-type: none"> • Cost per day of abstinence significantly differed by condition with MET/CBT5 = \$4.91, MET/CBT12 = \$6.15, and FSN = \$15.13, $f = 0.48$
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Family Systems Therapy (FST)

<p>Joanning et al. (1992) <i>Efficacy Trial Attribute score: 33%</i></p>	<p>N = 134; mean age = 15.4; 68% White, 29% Mexican American, Black 2% (mothers ethnicity); substance use and delinquency</p>	<p>Family systems therapy (FST): 12 weeks, clinic-base); 3 male advanced graduate students, 28–33 years, with prior experience in marriage and family therapy, 5 years experience.</p>	<p>Adolescent group therapy (AGT) (12 weeks, hospitals and mental health centers) AND family drug education (FDE): biweekly for 6 sessions, location not specified). Clinic-based; male and 1 female advanced graduate students ages 26–43, with prior work experience, with the senior therapist (age 43) having 10 years prior experience</p>	<p>2 TOTAL: Pretest, posttest (12 weeks)</p>	<ul style="list-style-type: none"> • At posttest, 54% of FGT not using, 28% of FDE not using, 16% of GT not using • Adolescent drug use at posttest was significantly different between FST and AGT and between FST and FDE. No differences between AGT and FDE • More FST adolescents reported abstaining from drugs at posttest than AGT and FDE • Family functioning improved for all groups, no significant differences • No effect sizes reported
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Functional Family Therapy (FFT)

Friedman et al. (1989) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 22%</i>	N = 135; 60.5% male, Mean age = 17.9 89% White; Low SES; 33% arrested	Family therapy (FT): 24 weeks, location not specified; 4–17 years in family therapy	Parent group (PG): 24 weeks, location not specified	3 TOTAL: Baseline, Post treatment (approx.. 6 months), and 9-months follow-up	<ul style="list-style-type: none"> • Similar significant decreases over time in substance use in both treatment groups: 50% reduction on drug severity index score • Similar significant within-treatment improvements in youth psychiatric symptoms and family functioning • Both groups satisfied with treatment • No effect sizes reported
Barrett et al. (2001) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 61%</i>	N = 114; 80% male; Mean age = 15.6 years; 49% Hispanic, 40% White; 29.7% anxious/depressed, 27.3% attention difficulties, 47.7% externalizing behaviors, 45.3% internalizing behaviors; 43% referred by juvenile justice; mean annual income 38.5K	Functional family therapy: FFT; 8 to 12 weeks, clinic and office based All conditions: 2 doctorates, 7 masters-level graduate student. Experience 4–10 years	<i>ACTIVE</i> Joint family and individual therapy (Joint): 24 sessions AND group counseling (GC): 8 to 12 weeks AND cognitive-behavioral therapy (CBT): 8 to 12 weeks.	3 TOTAL: Baseline, 4, 7 months follow-up.	<ul style="list-style-type: none"> • Nonsignificant main effect for treatment condition • Significant main effect for time ($\eta^2 = .101$), significant for FFT ($\eta^2 = .226$), for joint ($\eta^2 = .183$), and for group ($\eta^2 = .176$), but not for CBT ($\eta^2 = .001$) • Significant interaction between time and condition $\eta^2 = .072$ • From pre to 4 months, youth in FFT ($\eta^2 = .422$) and joint ($\eta^2 = .229$) significantly

reduced marijuana use, but not CBT or group

• From pre to 7 months, youth in joint maintained reduced marijuana use ($\eta^2 = .243$), but not FFT ($\eta^2 = .102$). Youth in group reduced from pre to 7 months ($\eta^2 = .216$), but not CBT ($\eta^2 = .001$)

Integrated Family and Cognitive Behavioral Therapy (IFCBT)

Latimer et al. (2003) <i>Efficacy Trial Attribute</i> <i>score: 28%</i>	N = 43; 76.7% male; mean age = 16.07; 86% White, 7% Native American, 4.6% Hispanic; 97.7% marijuana use; 86% alcohol use; 85% diagnosed with substance use disorder	Integrated family and cognitive-behavioral therapy (IFCBT): 16, family therapy sessions and 32 cognitive-behavioral group session	Drugs harm psychoeducation curriculum (DHPE): 16 group sessions, location not specified	4 TOTAL: Baseline, 3, and 6 months follow-ups	<ul style="list-style-type: none"> • 50% of youth receiving IFCBT provided clean urine samples at and 6 months follow-ups • FCBT attended more sessions— added as a control variable • IFCBT reduced alcohol ($d = .56$) and drug use ($d = .79$) more than DHPE • IFCBT improved rational problem solving ($d = .59$) and learning strategy skills ($d = .58$) more than DHPE • IFCBT parents: stronger increases in communication ($d = .54$), involvement ($d = .75$), control ($d = .63$), and
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					values/norms (d = .61)
Esposito-Smythers et al. (2011) <i>Efficacy Trial Attribute score: 72%</i>	$N = 40$; 33.3% male; mean age = 15; 89% White; 13.9% Hispanic.	Integrated outpatient cognitive- behavioral intervention for co-occurring AOD and suicidality (I-CBT); 3 PhD, 8 postdoctoral trainees, 1 masters-level clinician with prior training and experience using CBT	Enhanced treatment as usual; community agency therapists	5 TOTAL: Baseline, 3, 6, 12, and 18 months follow-ups.	<ul style="list-style-type: none"> • I-CBT attended more sessions than E-TAU • No group differences on number of youth prescribed medication • I-CBT resulted in lower rates of substance use disorders than E-TAU (27% vs. 77%, Cohen's $h = 1.10$) • I-CBT associated with lower rates of mood disorder (7% vs. 31%, $h = 0.65$) and disruptive behavior disorders (0% vs. 40%, $h = 1.31$) • ICBT had fewer suicide attempts ($h = 0.82$), inpatient hospital visits ($h = 0.81$), and arrests ($h = 0.94$)

Multidimensional Family Therapy (MDFT)

Liddle et al. (2001) <i>Efficacy Trial Attribute score: 50%</i>	$N = 182$; 80% male; mean age: 16; 51% White, non-Hispanic; 18% African American; 15% Hispanic; 6% Asian; 10% other; 61% juvenile justice involved	Multidimensional family therapy (MDFT): 16 weeks, home & office-based All conditions: experienced community clinicians trained to competence and supervised. 80% White, non-Hispanic. 50% female. 80% masters-level, 20% doctoral-level. Average	<i>ACTIVE</i> Adolescent group therapy (AGT): (14 to 16 weeks, office-based AND multifamily educational intervention (MEI): 16 weeks, office-based	4 TOTAL: Baseline, Discharge (approx.. 4 months), 6 months and 12 months follow-ups	<ul style="list-style-type: none"> • Significant effect for time on drug use ($\eta^2 = .36$) and acting out behaviors ($\eta^2 = .12$), but not for family competence or GPA • Significant time x condition
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7 years' work with teens, 3 years with substance abusers, 6 years within their modality

interaction for drug use ($\eta^2 = .12$) and family competence ($\eta^2 = .11$), = not for acting out or GPA

- MDFT decreased substance use more than AGT and MEI ($\eta^2 = 0.12$)

- MDFT improved family competence more, ($\eta^2 = 0.11$)

- 45% of MDFT youth reported clinically significant change at 12 month follow-up compared to 32% in AGT and 26% in MEI

- MDFT resulted in better school outcomes with 76% of youth MDFT reported GPAs of 2.0 or more vs. 60% AGT and 40% MEI

Dennis et al. (2004)
Hybrid Trial Attribute score: 83%

Trial 2 only:
N = 300, 81% male, ages 12–17, 49% White, 47% African American, 82% juvenile justice system, 76% weekly or daily substance use

Multidimensional family therapy (MDFT): 12-41 weeks, location not specified
All conditions (both trials): 20% doctorates, 30% bachelors, 50% masters. Average 7 years of experience.
First time using manual-guided therapy

ACTIVE
motivational enhancement treatment/cognitive-behavioral therapy
5 session (MET/CBT5): 6–7 weeks, location not specified
AND adolescent community reinforcement approach (ACRA): 12–14 weeks, location not specified

5 TOTAL:
Baseline, 3 months, 6 months, 9 months, 12 months follow-ups

Trial 2 only:

- Total days of abstinence not significantly different by site or treatment

- Percent in recovery not significantly different by condition across sites, but small trend (Cohen's $f = 0.16$) for ACRA (34%) higher percent of participants

					<p>in recovery than MET/CBT5 (23%) and MDFT (19%)</p> <ul style="list-style-type: none"> • Drug use reduced similarly across treatment conditions. ($f = 0.06$) • Trend for ACRA participants higher percent in recovery (34%) compared to MET/CBT5 (23%) and MDFT (19%) with moderate effects ($f = 0.16$), but no statistically significant differences • Cost-effectiveness of treatments significantly differed ($f = 0.22$) with ACRA being the most cost-effective for cost per day abstinent (ACRA = \$6.62, MET/CBT5 = \$9.00, MDFT = \$10.38)
Liddle et al. (2008) <i>Efficacy Trial Attribute score: 56%</i>	$N = 224$; mean age, 15 (range: 12–17.5); 81% male; 72% African American, 18% White, non-Hispanic, 10% Hispanic; all drug users: 75% cannabis	MDFT (4–6 months office-based); 4 masters, 2 doctoral-level therapists Both conditions: 12 therapists, 6 in each condition. 50% White non-Hispanic, 50% African American, ages 29–54 ($M = 40$)	<i>ACTIVE</i> Individual cognitive-behavioral therapy (4–6 months, office-based); 3 masters, 3 doctoral therapists	4 TOTAL: Baseline, termination (approx. 4 months), 6 and 12 months post termination	<ul style="list-style-type: none"> • Both treatments reduced substance use severity and 30 day frequency of cannabis use • MDFT resulted in greater reductions in substance use problem

dependence
13% cannabis
abuse; 58%
single-parent
home, 13K
family income

severity
between intake
and 6 months (d
= 0.39) and
intake to 12
months (d =
0.59) than CBT
• No treatment
effects for 30-
day frequency
of cannabis use
• MDFT
resulted in
greater
decreases in
hard drug use (d
= 0.32)
• MDFT led to
greater
proportion of
youth reporting
abstinence from
substance use at
12-month
follow-up

Liddle et al.
(2009)
*Effectiveness
Trial*
Attribute
score: 67%

N = 83; mean
age: 13.73
(range: 11–15);
74%
male; 42%
Hispanic, 38%
African
American;
47% juvenile
justice, 47%
substance
abuse; 16%
substance
dependence,
38% conduct
disorder, 29%
ADHD. 47%
juvenile justice
involved. 53%
single-parent
homes, median
family income:
19K

MDFT: 12 to 16 weeks,
home-based, twice per
week for 90 min.
Both conditions:
masters in counseling,
social work, or family
therapy. Mean: 2 years
experience. Ages 26–
47 (mean = 33). 71%
female. 57% Hispanic,
29% Black, 14% White
non-Hispanic

Adolescent group
therapy (12 to 16
weeks, clinic-based,
twice per week for 90
min)

5 TOTAL:
Baseline, 6
weeks
after
Baseline,
Discharge,
6 months,
12-months
follow-ups

• MDFT better
treatment
completion
rates
• Both groups
showed
reductions in
substance use at
1 year (*pseudo z*
= -4.29) and
substance use
related
problems
(*pseudo z* = -
8.35)
• Among those
reporting at
least some
substance use,
MDFT resulted
in greater
decreases in:
substance use (d
= 0.77);
substance use
problems (d =
0.74), and
delinquency (d
= 0.31)

					<ul style="list-style-type: none"> • MDFT less internalized distress ($d = 0.54$) and greater improvements in family, peer, and school domains ($d = 0.27, 0.67,$ and 0.35).
Rigter et al. (2013) <i>Effectiveness Trial Attribute score: 83%</i>	N = 450; 85% male; mean age: 16.3; Youth from European countries: Belgium, Germany, France, Netherlands, Switzerland but 40% of foreign descent. 40% alcohol use disorder; 33% arrested in past 3 months. 84% dependent on cannabis	Multidimensional family therapy (MDFT): 5–7 months, office and clinic based Both conditions: 41 therapists. 3–20 years experience, average 39.6 years old, 66% female, advanced degrees in psychology, psychiatry, counseling, or social work	Individual psychotherapy (IP): 5–7 months, duration not specified	5 TOTAL: Baseline, 3 month, 6 months, 9 months, and 12 months follow-ups	<ul style="list-style-type: none"> • At baseline 66% to 97% of MDFT youth and 69% to 97% of IP youth cannabis dependence • At 12 months, 29% to 44% of MDFT youth and 38% to 71% of IP youth cannabis dependence • MDFT youth retained in treatment more effectively than IP (Odds Ratio = 9.8) • MDFT resulted in greater decreases in proportion of youth with cannabis use disorders ($d = .65$) and cannabis dependence symptoms ($d = 1.27$) than IP. • No treatment differences in frequency of cannabis use overall, but in a subgroup of adolescents reporting more use, MDFT had more decreased substance use (d

					= .60). No treatment differences in youth reporting less frequent use
Liddle et al. (2012) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 89%</i>	N = 113; mean age, 15; 75% male; 68% Hispanic; 81% juvenile justice involved; 100% cannabis use disorder, 71% alcohol use disorder, 33% other substance use disorder; mean family income: 19K	MDFT (home-multidimensional family therapy (MDFT): 4 months, weekly, clinic and home-based	Residential Treatment (RT) (6–9 months, inpatient)	7 TOTAL: Baseline, 4, 12, 18, 24, 36, and 48 months	<ul style="list-style-type: none"> • EARLY OUTCOMES: Both treatment decreased substance use. No significant treatment differences in frequency or severity of substance use, or externalizing problems • MDFT youth decreased internalizing more than RT ($d = .42$) • 18 months OUTCOMES: MDFT maintained treatment gains while RT increased substance use problem severity ($d = 0.51$) • Among youth remaining in community, RT youth increased substance use and delinquency more than MDFT (substance use: $d = 1.18$; delinquency: $d = .42$)
Dakof et al. (in press) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 78%</i>	N = 112; 89% male; mean age: 16; 59% Hispanic, 36% African American;	Multidimensional family therapy (MDFT) (2–3 times weekly for 4–6 months, home based) Both conditions:	Adolescent group therapy (AGT). (office-based, 3 times per week, duration not specified)	5 TOTAL: Baseline, 6, 12, 18, & 24 months	<ul style="list-style-type: none"> ▪ Both treatments significant improvement across all outcomes from

Alcohol: 24%;
cannabis abuse
61%; cannabis
dependence
30%; conduct
disorder: 52%;
anxiety
disorder: 41%.
Lifetime
arrests: 2.89.
51% single-
parent family
homes.
Median family
income: 19.5K

Masters degrees in
counseling, social work
or related fields.
Similar experience and
educational
backgrounds

baseline to 6
months
▪ From 6
months—24
months:
increase in
substance use
for both
treatments
(lower than
baseline), with
slightly less
increase for
MDFT: $d = .54$
(nonsignificant)
▪ From 6
months—24
months, both
treatments
reduced
externalizing
problems, with
MDFT reporting
more reductions
than AGT on
externalizing
symptoms ($d =$
.39), serious
crimes ($d =$
.38), and felony
arrests ($d = .96$)

Multidimensional Treatment Foster Care (MTFC)

<p>Smith et al. (2010) <i>Efficacy Trial</i> <i>Attribute</i> <i>score: 44%</i></p>	<p>N = 79; 100% male; mean age: 14.9; 85% Caucasian, 6% African American, 6% Latino, 3% Native American; Average 13.5 criminal referrals, more than 4 felonies; average 76 days in detention in past year; 56% single- parent homes, 70% have 1 parent convicted of a crime</p>	<p>Multidimensional treatment foster care (MTFC): inpatient placement with a family, 6–9 months</p>	<p>Group care (GC): outpatient, duration not specified</p>	<p>3 TOTAL: Baseline, 12 and 18 months follow-ups</p>	<ul style="list-style-type: none"> • At 12-month follow-up, MTFC reduced substance use more than GC (largest effect: $\beta = -.26$ for drugs other than alcohol and marijuana). • At 18-month follow-up, MTFC also reduced substance use more than GC (largest effect: $\beta = -.31$ for marijuana use)
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Multisystemic Therapy (MST)

Henggeler et al. (1991) <i>Efficacy Trial Attribute</i> <i>score: 22%</i>	<p><i>MDP</i></p> <p>N = 200; 67% male; mean age: 14; 70% White, 30% African American; mean number of arrests: 4.2; 65% low SES</p> <p><i>FANS</i></p> <p>N = 47; 72% male; mean age: 15.1; 74% African American, 26% White; 71% Low SES (Strata IV or V of Hollingshead); 33% of household heads unemployed</p>	<p><i>MDP</i>: Multisystemic therapy (MST) (16 weeks, home or community-based); 6 graduate students in clinical psychology, mean age: 26, 50% female</p> <p><i>FANS</i>: Multisystemic therapy (MST) (16 weeks, home or community-based); 3 community-based professionals, masters degrees in education, 2 females, 1.5 years experience</p>	<p><i>MDP</i>: Individual counseling (IC) (duration and location not specified); 6 masters-level therapists, mean age: 28, 50% female.</p> <p><i>FANS</i>: Usual Services (US) (duration and location not specified—court orders monitored by probation officer)</p>	<p>2 TOTAL: Pre & Post (approx. 4 months)</p>	<ul style="list-style-type: none"> • <i>MDP</i>: MST youths had fewer drug-related arrests than IC (4% vs 16%) • MST reduced alcohol and marijuana use more than UC • No effect sizes reported
Henggeler et al. (2002) <i>Efficacy Trial Attribute</i> <i>score: 39%</i>	<p>N = 118; mean age: 15.7, 79% male; 50% African American, 47% White. 56% abuse, 44% dependence, 50% polysubstance abuse, 87% alcohol abuse, 67% marijuana abuse. Median annual income: 15K–20K</p>	<p>Multisystemic therapy (MST): 4–6 months, home-based; masters-level therapists</p>	<p>Usual community services (UCS) (weekly—duration not specified, office-based)</p>	<p>4 TOTAL: Baseline, post treatment (approx. 4 months), 6 months, and 4 year follow-ups</p>	<ul style="list-style-type: none"> • Results from urine testing indicated that MST increased abstinence from marijuana more than UCS at 4-year follow-up (55% MDFT and 28% UCS) • No group differences in cocaine abstinence at 4-year follow-up (53% MDFT and 40% UCS) • MST reduced aggressive crimes more than UCS at 4 years. No treatment differences in property crimes • No treatment differences in psychiatric symptoms at 4 years

Henggeler et al. (2006) <i>Hybrid Trial</i> <i>Attribute</i> <i>score: 50%</i>	N = 161; mean age: 15.2, 83% male. 67% African American, 31% White. 35% prior mental health or substance abuse treatment. 52% live with single parent, family income 10–15K	Drug court with multisystemic therapy (DC/MST): 12 months drug court based Drug court with multisystemic therapy enhanced with contingency management (DC/MST/CM); 6 masters-level therapists with degrees in social work, psychology, or education. Ages 25–50. 3 African American, 3 European American. All females. Average 5 years post-masters experience. 2 of the 6 had previous MST experience.	Family court with usual community services (FC); 12 months drug court based Drug court with usual community services (DC) FC & DC: 10 community-based therapists. 8 masters-level in social work): 12 months drug court based; 2 bachelors-level. 5 African American, 5 European American. 6 females. Ages 25–59. Average 10 years experience	3 TOTAL: Baseline, 4 months, 12 months	<ul style="list-style-type: none"> • No significant moderators • No effect sizes reported • Simple linear time effects or all groups on marijuana use • DC + MST + CM and DC + MST decreased substance use more than FC (effect sizes range from 0.38 to 2.48) • DC + MST + CM ($d = 0.82$ to 2.05), and DC + MST ($d = 1.2$ to 1.8) had fewer positive urine screens than DC alone • DC + MST + CM and DC decreased status offenses and crimes against person more than FC
Sundell et al. (2008) <i>Effectiveness Trial</i> <i>Attribute</i> <i>score: 56%</i>	N = 156; mean age: 15, 61% male. 47% not of Swedish heritage. 67% arrested at least once. 67% single-parent home, 61% living on social welfare	Multisystemic therapy (MST) vs. home-based (mean length 212 days); 20 therapists with education equivalent to masters or bachelors level in social work, psychology, or education. 12 therapists had additional training in family therapy or CBT	Treatment as usual (TAU) (office-based, mean length 212 days); variety of services, therapist info not provided	2 TOTAL: Baseline, 7 months follow-ups	<ul style="list-style-type: none"> • Youths in both treatments decreased their alcohol and drug use, but no treatment differences (30% decrease for MST, 36% for TAU) • Youths in both treatments decreased their delinquent behaviors, increased their social skills, improved school attendance, and decreased their psychiatric symptoms

- Parents reported similar between-treatment improvements in parenting skills and mothers' mental health. No treatment differences
- Some evidence that outcomes are better when adherence is higher
- No significant treatment x time effects (effect sizes range -.52 to .24)

Parent Skills Training (PST)

McGillicuddy et al. (2001) <i>Efficacy Trial Attribute</i> score: 39%	N = 22 families 71% male; mean age = 16; 86% current alcohol problems, 79% current drug problems; 86% single-parent households	Parent skills training (8 sessions, 2 hours per week)	Waitlist control	2 TOTAL: Baseline and post treatment (approx. 4 months)	<ul style="list-style-type: none"> • PST more improvement in parent coping skills than control ($\eta^2 = .34$) • PST more improvement in parent depression than control ($\eta^2 = .18$) • PST more improvement in family functioning than control ($\eta^2 = .17$) • Effect sizes of parent report teen's the use favored PST ($\eta^2 = 0.08$)
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Purdue Brief Family Therapy (PBFT)

Lewis et al. (1990) <i>Efficacy Trial</i>	N = 84; 81% male; mean age: 16; 96% White;	Purdue brief family therapy (PBFT) (12 weeks, office-based)	Training in parenting skills (TIPS) (12 weeks, office-based)	2 TOTAL: Baseline & post	<ul style="list-style-type: none"> • PBFT resulted in a greater proportion of
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<i>Attribute score: 28%</i>	51.2% juvenile justice; 35.5% single families	treatment (approx. 3 months)	youth reducing their drug use to a clinically reliable extent than TIPS (55% vs. 38%) <ul style="list-style-type: none"> • 44% of “hard drug” users in PBFT moved to no drug use compared to 25% in TIPS • No effect sizes reported
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Strengths-Oriented Family Therapy (SOFT)

Smith et al. (2006) <i>Efficacy Trial Attribute score: 39%</i>	N = 98; 71% male; mean age = 15.8; 24% minority; 39% single families; 71% juvenile justice system; 90% substance abuse, 47% substance dependence, 68% history of abuse. 80% 3 or more past year substance related problems	Strengths-oriented family therapy (SOFT) (15 sessions over 3 months, office-based); 3 masters-level, 1 male, 2 females, 1 therapist 6 years experience, other 2 no adolescent substance abuse treatment experience	<i>ACTIVE</i> The Seven Challenges (7C) (15 sessions over 3 months, office-based); 4 therapists. 2 masters-level, 2 bachelors-level. 1 male, 3 females. Average 2 years experience with substance-abusing teens	5 TOTAL: Baseline, 3, 6, 9, 12 months follow-ups	<ul style="list-style-type: none"> • 54% of PBFT and 37.5% of TIPS youth report improvement in drug use • 13.6% of PBFT and 27.5% of TIPS youth report drug use is the same • 31.8% of PBFT and 35% of TIPS youth report worsened drug use • Both treatments increased abstinence from substance use, but no treatment differences (at 6 months SOFT: 31%, 7C: 39%) • Both treatments resulted in high percentages of symptom-free youth at 6 months but no treatment differences (SOFT: 60%, 7C: 61%) • Both
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treatments
 reduced
 frequency of
 substance use at
 6 months, but no
 treatment
 differences

- Baseline to 6
 months both
 treatments
 significantly
 decrease
 substance use
 frequency (7C:
 $\beta = -2.97$,
 SOFT:
 $\beta = -3.06$) and
 substance use
 problems (7C:
 $\beta = -1.16$,
 SOFT: $\beta = -$
 1.44

Notes. Study Reference is most recent publication for that study. Attribute score refers to percentage of methodological attributes (Table 1) fulfilled.

The following sections summarize the state of the science, focusing on attributes that are *frequently reported*, attributes that are *infrequently reported* (noting biases nonattendance to these issues may introduce), and attributes *reported more frequently in recent versus older studies*.

Frequently Reported Attributes

Studies adequately described the background and clinical characteristics of treatment samples (89%), specified treatments using a treatment manual (89%), used a self-report or objectively rated measure of treatment fidelity (78%), and provided information on the background of the therapists providing the treatment (72%). Although all studies were RCTs, only 69% of them described the random sequence process in enough detail to guarantee that all participants had an equal chance of receiving the intervention. In 67% of studies, researchers are reporting the procedures they used to train therapists and specify testable hypotheses. Researchers are also taking steps to get a strong measurement of their primary outcomes with 61% of studies including an objective measure of substance use (such as use of urinalysis) and 64% using collateral report to substantiate participants' self-reports (usually parent report).

Infrequently Reported Attributes

Keeping investigators blind to the randomization sequence (31%) and keeping assessors blind to the treatment condition of participants (22%) are reported in less than one third of studies. While entirely conceivable that these are simple omissions—that is, researchers followed these procedures but did not document them in their manuscripts—particulars of this nature may be helpful to establish transparency of research conduct. Some research suggests that allocation concealment and blind outcome assessment can guard against effect size inflation (Brouwers et al., 2005; Jüni, Altman, & Egger, 2001; Moja et al., 2005). With that said, it is possible that some of the attributes most recently emphasized in the research methodology literature, including the dimension of allocation concealment and blind assessment of outcomes, may not always be possible in certain types of clinical outcome research. In community-based studies, for example, it may be unethical or impossible—given the setting (e.g., juvenile justice)—to withhold information regarding treatment assignment from community collaborators, which would also make it impossible to keep the research staff blind to treatment assignment.

The least frequently occurring attributes are (a) providing explicit justification for sample sizes (17%) and (b) a lack of independent replications (17%). Some researchers may consider the former superfluous if their studies are adequately powered; however, less than half of the studies met this criterion (44%). With respect to independent replication, Wampold (2013) discussed how researcher allegiances can influence outcome. As stated by Sprenkle (2012), “even though researchers are only very rarely intentionally deceptive, certain biases may creep into research about

models favored by the investigators. Biases include using alternatives (control groups) to the experimental treatment that are less well organized, which have less invested therapists or have other characteristics which suggest they are less valued by the researchers” (p. 9).

Attributes Reported More Frequently in Recent Studies

Interestingly, the four attributes that seem to be reported more frequently in recent years—justifying sample size (17%), adequate statistical power (44%), intent-to-treat (ITT, 53%) analyses, and effect sizes (69%)—all concern statistical reporting. These developments might be seen as co-occurring alongside parallel requirements of publications such as the *Journal of Consulting and Clinical Psychology* (Odgaard & Fowler, 2010), more accessible methods for deriving effect sizes from more advanced analytic procedures (Feingold, 2009), and, in the case of ITT, advanced procedures for handling missing data and their implementation in statistical software such as Mplus (Muthén & Muthén, 1998–2013) and hierarchical linear modeling (HLM) (Raudenbush & Bryk, 2002). Developments such as the CONSORT statement and related procedures are changing the nature of publications and thus the available knowledge base in clinical science.

Summarizing the Scientific Advances of Family Interventions

Summarizing these data, there can be no doubt that the methodological quality of family-based RCTs for adolescent substance abuse has improved considerably over the years (Catalano et al., 1990; Deas & Thomas, 2001; Liddle & Dakof, 1995). Criticisms from these and other reviews (i.e., incomplete reporting of sample characteristics, inadequate comparison treatments, missing follow-up data, use of invalidated outcome measures or solely using participant self-reports) have by and large been addressed, as Table 3 shows. Furthermore, in a recent methodological review of couple and family therapy, Sprenkle (2012) rated RCTs conducted in 10 substantive research domains² on 12 dimensions of methodological quality focused on the maturation of couple and family therapy research over the past decade. On Sprenkle’s rating system, the strength of the research base for substance abuse research ranked just below conduct disorder with 11 of 12 dimensions of methodological strengths being represented. Notably, a number of RCTs have been conducted in community settings using samples representative of what is seen in clinical practice (e.g., comorbid conditions) and employing active comparison treatments. Family treatments have performed well against a variety of comparison treatments—evidence-based therapies (Barrett, Slesnick, Brody, Turner, & Peterson, 2001; Dembo et al., 2002; Hendriks, van der Schee, & Blanken, 2012; Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008), treatment modalities frequently seen in clinical practice (e.g., adolescent group therapy, individual psychotherapy), and treatment as usual (TAU)/TAU-enhanced conditions. Although family treatments have outperformed some evidence-based comparisons, effect sizes are typically not as strong as when other comparisons are utilized. That said, a way in which the research base can be improved is in reporting more details to specify TAU comparison conditions. In some studies, it is difficult to determine the type and amount of services youth randomized to TAU conditions received, and this issue has not necessarily improved in recent studies. Godley’s work (Godley, Godley, Dennis, Funk, & Passetti, 2002, 2007) in this regard is notable, as these researchers have described “usual continuing care” quite well, along with describing how much of the types of interventions included they received. Hogue, Henderson, Ozechowski, and Robbins (2014) update the Waldron and Turner (2008) summary of adolescent substance abuse treatment research and note that the majority of the methodologically strong studies conducted in the past 5 years are family-based treatment trials, and of six well-established treatments for adolescent substance abuse, three either consist of or incorporate family interventions: ecologically based family therapies, behavioral family therapies, and contingency management plus family integrative treatments.

Comparative Effectiveness of Family Interventions

As noted in recent reviews (Hogue & Liddle, 2009; Rowe, 2012) and summarized in Table 4, several manual-guided versions of family therapy have established records of treatment efficacy for adolescent substance use (see also NREPP, 2014). These models are defined in Table 2. Beyond substance use, family interventions have achieved favorable and durable effects on co-occurring externalizing and internalizing problems, and other key outcomes such as academic/school and peer relations. These studies usually include diverse samples with large proportions of racial/ethnic minority groups (López-Viets, Aarons, Ellingstad, & Brown, 2003), and recently with international samples (Hendriks, van der Schee, & Blanken, 2011; Rigter et al., 2013; Sundell et al., 2008). These outcomes are noteworthy in light of some family-based prevention interventions’ failure to transfer due to cultural fit issues.

Table 4 Conclusions From Major Reviews/Meta-Analyses on the Effectiveness of Family-Based Therapies

Review	Conclusions
Baldwin et al. (2012), JMFT	<ol style="list-style-type: none"> 1. Family therapy—specifically BSFT, FFT, MDFT, and MST—appear to modestly exceed effects of TAU and alternative therapies. 2. Literature is not yet sufficiently large to answer questions pertaining to whether one treatment is more effective than the others and on what outcomes the family therapies have the biggest effect.

3. On average, families and their troubled adolescents get better when treated with one of the four approaches above than if treated using TAU or alternative therapy such as group therapy or psychoeducation.
4. These findings provide reliable evidence for the value of family-based treatments over individual-only therapy approaches.
5. The four models above have been tested and found to be effective across various levels of delinquency severity and in relation to a number of specific behavior problems (e.g., sexual offenses, serious drug use, bullying).
6. All the models have been examined for application to populations of color and some international samples so they can be viewed as generalizable beyond the White, European American majority.
7. There is not a clear answer to the question of how the models will perform when implemented outside the direct supervision of program developers.
8. The most significant limitation (of these treatments) is that training in these models is not readily accessible for most practicing clinicians and interested trainees.
 - The models are not easily transportable to typical clinical settings.
 - Access to these and other ESTs is hampered by significant dissemination difficulties.
 - Training programs currently have little incentive to train students in these approaches because the majority of their graduating students will not be working for agencies that use these modalities.

Huey and
Polo (2008)

1. EBTs exist for ethnic minority youth with diverse mental health problems. These treatments produced treatment effects of medium magnitude.
2. MDFT only *probably* efficacious treatment for substance use with ethnic minority populations. MST also *possibly* efficacious with substance-abusing African American adolescents.

Stanton and
Shadish
(1997)

1. Studies that compared family-couples therapy with non-family modalities showed superior results for family therapy.
2. Comparisons of family therapy with other forms of family intervention give an edge to family therapy over family education.
3. As with the field of family-couples therapy as a whole, comparisons between different schools of family therapy are not conclusive.
4. Compared with other studies and approaches to psychotherapy with drug abusers, family therapy conditions have attained relatively high rates of engagement and retention in treatment.

Austin,
Macgowan,
and Wagner
(2005)

1. MST, MDFT, FFT, and BSFT had adequate power.
2. Only MST, MDFT, and FFT included ethnically heterogeneous samples.
3. The primary target of intervention was substance use, but all studies assessed multiple areas of adolescent and family functioning.
4. The clinical significance of changes in substance use differed substantially across the studies. MDFT is the only intervention that demonstrated substance use changes that were clinically significant according to Kendall and Flannery-Schroeder's (1998) criterion of 1.5 SD from the baseline DV value.
5. MDFT and BSFT met Chambless's criteria for *probably* efficacious. However, only the MDFT study reported follow-up assessments.
6. Overall, MDFT emerges as the only family-based intervention with empirical support for changes in substance use behaviors that are both statistically significant and clinically significant immediately following treatment and at 1 year post treatment.

Becker and
Curry
(2008)

1. 9 of 14 methodological attributes were reported in fewer than 50% of studies:
 - Techniques utilized to ensure random sequence
 - Techniques used to conceal allocation schedule
 - Sample sizes small and rarely justified
 - Studies rarely established a priori hypotheses or primary outcomes
 - Studies didn't report blinding of outcome assessment
2. Models that had evidence of immediate treatment superiority in two or more methodologically stronger studies included ecological family therapy, brief motivational intervention, and CBT.
3. Family therapy models were the most frequently tested, yet ecological family therapy was the only family approach tested in two or more studies using methodologically stronger designs.

4. Higher levels of methodological quality were not necessarily associated with stronger evidence in support of an intervention.

- Catalano, Hawkins, Wells, and Miller (1990)
1. Some treatment is better than no treatment.
 2. Post treatment relapse is high.
 3. No clear superiority of specific treatment techniques.
 4. Worse results were obtained for marijuana and alcohol use.
 5. More controlled studies of adolescent drug treatment are needed.
- Vaughn and Howard (2004)
- Two interventions, MDFT and CBT group, met highest category (“A”) of evidentiary support.
- Waldron and Turner (2008)
1. MDFT, FFT and CBT-Group produced significantly greater reductions in marijuana use than minimal treatment controls. CBT-Individual did not.
 2. Studies with higher proportions of Hispanic adolescents had smaller effect sizes.
- Weinberg et al. (1997)
1. Little research done on natural course of substance use disorders.
 2. Epidemiology of adolescent substance use has increased in the early 1990s.
 3. Biological factors and family environment are being studied as etiological factors.
 4. More research is needed on psychiatric comorbidity.
 5. Family-based interventions have received the most study and have shown superior outcomes, while patient-centered approaches have received less research attention.
 6. Science-based prevention programs have been developed but have yet to be disseminated and implemented.
- Williams and Chang (2000)
1. Because treatment appears preferable to no treatment, programs should strive to be readily accessible and able to provide treatment for large numbers of people.
 2. Programs should develop procedures to minimize treatment dropout and to maximize treatment completion.
 3. Programs should attempt to provide or arrange for post treatment aftercare.
 4. Programs should attempt to provide comprehensive services in areas other than just substance abuse.
 5. Family therapy should be a component of treatment.
 6. Programs should encourage and develop parent and peer support, especially regarding nonuse of substances.
 7. Adolescent conduct problems: Family therapy appears particularly effective
- Deas and Thomas (2001)
1. Family systems-based treatments have been reported more extensively in the literature than other treatments, and for the most part, findings suggest that family-based therapies may be effective for the treatment of adolescent SUD.
 2. Few of these studies utilize validated measures of substance use.
 3. Most of these studies report findings from early post treatment.
 4. Most of these studies fail to include measures other than self-reported frequency of use and/or urinalysis.
 5. Family-based treatment studies would benefit by including assessment instruments that assess multiple domains as well as instruments that guard against a respondent “faking good.”
 6. The most progress [since Catalano et al.’s (1990) review] has been made in the area of family therapy interventions, although sufficient inclusion of substance use outcome measures other than collateral or self-reported frequency of use and/or urinalysis remains a major limitation.
- Diamond and Josephson (2005)
1. Family treatments have proven effective with externalizing disorders, particularly conduct and substance abuse disorders. In the past decade four treatment models have received the most programmatic attention: FFT, MDFT, MST, and SFT.
 - MDFT is the most systematically developed family treatment specifically for substance abuse.
 2. With the exception of MST and MDFT, few family based treatments qualify as empirically supported treatment.
 3. The field needs more investigations that match treatment approach to clinical condition. For a child with a given disorder, different types of durations of family interventions may be necessary. Studies need to investigate which treatment type is most effective at a given stage of a disorder for a patient with given characteristics.
 4. Children with psychiatric impairment often interact with multiple social systems and agencies. Given the underlying

systemic perspective, family treatments lend themselves to multisystem-level intervention.

5. Our brief review of family risk factors suggest that some negative family processes may be common across disorders.

6. Dissemination of empirically supported treatments is one of the greatest challenges facing family treatment researchers. The process of exporting empirically validated treatments to real world clinical settings has proven far more complicated than anticipated.

7. Incorporating findings from family developmental psychopathology and family intervention research can only improve the theory, research and treatment of mental disorders in children and adolescents.

Galanter, Glickman, and Singer (2007) Family-based and particularly multisystem therapy, adapted for substance using adolescents, show great promise and appear to be the future direction for the most effective treatment of adolescents.

Hawkins (2009)

1. Co-occurring disorders are highly prevalent and are to be expected in every adolescent service setting.
2. Youth with co-occurring disorders tend to have severe symptoms, multiple psychosocial and family issues, and are often engaged in numerous systems such as specialized education services, child welfare, and juvenile justice.
3. Co-occurring disorders among adolescents are associated with difficulties in treatment engagement and retention, poor treatment outcomes, high relapse rates, and a chronic and persistent course that often continues into adulthood.
4. Comprehensive integrated treatment programs appear to be the most effective method of treating co-occurring disorders in adolescents.
5. Critical clinical, administrative, financial, and policy changes are necessary to support effective systems of care for youth with co-occurring disorders and improve their outcomes.

Hogue and Liddle (2009)

1. Assessment designs should extend beyond substance use patterns, psychiatric problems, and behavioral coping skills to routinely include indicators of positive youth development that provide a fuller picture of developmental functioning and adult role-taking.
2. FBT research should renew its early intentions to examine processes of family change during the course of treatment.
 - The research area known as implementation science offers a world of exciting new challenges and opportunities. Indeed, given the lack of widespread use of family-based therapies in regular clinical practice settings, this research area has more urgency than it might have if such dissemination were widespread.

Liddle (2004)

1. Family-based interventions have provided a developmentally and contextually oriented conceptual framework and corresponding set of therapies. Family-based therapies are the most-tested approach for adolescent drug misuse.
2. Family-based therapies can reduce drug abuse and correlated problem behaviors and can change multiple areas of functioning related to the genesis and continuation of drug problems, including connection to deviant peers, school-related difficulties and dysfunctional family environments.
3. Process studies have found evidence for particular theory-based aspects of family-oriented treatment, such as the mechanism that links changes in family environment to changes in drug problems ... Process studies are also illuminating therapy's interior and pointing to probable in-session and in-treatment processes that associate with desired short- and longer-term outcomes.
4. Yet, we are far from realizing the benefits of these many positive developments. Barriers to widespread dissemination and adoption of effective family-based treatments are in no short supply.
 - Most clinicians have no access to training in empirically supported [family-based] therapies
 - Although the interventions themselves may not be optimally constructed for transportation, current data on existing services for adolescents present a gloomy picture.
 - In the most comprehensive study of contemporary drug treatment, Grella, Joshi, and Hser (2004) notes that the greatest gap in needed and received services occurs in the family intervention area.
 - Clinician work-force development remains a fundamental but virtually neglected area.
 - Although studies are emerging and templates are being produced that can guide our actions, we know too little about training methods and circumstances that are optimal to helping therapists learn and practice empirically supported treatments.
 - Powerful systemic factors, most notably reimbursement schemes that effectively block clinicians from conducting

family-based interventions, must also be changed for progress to be made.

- Liddle and Dakof (1995)
1. In controlled clinical trials, family therapy has been found to be more effective than other treatments in engaging and retaining adolescents in treatment and reducing their drug use.
 2. Although a blanket endorsement of family treatment of drug abuse cannot be offered, on the basis of studies to date, the adolescent treatment specialty evidences considerable potential for major breakthroughs.
 3. Overall, though, considering the adolescent and adult areas together, there is promising but not definitive efficacy evidence.
 4. Eight issues or limitations are given detailed discussion because of their importance to the scientific evaluation of family-based intervention.
 - Incomplete or unclear reporting of experimental procedures and sample characteristics
 - Comorbidity and diagnosis
 - Follow-up data
 - Therapist factors, treatment manuals, and treatment integrity
 - Forms of bias (inadequate comparison treatments, investigator bias)
 - Moderators of treatment outcome
 - Assessment of family interaction patterns
 - Processes of change in family therapy
- Muck et al. (2001)
1. Although many questions still remain, it is clear that much progress has been made to identify effective models of adolescent substance abuse treatment.
 2. As communities begin to adopt best practices and develop systems of care for adolescents in need of substance abuse treatment, they are likely to converge in some localities with ongoing restorative justice programs. Given the preponderance of justice-involved youth in the treatment system, it is extremely important that these two fields communicate and maximize their service delivery.
 3. Community-based treatment that involves establishing or supplementing a continuum of seamless care is a natural nexus for application of adolescent substance abuse treatment and restorative justice practices.
- Ozechowski and Liddle (2000)
1. Known Outcomes of Treatment:
 - Engagement in treatment
 - Retention in treatment
 - Significant reductions in drug use
 - Significant reductions in behavioral problems associated with drug use
 - Decreases in psychiatric comorbidity
 - Improvements in school attendance and performance
 - Improvements in family functioning
 - In session processes associated with change
 2. Unknown Outcomes of Treatment:
 - Risky sexual behavior
 - Association with drug using and delinquent peers
 - Long-term outcomes
 - Clinical significance of treatment effects
 - Mechanisms of change
 - Moderators
 - Gender
 - Ethnicity
 - Psychiatric comorbidity
 - Motivation for treatment
 - Parental and sibling substance use
 - Transportability

- transportability

- Cost-effectiveness

3. Solid empirical support exists for the efficacy of family-based therapy in ameliorating drug abuse, externalizing and internalizing behaviors, and symptoms of psychiatric comorbidity among drug-abusing adolescents.

4. Empirical support has been obtained for hypothesized mechanisms of change; process studies have illuminated ingredients of intervention effectiveness within key stages of treatment.

5. Dismantling and constructive research designs are needed to compare the effectiveness of different versions of family-based therapy and pinpoint the effects of specific treatment components.

6. Parametric strategies are needed to identify the amount, frequency, duration, and intensity of family-based therapy necessary for producing particular outcomes.

7. Therapist variables merit more focused attention ... In particular, factors related to the quality of the therapist-adolescent/family relationship and its association with treatment retention and outcome ... In addition, levels of therapist adherence and competence should be studied as mechanisms of treatment effectiveness and of outcomes in their own right.

8. Family-based therapy development for adolescent drug abuse can be advanced by returning to a foundational measurement and research in family-based research—observation-based details about changes in family functioning.

- More than ever, family-based treatment development research requires collaborative partnerships among researchers, administrators, and providers within clinical service delivery systems.

Rowe
(2012)

1. Reviews of both adolescent and adult drug abuse now consistently include family-based models among the most highly regarded and most strongly supported approaches.

2. In the adolescent field, there has been consistent focus on validating these models and examining therapy processes with racial and ethnic minority groups.

3. Adolescent-focused, family-based treatment research has also made strides during the last decade in examining mechanisms of change, long-term effects, and dissemination of models into practice settings.

4. There are limitations inherent in much of the research despite considerable methodological advances.

- Small sample sizes still plague the field

- Most studies examine change up to 12 to 18 months at the most, yet drug abuse is now considered a chronic relapsing condition ... thus, examining long-term outcomes and continuing care models are important areas of focus for research on family-based drug treatments.

- Additionally, much more work is needed to close the research-practice gap by elucidating the active ingredients of these models and their mechanisms of change, and to identify moderators of treatment effects so that clinicians may be better informed about which moderators are most effective for specific client populations.

- Perhaps the area of most consistent and urgent concern is in the dissemination of evidence-based approaches into practice.

5. Dissemination itself needs to be an individualized, iterative and adaptive process considering many factors in integrating EBTs in usual care settings.

Two recent meta-analyses of outpatient treatment studies targeting adolescent substance use describe favorable results for family interventions. Baldwin et al. (2012) reviewed the impact of four family interventions—brief strategic family therapy (BSFT), functional family therapy (FFT), multidimensional family therapy (MDFT), and multisystemic therapy (MST)—on substance use, delinquency, or both. Collectively, these models resulted in a significant, albeit modest, effect size when compared to TAU or an active, manualized comparison treatment; and a large effect size when compared to no-treatment control. There were no differences found between the treatment models, although the statistical power of the comparison was limited. In a larger meta-analysis including both family treatments and other interventions, Tanner-Smith, Jo Wilson, and Lipsey (2013) found that family treatments demonstrated superior outcomes in almost every group comparison in which they were tested, including tests against other manualized treatments. Other research-supported interventions, including CBT, behavioral models, and motivational interviewing, also demonstrated favorable outcomes, though not with the consistency of results of the family interventions.

Few studies involve head-to-head comparisons of research-supported interventions ($n = 9$), and the results of these studies are mixed, with some studies suggesting family-based treatments have outperformed research-supported interventions using other modalities (individual, group), and other studies indicating they have been similarly effective. MDFT is more effective than individual CBT in reducing symptoms of drug dependence and promoting abstinence and sustaining treatment effects (Liddle et al., 2008). Furthermore, Barrett et al. (2001) showed that FFT and an intervention combining FFT with CBT resulted in superior substance use outcomes to individual- and group-delivered CBT alone. On the other hand, Slesnick et al. (2013) found no differences between ecologically based family therapy, motivational interviewing, and the community-reinforcement approach. Likewise, Azrin et al. (2001) found that behavioral family therapy and CBT showed similar effects in decreasing

substance use and conduct problems. Independent replications of MDFT have suggested that its outcomes are similar to CBT interventions, including motivational enhancement therapy/CBT and the adolescent–community reinforcement approach (A-CRA) (Dennis et al., 2004; Hendriks et al., 2011). However, in Hendriks et al. (2011), MDFT was more effective in reducing substance use in more severely impaired youth, consistent with previous MDFT research (Henderson, Dakof, Greenbaum, & Liddle, 2010). The mixed findings from studies involving direct comparisons of research-supported treatments suggest a further need for research indicating under which circumstances family-based treatments are preferred over other research-supported interventions.

Another question regarding the treatment research literature to date is how family interventions compare against treatments regularly used in clinical practice. Group treatment remains the predominant treatment modality for treating adolescent substance use in regular treatment settings (Kaminer, 2005). However, note that more recent analyses of the Dennis et al. (2004) study through 30-month follow-ups have shown that the initial effectiveness of motivational enhancement therapy (MET)/CBT was not sustained (Dennis, 2005). Although the group-based MET/CBT approach achieved outcomes similar to family interventions (Dennis, 2005; Dennis et al., 2004; S. H. Godley et al., 2010), family treatments generally outperform group interventions (Barrett et al., 2001; Dakof et al., 2015; Liddle & Hogue, 2001; Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009). In the studies that used an active group treatment comparison (Barrett et al., 2001; Dennis et al., 2004; S. H. Godley et al., 2010; Liddle & Hogue, 2001; Liddle et al., 2009; Stanger, Budney, Kamon, & Thostensen, 2009), family treatments outperformed group treatments in four out of six studies (Barrett et al., 2001; Liddle & Hogue, 2001; Liddle et al., 2009; Stanger et al., 2009). Likewise, results from the Tanner-Smith et al. (2013) meta-analysis indicated that non-CBT group/mixed treatments and TAU fared poorly in comparison to family treatments and were not demonstrably superior to no-treatment control. But studies in real-world settings do not always break in favor of the family therapy models. In the largest family therapy effectiveness study to date (Robbins et al., 2011), a high-profile and well-funded study, part of NIDA's Clinical Trials Network, Robbins and colleagues found no differences between BSFT and TAU in substance abuse outcomes. Based on those and other outcomes (e.g., Valdez, Cepeda, Parrish, Horowitz, & Kaplan, 2013), an independent scientific evaluation (The Campbell Collection) of BSFT concluded that the research base for BSFT is modest, the available studies have methodological problems, and definitive conclusions about effectiveness are "difficult, if not impossible" to make (Lindstrom et al., 2013, p. 53). We now turn our attention to some of the more notable knowledge gaps in the family treatment studies conducted to date.

Mechanisms of Action

First, although it is clear that family treatments work, our understanding of how they work is limited. Research on MST (Huey, Henggeler, Brondino, & Pickrel, 2000) and MDFT (Henderson, Rowe, Dakof, Hawes, & Liddle, 2009; Schmidt, Liddle, & Dakof, 1996), as examples, indicate that changes in family functioning—specifically parenting practices and parental monitoring—are related to changes in substance use. More research is needed, however, as mechanisms of change for most research-supported family treatments have not been tested, leaving the theoretical tenets of this specialty supported primarily by conjecture. Recent work by Deković, Asscher, Manders, Prins, and van der Laan (2012), however, points in a direction that could be replicated with other treatment models. To our knowledge, Deković et al. (2012) are the first to examine mediators of intervention effects directly during treatment. These researchers found that MST led to improvements in parental sense of competence, which led to more effective discipline strategies, and, in turn, to decreased externalizing problems. The use of observational data has a long history in family therapy and intervention research, and more work of this nature would be welcome.

Moderators of Treatment Effects

Closely aligned with mechanisms-of-change research is the need to identify groups of participants who appear to differentially benefit from or, conversely, not respond to family-based treatments. Almost all previous reviews have identified the need to study this further, yet much work remains to be done in this area. Recent work with MDFT (Henderson et al., 2010; Hendriks et al., 2011; Rigter et al., 2013) suggests that family-based treatments may be differentially effective for more severely impaired adolescents. Ryan, Stanger, Thostenson, Whitmore, and Budney (2013) report a similar finding with an integrative MET + contingency management + parent training intervention that was more effective for adolescents with disruptive behavior disorders than an MET + parent psychoeducation comparison.

A moderator of treatment that warrants further exploration is the benefit (or not) of ethnic matching between families and therapists. There is evidence that ethnic matching may improve outcomes for minority youth. For example, youth receiving multisystemic therapy from therapists of the same ethnicity as their own had a greater decrease in symptoms, stayed in treatment longer, and were more likely to be discharged for meeting their therapeutic goals (Halliday-Boykins, Schoenwald, & Letourneau, 2005). In a separate study, Flicker, Waldron, Turner, Brody, and Hops (2008) found that the benefit of ethnic matching held up for Hispanic teenagers receiving functional family therapy, when they were matched with Hispanic therapists. However, Anglo teenagers matched with Anglo therapists did not experience the same enhanced benefit. Chapman and Schoenwald (2011) examined ethnic matching and adherence in long-term outcomes for 1,979 served by 429 therapists across 45 sites. They found that, if you take adherence into account, the only outcome that was independently related to ethnic matching was the reduction of externalizing behaviors. Interestingly, adherence ratings were higher for therapists who were ethnically matched to their clients, leading to slightly better outcomes for youth in internalizing and externalizing behaviors at 1 year post treatment, and in youth criminal charges at 4 years post treatment. Taking it a step further, when taking into account problem severity and adherence in the context of ethnic matching, the outcome varies depending on the youth's ethnicity. For Caucasian and Hispanic youth receiving multisystemic therapy, levels of youth problem behaviors disrupted the therapeutic process, leading to decreased adherence, and, for Hispanic youth, decreased emotional bonding with the therapist. For

African American youth, however, higher externalizing behaviors and drug use was associated with increased bonding between the youth and the therapist (Ryan, Cunningham, et al., 2013). Clearly, the issue of ethnic matching is a complex process, with ethnicity, therapist adherence, and severity of youth's problems interacting to predict youth outcomes.

Independent Replications

There are few independent replications of RCTs testing evidence-based family treatments (Sprenkle, 2012). Independent replications are needed to separate the potency of the treatments themselves from the well-functioning teams of investigators testing them. In addition to extending the generalizability of research-supported treatments to European samples, recent international studies are notable because they have been conducted by independent research teams, albeit training, certification, and supervision are provided by the treatment developers (Hendriks et al., 2011; Rigter et al., 2013; Sundell et al., 2008). The Rigter et al. (2013) study used individual therapy conducted by experienced therapists under well-defined, ongoing training and supervision (Rowe et al., 2013). An interesting paradox exists with respect to independent replications; although they are necessary to move the science forward, they may not be seen as innovative by review committees, leading to a situation in which such studies are not funded with the resources necessary to conduct the evaluations. Because international studies test treatments supported by research conducted in the United States with new populations, research conducted by independent international research teams offers the opportunity to combine tests of treatments' generalizability while also mitigating the potential of investigator allegiance bias. Therefore, such collaborations may be perceived as having more potential significance and innovation than independent replications conducted in the United States. Along this line, studies conducted in non-European nations are needed in this specialty.

Research Synthesis Across Studies and Outcomes

More work also remains on research synthesis. This issue has implications for outcome studies using multiple measures of the same construct as well as synthesizing research findings across multiple trials. While meta-analysis was once hailed as an analytic technique that would support the creation of a cumulative knowledge within the social sciences (Hunter & Schmidt, 1994), it rests on some clear limitations. Meta-analysis relies on the synthesis of summary statistics and is most useful when the original data are not available. However, given the numerous trials that have been conducted with family-based treatments, and greater expectations for data sharing and more effective options for data storage and retrieval, it is now possible to enjoy the advantages of synthesizing data provided by individual adolescents in a methodology Curran and Hussong (2009) have termed "integrative data analysis" (IDA). IDA is the "the statistical analysis of a single data set that consists of two or more separate samples that have been pooled into one" (p. 82). Kan et al. (2012) have demonstrated that IDA, as compared to meta-analysis, resulted in more powerful intervention effects while avoiding the ecological fallacy inherent in traditional meta-analysis; that is, attributing relations observed in groups to the individuals comprising those groups (Cooper & Patall, 2009). Furthermore, IDA using modern latent variable modeling methods has the potential for combining multiple outcomes both within a given study as well as across studies that may not even use the same measures (Bauer & Hussong, 2009). Greenbaum et al. (2015) have applied IDA methods to MDFT trials and found that male, African American, and White, non-Hispanic adolescents decrease their substance use (defined as a latent variable comprised of urinalysis results, timeline followback method, and self-report measures) more when receiving MDFT than active comparison treatments. Previous moderator analyses conducted in individual MDFT trials have been underpowered to discover these effects, and these results are among the first directly demonstrating ethnicity/gender subgroup differences with family-based treatments. Because several of the family treatments we have reviewed have been tested in multiple RCTs, it is quite feasible for the methods used by Greenbaum and colleagues to be extended to other family-based treatments examining other potential moderators which may be underpowered in individual studies.

Innovations and Future Directions in Family Intervention Research

The number of RCTs testing family treatments for adolescent drug abuse has rapidly expanded since the earliest trials published in the 1980s. Using the metric of the number of studies included in the current review in comparison to the first meta-analysis on the topic (Stanton & Shadish, 1997) reveals a 414% increase, from 7 to 36 studies. This growth in research is resulting in more effective treatments. While family-based treatments have historically been, and currently are, among the most effective treatments available, treatments originating from other research strains have integrated well-specified family intervention modules into their treatments and have met the field's standard for being either "well established" (Dennis et al., 2004; Esposito-Smythers, Spirito, Kahler, Hunt, & Monti, 2011) or "probably efficacious" (Henggeler, McCart, Cunningham, & Chapman, 2012; Stanger et al., 2009) treatments. Such cross-fertilization works both ways, in that contingency management was successfully integrated with MST (Henggeler, Halliday-Boykins, et al., 2006; Henggeler et al., 2012).

These developments have led us to take a more comprehensive view of family interventions in this chapter. Family treatments continue to produce notable innovations. For instance, Robbins et al. (2011) have added another level of control for allegiance effects by randomly assigning therapists to treatment conditions, and greatly enhancing the external validity of the study by conducting it in eight community substance abuse treatment agencies. But this study yielded poor outcomes for the BSFT model compared to some other BSFT studies, and this occurrence is consistent with Henggeler, Melton, Brondino, Scherer, and Hanley (1997), who found decreased effect sizes with therapists delivering MST in community settings, relative to the more carefully controlled settings of previous trials. Achieving strong effects in naturalistic settings remains a

formidable challenge for family treatment researchers.

RCTs in recent years have also extended the boundaries of intervention impact by situating them in unique settings (e.g., drug courts; Dakof et al., 2015; Henggeler, Halliday-Boykins, et al., 2006) and bridging contexts such as detention and community treatment settings (Liddle, Dakof, Henderson, & Rowe, 2011). Other research has adapted treatments developed to address delinquency and substance abuse to other adolescent clinical problems such as Type I diabetes (Ellis et al., 2007), juvenile sex offending (Borduin, Schaeffer, & Heiblum, 2009), and HIV prevention (Marvel, Rowe, Colon-Perez, Diclemente, & Liddle, 2009; Prado et al., 2007).

A second example of innovative work that we hope spurs similar studies is Glisson et al. (2010), who integrated MST in the context of a broad-based implementation trial examining the impact of an organizational intervention (Availability, Responsiveness, Continuity [ARC]) designed to integrate MST into community-based mental health centers. These researchers used two levels of randomization: (1) counties receiving ARC or not, and (2) delinquent youth receiving MST or usual services, and found that the MST + ARC intervention produced the best outcomes.

Integrating Family Interventions in Routine Clinical Practice

Despite the continual growth of the field of family interventions and its notable achievements, a remaining issue facing family interventions, as well as other evidence-based approaches, is the lack of widescale use by community agencies. The predominant model for integrating evidence-based treatments into clinical practice is the training and certification model in which expert trainers train teams or an entire clinical staff in an evidence-based treatment and provide ongoing monitoring, feedback, and coaching (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). The drawbacks to this model are clinician turnover (Garner, Hunter, Modisette, Ihnes, & Godley, 2012; Knudsen, Ducharme, & Roman, 2008) and economic barriers, as achieving a critical mass of expert clinicians in an agency requires considerable resources devoted to training. It seems that additional models for achieving high-quality family treatment in routine clinical practice are necessary. An alternate model that has not yet been fully examined is training clinicians in key family interventions responsible for good outcomes that span across evidence-based approaches. Indeed, Stanger et al. (2009) demonstrated the feasibility of this model with respect to contingency management combined with parent training and in their integration of CM and MST. Henggeler et al. (2012) confine the MST interventions to engaging families in treatment. Furthermore, as mentioned earlier, well-designed implementation studies (Glisson et al., 2010) hold promise in integrating organizational and therapeutic change and thus may promote sustainability of research-supported interventions in routine clinical practice by effectively addressing organizational barriers to their existence. Therefore, it is likely that as the field of family treatment for adolescent substance abuse continues to mature, we will continue to see an expansion of such research, along with other innovations designed to impact routine clinical practice. It is our hope that future reviews will be able to highlight research expanding the reach of effective family interventions in clinical practice settings.

Conclusions

Kazdin's (1993) recommendations to devise and evaluate broadband and comprehensive interventions have been followed, as well as the NIDA behavioral therapies development framework (Kazdin, 1993; Onken, Blaine, & Boren, 1993; Rounsaville, Carroll, & Onken, 2001). But articles have criticized the nature of the substance abuse treatment development research strategy (Morgenstern & McKay, 2007) and the limitations of what has been called an FDA model in treatment research (Stiles, 1994; Stiles & Shapiro, 1989; Yeaton & Sechrest, 1981). The comprehensive treatments recommended by Kazdin and others have been referred to as "kitchen sink" approaches (Rohrbaugh, Shoham, & Racioppo, 2002). A variegated pushback is discernible against evidence-based family therapies ("acronym therapies" per Dattilio, Piercy, & Davis, 2014; Michenbaum, 2014) about their "business models" (i.e., dissemination practices) (Hogue et al., 2014) and commercialization (Rowe, 2012). Others critique the field's affection for brand names (Dattilio et al., 2014; Eisler, 2007) and "our sacred models" (vs. therapy principles, common factors) (Sprenkle & Blow, 2004). An alternative to whole evidence-based therapy models, the modular approach of Chorpita, Weisz, Daleiden, and colleagues, has empirical support for some child and adolescent disorders (Chorpita et al., 2013), including anxiety and depression, but not for substance abuse disorders, as far as we know.

Controversies have erupted about the correct conclusions to be drawn from family-based treatment research. The expansion and influence of independent scientific entities and the judgments contained in their reports have, on occasion, collided with the growth of dissemination organizations that conduct training in particular evidence-based therapies. For example, numerous other reviews have concluded otherwise. The Cochrane Collaboration (Littell, Popa, & Forsythe, 2005) concluded that MST is not consistently more effective than other alternatives for youth with social, emotional, or behavioral problems. The review challenged the well-established effectiveness of MST, as well as asserting that the decision to adopt MST in real-world settings must be made for reasons other than its empirically demonstrated effectiveness in comparison to other services. The response of MST developer Henggeler and colleagues (Henggeler, Schoenwald, Borduin, & Swenson, 2006) was fierce and instructive in several ways. Other papers also notable for their candidness kept the discussion alive and broadened it as well (Gambrill & Littell, 2010; Henggeler, 2004; Littell, 2005, 2006).

In another report addressing evidence-based practice dissemination, the Campbell Collaboration report on BSFT (Lindstrom et al., 2013)

concludes that “The current landscape of family therapy approaches for treatment of youth drug use shows that many initiatives have been tried. A certain inconsistency seems to be developing: while existing BSFT programs have not yet been evaluated properly, new BSFT interventions continue to surface. This is not only costly, it is also risky, as initiatives backed only by unclear research could ultimately be damaging” (Lindstrom et al., 2013, p. 53). On the basis of these reports alone, the conflict level within the referenced landscape has increased considerably. Whether or not the events and publications we refer to here will influence dissemination practices remains to be seen. As noted, there are now many national and international evidence-based practice registries that are evaluating and creating lists of evidence-based models. One bottom line is that future reviews will have additional content to cover in addition to the methodological strengths and weaknesses of available studies.

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Notes:

⁽¹⁾ A table summarizing the presence or absence of these attributes, as well as the proportion of studies reporting these attributes, may be obtained by visiting www.oxfordhandbooks.com

⁽²⁾ The specific domains were conduct disorder, drug abuse, psychoeducation for major mental illness, couple distress, alcoholism, relationship education, depression, childhood and adolescent disorders (other), chronic illness, and interpersonal violence.

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