



The Efficacy of Systemic Therapy for Childhood and Adolescent Externalizing Disorders: A Systematic Review of 47 RCT

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Systemic (family) therapy is a widely used psychotherapy approach. However, most systematic efficacy reviews have focused solely on “family-based treatment” rather than on the theoretic orientation “systemic therapy.” We systematically review trials on the efficacy of systemic therapy for the treatment of childhood and adolescent externalizing disorders. All randomized (or matched) controlled trials (RCT) evaluating systemic/systems-oriented therapy in various forms (family, individual, group, multi-family group therapy) with child or adolescent index patients (0–17 years) suffering from mental disorders were identified by data base searches and cross-references. Inclusion criteria were as follows: index patient diagnosed with a DSM- or ICD-listed mental disorder, and trial published in any language up to the end of 2011. The RCTs were analyzed for their research methodology, interventions applied, and results (postintervention; follow-up). A total of 47 trials from the United States, Europe, and China, published in English, German, and Mandarin, were identified. A total of 42 of them showed systemic therapy to be efficacious for the treatment of attention deficit hyperactivity disorders, conduct disorders, and substance use disorders. Results were stable across follow-up periods of up to 14 years. There is a sound evidence base for the efficacy of systemic therapy for children and adolescents (and their families) diagnosed with externalizing disorders.

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THE EFFICACY OF SYSTEMIC THERAPY FOR CHILDHOOD AND ADOLESCENT EXTERNALIZING DISORDERS: A SYSTEMATIC REVIEW OF 47 RCT

Most reviews analyzing the efficacy of systemic therapy for childhood and adolescent disorders have focused on *modes of therapy* (family therapy, family-based treatment, multiple family groups) rather than on a systems theory orientation. This focus on family therapy and the failure to distinguish between mode of treatment and therapeutic approach has been a major limitation of earlier reviews and meta-analyses. This has resulted in less visibility of systemic therapy (as compared to cognitive-behavioral therapy (CBT) or psychodynamic approaches) within the discourses of evidence-based outcome research and clinical practice guidelines (Sexton et al., 2011; Sprenkle, 2002).

In several European countries where scientific acknowledgment and health-care reimbursement of psychotherapy are tied to theoretically defined treatment models (like psychodynamic, behavioral, systemic, etc.), and not to therapy settings (like individual, couple, family, group, etc.), this has led to practical consequences. Researchers must provide enough evidence for the efficacy of systemic therapy in order for health-care companies to reimburse systemic therapies. As most family therapists consider themselves systemic therapists this also has implications for the reimbursement of family therapy. Consequences also exist for the inclusion of systemic therapy in APA lists of evidence-based treatments. In addition, reviews and meta-analyses, mostly written by English authors, tend to exclude publications in languages other than English.

The efficacy of family interventions for children and adolescents is well established (Carr, 2009; Hogue & Liddle, 2009; Sprenkle, 2002, 2012). Although family therapy has a large intersection with systemic therapy, both terms are not identical. There exist family therapy approaches that rely more heavily on, for example, psychodynamic or cognitive-behavioral concepts than on systemic concepts (Diamond & Siqueland, 2001; Lebow & Gurman, 1995; Scheib & Wirsching, 2004; Sydow, Beher, Retzlaff, & Schweitzer, 2007a). In addition, systemic therapy includes more than just couple and family modes of therapy, particularly individual and group therapy too.

We believe that the integration of systemic therapy with other approaches (e.g., CBT, psychodynamic therapy) constitutes good clinical practice. However, this review focuses solely on providing evidence for the efficacy of systemic therapy—which very often, but not always, is also family therapy.

Therefore, we conducted a systematic review of randomized controlled trials (RCT) on the efficacy of systemic therapy as a theoretical approach for the treatment of DSM/ICD disorders. This review includes both English and non-English publications, which enables a more comprehensive systemic review, and more trials than other recent reviews (Carr, 2009; Henggeler, 2011; Sprenkle, 2012; Waldron & Turner, 2008). While we have previously reviewed trials on the efficacy of systemic therapy for adult disorders (Sydow, Beher, Schweitzer, & Retzlaff, 2010), we now focus on childhood and adolescent disorders. Our results are presented in two separate articles: This study focuses on externalizing disorders and clinically relevant symptoms such as bullying and delinquency. The other article analyzes RCTs on internalizing and mixed disorders (Retzlaff, Sydow, Beher, Haun, & Schweitzer, 2013). Our review updates earlier German articles covering trials published

by the end of 2004 (Sydow, Beher, Retzlaff, & Schweitzer-Rothers, 2007b; Sydow, Beher, Schweitzer-Rothers, & Retzlaff, 2006).

We use “systemic/systems-oriented therapy/therapies (ST)” as a general term for a major therapeutic orientation that can be distinguished from other major approaches (e.g., CBT or psychodynamic therapy). We define *systemic therapy* as a form of psychotherapy that (1) perceives behavior and mental symptoms within the context of the social systems people live in; (2) focuses on interpersonal relations and interactions, social constructions of realities, and the recursive causality between symptoms and interactions; (3) includes family members and other important persons (e.g., teachers, friends, professional helpers) directly or indirectly through systemic questioning, hypothesizing, and specific interventions; and (4) appreciates and utilizes clients’ perspectives on problems, resources, and preferred solutions (Sydow et al., 2010).

TRIAL SELECTION CRITERIA

Studies included in this review met the following criteria: (1) published in peer-reviewed journals by the end of 2011; (2) written in any language we could identify; (3) examined systemic therapy in any mode (individual, family, multifamily group, group); (4) applied a RCT (randomized or matched¹ controlled trial) research design; and (5) examined and presented primary outcomes of systemic therapy on externalizing DSM/ICD disorders or symptoms in children and adolescents up to the age of 17 years (Sydow et al., 2007a, 2010). We excluded unpublished dissertations and trials presenting only relational treatment outcomes (Sydow et al., 2010).

Trials were identified through database searches (ISI Web of Science, PsycINFO, PSYINDEX, MEDLINE, PsiTri, and CAJ—China Academic Journals Full-text Database), cross-references in meta-analyses (Baldwin, Christian, Berkeljohn, Shadish, & Bean, 2012; Curtis, Ronan, & Borduin, 2004; Littell, Campbell, Green, & Toews, 2005; Stanton & Shadish, 1997; Tripodi, Bender, Litschge, & Vaughn, 2010; Waldron & Turner, 2008; Woolfenden, Williams, & Peat, 2001), reviews of family therapy (Becker & Curry, 2008; Carr, 2009; Dunn & Schwebel, 1995; Henggeler, 2011; Henggeler & Sheidow, 2012; Hogue & Liddle, 2009; Markus, Lange, & Pettigrew, 1990; Shadish et al., 1993; Sprenkle, 2012; Waldron & Turner, 2008), or empirically validated treatments (Chambless et al., 1998; Fonagy & Roth, 2004; Grawe, Donati, & Bernauer, 1994), from other primary studies, through reviews of couple and family therapy meta-analyses (Sexton, Robbins, Hollimon, Mease, & Mayorga, 2003; Shadish & Baldwin, 2003), and from information from the members of the American Academy of Family Therapy and the European Federation of Family Therapy. Results of the latest, most comprehensive meta-analyses/Cochrane reviews on the efficacy of family therapy for the treatment of externalizing disorders are summarized in the results section too.

Selection Criteria with Regard to the Systemic Interventions

According to the definition of other researchers (Cottrell & Boston, 2002; Grawe et al., 1994; Justo et al., 2007; Kazdin & Weisz, 1998; Shadish et al., 1993), we operationalized “systemic psychotherapy” as any couple, family, group, multifamily group, or individual-focused therapeutic intervention that refers to either one of the following systems-oriented authors (*Anderson, Boszormeny-Nagy, de Shazer, Haley, Minuchin, Satir, Selvini Palazzoli, Stierlin, Watzlawick, White, Zuk*; see Grawe et al., 1994) or specified the intervention by use of at least one of the following terms: *systemic, structural, strategic, triadic, Milan,*

¹Because only one of 47 samples was matched instead of randomized (see Table 1), we refer to the whole lot as “randomized” studies.

functional, solution-focused, narrative, resource/strength oriented, or McMaster model. We only included trials with at least one predominant systemic intervention. Trials using predominantly cognitive-behavioral, psychodynamic, or psychoeducational interventions in any setting were excluded (even if the term “systemic” was part of their names). Two authors independently classified the treatments as being predominantly systemic or not according to their description in publications and in published manuals. In case of disagreement or uncertainty, we checked additional descriptions of the intervention or e-mailed the corresponding author of the trial to ask for further information. Trials were only included if all raters agreed that they qualified for inclusion. Treatment effects were evaluated by two members of the research group too.

Trials on the efficacy of systemic interventions cannot reliably be found under one general label, but often under subform labels (e.g., “structural family therapy”, “Brief Strategic Family Therapy [BSFT]”, “Functional Family Therapy [FFT]”, “Multidimensional Family Therapy [MDFT]”, “Multisystemic Therapy [MST]”). Due to limited resources, we could not analyze the thousands of studies that searches for global terms (“family therapy/intervention and trial”) identified. However, a restriction to the search terms “systemic” or “systems-oriented” therapy would not have captured many relevant studies.

The systemic interventions are marked in bold letters in Table 1.

The Final Sample of the Analyzed RCT Studies

Our final sample consists of 47 RCTs on the efficacy of systemic therapy for child and adolescent externalizing disorders (ADHD, conduct disorders, and substance use disorders). We identified trials published in English, German, and Mandarin only. A Greek and a Korean trial did not fulfill our methodological selection criteria.

RESULTS

Our results are presented by disorder types. Results of the most recent and most comprehensive *meta-analyses and Cochrane Reviews*² (disorder-specific: Stanton & Shadish, 1997; Tripodi et al., 2010; Waldron & Turner, 2008; intervention-specific: MST: Curtiss et al., 2004; Littell et al., 2005; Woolfenden et al., 2001; disorder and family therapy specific: Baldwin et al., 2012) are presented first, followed by data from single trials. Table 1 provides an overview of methodology and results for each single trial analyzed. Trials were grouped by specific diagnoses and by date of publication. Table 2 provides a summary of the efficacy data for the various diagnostic groups.

Attention Deficit Hyperactivity Disorder (ADHD)

Results from meta-analyses

A Cochrane review analyzed only two behavioral family therapy trials and did not include systemic FT trials for ADHD (Bjornstad & Montgomery, 2005).

Results from single trials

Three randomized ADHD studies were identified: One trial from the United States and one from Germany showed that systemic family therapy is as effective as behavioral family/parent therapy. All treatment groups showed clinical improvements, but in the majority of cases full remissions were not observed (see Table 1: Trial a (ADHD) 1: Barkley,

²We searched for “psychotherapy” OR “family therapy” in the Cochrane Database of Systematic Reviews (from 2004 to 2012). Results of global meta-analyses across diagnostic groups are presented elsewhere (Sydow et al., 2010: all ages; Retzlaff et al., 2013: children and adolescents).

TABLE 1
Primary Studies (RCT) on the Efficacy of Systemic Therapy With Child and Adolescent Index Patients (IP) (47 RCTs)

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	Duration (weeks)	
Attention deficit hyperactivity disorder (ADHD) (ICD-10: F90; DSM-IV: 314) (3 RCT)										
a1	Barkley et al. (1992)	USA	x	22 21 21 (64)	20 21 20 (61)	(12-17)	8%	8-10 8-10 8-10	8-10 weeks 8-10 weeks 8-10 weeks	1. Behavior Management Training (BMT) for parents 2. FT: Problem-solving and communication training 3. Structural FT (Minuchin) ADHD diagnosis (at least 8 of 14 symptoms)
a2	Saile and Trosbach (2001), Saile and Forse (2002)	Germany	m	n/i n/i (26)	12 12 (24)	10.8 (8-14)	0%	18 18		1. Systemic FT/parent CT 2. Behavioral FT/parent CT DSM-IV ADHD
a3	Zhu and Lian (2009)	China	x	27 27 (54)	27 27 (54)	(12.6)	19%	6	12 weeks	1. Systemic FT and Methylphenidate 2. Methylphenidate (TAU) DSM-IV ADHD diagnosis + oppositional defiant disorder
Conduct disorders and adolescent delinquency (20 RCTs)										
(a) Unspecified and nonsexual offenses (17 RCTs)										
c1	Alexander and Parsons (1973), Parsons and Alexander (1973), Klein et al. (1977)	USA	x?	n/i n/i n/i n/i (99)	46 19 10 11 (86)	(13-16)	56%	12-15	5-6 weeks	1. Functional Family Therapy (FFT) 2. Client-centered Family Groups 3. CG without intervention 4. Church-sponsored eclectic-dynamic Family Counseling delinquent adolescents
c2	Wells and Egan (1988)	USA	x	n/i n/i (24)	9 10 (19)	(3-8)	n/i	8-12 8-12	n/i n/i	1. Parent Training 2. Systems FT (Minuchin, Haley) DSM-III childhood oppositional disorder

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
-	x x (x)	x x x	All improved: family, school, symptoms; clinically significant improvement: only in one-third of all cases; clients' cooperation: 2, 3 > 1; fathers involved: 3 > 1, 2	3 months: symptoms improved, but mostly no remission: 1 = 2 = 3	+
-	x x	x x	ADHD-symptoms: 1 = 2, both improved, individual autonomy mothers: 1 = 2 both improved, individual autonomy fathers: 1 (improved) > 2 (constant)	-	+
-	-	-	Reduction in hyperactivity: 1 = 2; reduction in behavior problems, school problems: 1 > 2; family function: 1 > 2;	-	+
-	(x) - -	- - -	Family interaction: 1 better than 2, 3	6-18 months: delinquency IP: 1 (26%) < 2 (47%), 3 (50%) < 4 (73%) 2.5-3.5 years: siblings' delinquency: 1 (20%) < 3 (40%) < 2 (59%), 4 (63%)	+
-	x -	- -	Child compliance: 1 > 2 (!)	-	-

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	Duration (weeks)	
c3	Szapocznik et al. (1989)	USA	x	31 27 30 (88)	26 26 17 (69)	9.2 (6-11)	0%	15 (12-24) 21 14	n/i n/i n/i	1. Brief Strategic FT (BSFT) 2. Individual psychodynamic child therapy 3. CG (leisure activities) DSM-III dissocial, anxiety, adjustment disorders
c4	Mann, Borduin, Henggeler, and Blaske (1990)	USA	x	30 29 (16 (59 + 16))	27 18 (16 (45 + 16))	14.9 (13-17)	17%	21 (5-34) 29 (17-59) 0	n/i n/i	1. Multisystemic Therapy (MST) 2. IT (no inf. on orientation) (3. no Intervention: healthy adolescents) delinquent adolescents with min. 2 arrests; MST-Setting: IP, father and mother
c5	Henggeler et al. (1991): Trial 1 (Missouri), Borduin et al. (1995) Schaeffer and Borduin (2005), Klietz et al. (2010), Sawyer and Borduin (2011)	USA	x	92 84 (176)	77 63 (140)	14.4	33%	24 (5-49) 29 (15-72)	16 weeks	1. MST 2. IT: eclectic blend of PD, GT, CBT Serious, chronic juvenile offenders: 4.2 previous arrests
c6	Henggeler, Melton, and Smith (1992) Henggeler, Melton, Smith, Schoenwald, and Hanley (1993)	USA, South Carolina	x	43 41 (84)	33 23 (56)	15.2	33%	33 n/i	13.4 weeks n/i	1. MST 2. Usual services by Dept. of Youth Services severe adolescent offenders

Study Design					
ITT-Analyses	Manual	PT-Integrity	Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
-	(x) (x) -	x x	Emotional and behavior problems improved: 1 = 2 > 3; psychodynamic IP improved: 1 = 2 > 3; dropout: 1 (16%) = 2 (4%) < 3 (43%); family functioning: 1 = 2 = 3	1-year: Emotional and behavior problems improved: 1 = 2 > 3; psychodynamic IP improved: 1 = 2 > 3; family functioning: 1 > 3 > 2 (= deterioration!)	+
-	(x) -	(x) -	CSR behavior problems: 1 < 2; family interaction: 1 better than 2	-	+
x	x -	x -	Family functioning (cohesion, adaptability): 1 > 2; observed family interaction: 1 better than 2 (IT: deterioration of family relations) peer relations: 1 = 2; parent symptoms: 1 < 2; IP symptoms: 1 < 2	4-years: drug-related arrests: 1 (4%) < 2 (16%) = treatment refusers (17%) (no urine analyses); delinquent behavior: 1 < 2; arrests: 1 (26%) < 2 (74%); psychiatric symptoms mothers: 1 < 2; psychiatric symptoms fathers: 1 = 2; 13.7 years: Recidivism rate: 1 (50%) < 2 (81%); arrests: 1 (-54%) << 2; days incarcerated: 1 (-57%) <<< 2. 21.9 years: felony recidivism: 1 (35%) < 2 (55%); misdemeanor offending: 1 <<< 2 (5 times as much); family-related civil suits: 1 << 2 (twice as much).	+
- comparison dropouts completers	x -	(x) -	MST-effects: Afro-American = Caucasian families.	59-weeks: arrests: 1 < 2; days in arrest: 1 < 2; Child Self-report behavior problems: 1 < 2; Family cohesion: 1 (increase) > 2 (decrease); 2.4 years: no new arrest: 1 (39%) < 2 (20%)	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	Duration (weeks)	
c7	Scherer, Brondino, Henggeler, Melton, and Hanley (1994), Henggeler et al. (1997) , Huey, Henggeler, Brondino, and Pickrel (2000): Sample 1 <i>Diffusion Project</i>	USA, South Carolina	x	82 73 (155)	57/23 21 (140/ 55)	15.1 (11–17)	18%	n/i n/i	14 weeks 24 weeks	1. MST 2. TAU by Department of Youth Services (13 cases excluded, PT with poor adherence to manual) Violent and chronic adolescent offenders
c8	Ogden and Halliday-Boykins (2004) , Ogden and Hagen (2006) (N from the 3 MST-adherent of the 4 sites)	Norway	x	62 (46) 38 (29) (100)	57 (43) 35 (26) (92) ((69))	15.0 (12–17)	37%	n/i	24 weeks (7–38)	1. MST 2. TAU by Child Welfare Services Dissocial behavior + problems in the clinical range of the CBCL (88%) adolescents referred to treatment
c9	Nickel, Krawczyk et al. (2005)	Germany	x	22 22 (44)	20 20 (40)	(14– 16)	0%	16 16	24 weeks 24 weeks	1. Systemic FT 2. Placebo intervention: discuss. activity Bullying boys; 1 + DSM-IV-disorder: 66% (conduct d., oppositional defiant d., Borderline PD, Bulimia, ADHD)
c10	Nickel, Nickel et al. (2005)	Germany	x	(27)	13 12 (25)	(12– 14)	100%	16	24 weeks	1. Systemic FT 2. CG: no intervention Bullying; State-Trait Anger Expression Inventory (STAXI)

Study Design					
ITT-Analyses	Manual	PT-Integrity	Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
- comparison dropouts completers	x -	x -	Aggressive problem behavior: mother report: 1 < 2; maternal distress: 1 < 2; parental monitoring: 1 > 2; satisfaction with family task accomplishment: mother report: 1 > 2	1.7-years: days incarcerated: 1 < 2; criminal activity: 1 = 2; better outcomes if treatment adherence was high; family relations: 1 = 2; peer relations: 1 = 2	+
-	x	x -	Symptoms-internalizing 1 < 2 symptoms-externalizing 1 < 2 (p = .07) social competence IP: 1 > 2 Family (cohesion, adaptability): 1 = 2	2-years: out of home placement: 1 < 2; behavior problems 1 < 2.	+
-	-	-	Reduction in bullying behavior, test scores for anger, anxiety, and social functioning 1 > 2	1-year: results stable	+
-	-	-	Reduction in problem behavior, psychological adaption, interpersonal problems, and health-related quality of life	1-year: results stable.	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups	
				Treated	pt	Age	IP	Sex IP	Number Sessions	Duration (weeks)	Type of Disorder Researched
c11	Nickel, Luley et al. (2006)	Germany	x	20 20 (40)				100%	12	12 weeks	1. BSFT 2. CG: no intervention Bullying girls
c12	Nickel, Muehlbacher et al. (2006)	Germany	x	36 36 (72)	32 31 (63)	(14– 15)		0%	12	12 weeks	1. BSFT 2. Structured group activity Bullying boys; conduct disorders and others
c13	Timmons-Mitchell et al. (2006)	USA	x	48 45 (93)		15.1 (12– 17)	22%	–	12–20 weeks n/i	1. MST 2. TAU: Probation Juvenile delinquency	
c14	Sundell et al. (2008), Olsson (2010)	Sweden	x	79 79 (158)	76 73 (149)	15.0 (12–17)	39%	–	16–24 weeks n/i	1. MST 2. TAU by Swedish Youth Services DSM-IV-TR-Conduct disorder	
c15	Glisson et al. (2010)	USA	x	349 n/i 325 n/i (674)	316 n/i 299 n/i (615)	14.9 (9–17)	31%	n/i n/i n/i	15 weeks 15 weeks 26.9 weeks 26.4 weeks	1. MST + ARC (organizational intervention: Availability, Responsiveness, Continuity) 2. MST 3. TAU + ARC 4. TAU Juvenile delinquency + DSM-IV disorder(s) other than adjustment disorder; 2 + disorders: 53%	
c16	Sexton and Turner (2010)	USA	x	(917)		(13–17)	21%	12 weekly	3–6 month	1. FFT 2. Probation services Juvenile delinquency; high drug use (86%); alcohol (ab)use: 81%; other mental health/behavioral problems: 27%	

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
x			Reduction in bullying behavior: 1 > 2	1-year: results stable.	+
x	-	-	Reduction in bullying behavior, level of cortisol, test measures of anger, psych. health 1 > 2	-	+
-	x -	x -	-	18-months: Recidivism rate: 1 (67%) < 2 (87%); behavior symptoms: 1 < 2.	+
x	x	x	-	7-months postreferral: General reduction in psychiatric problems, antisocial behavior: 1 = 2; satisfaction with treatment: 1 > 2; adaptation of parents: 1 > 2; reduction in parental anxiety: 1 > 2;	-
-	x x - -	x x - -	youth local problem behavior: 1 (nonclinical level) < 2, 3, 4	18-months: youth total problem behavior: 1 = 2 = 3 = 4 (all at nonclinical level); out-of-home placement: 1 (16%) < 4 (34%)	+
-	x -	x -	-	12-months posttreatment: recidivism: 1 = 2; felony: 1 (high-adherent therapists: -35%) < 2 < 1 (low adherent therapists); violent crime: 1 (high adherent therapists: -30%) < 2 < (low adherent)	+/-?

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)			Interventions		Treatment and Control Groups	Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions		
c17	Butler et al. (2011)	UK	x	56 52 (108)	55 52 (107)	15.2	18%	3/week 21	11-30 weeks	1. MST 2. TAU (Youth Offending Teams): IT Court referral or supervision order for at least 3 months
(b) Sexual offenses (3 RCTs)										
c18	Borduin et al. (1990)	USA	x	8 8 (16)	8 8 (16)	14	0%	37 (21-49) 45	4-28 weeks n/i	1. MST 2. IT: blend of PD, humanistic T and BT sexual offenders
c19	Borduin et al. (2009)	USA	x	24 24 (48)	22 22 (44)	14.0	4%	-	30.8 weeks 30.1 weeks	1. MST 2. TAU: community services (individual + group CBT) Juvenile sex offenders (rape, sexual assault, or molestation of younger children)
c20	Letourneau et al. (2009)	USA	x	67 60 (127)	61 54 (115)	(11-17)	2%	n/i n/i	28 weeks 34 weeks	1. MST 2. TAU: Group probation services Juvenile sexual offenders
Substance use disorders (F1, F55) (24 RCTs)										
(a) "Pure" substance use disorders (F1, F55) (11 RCTs)										
s1	Szapocznik et al. (1983, 1986), Szapocznik et al. (1986)	USA	x	18 19 (37)	n/i n/i n/i	17.0 (12-17)	22%	4-12 (4-12) 8-12 (4-12)	n/i n/i	1. Conjoint BSFT (FT; Minuchin, Haley) 2. One-person BSFT (IT; Minuchin, Haley) Illegal (and legal) drug use
s2	Szapocznik et al. (1988)	USA	x	52 56 (108)	52 22 (74)	(12-21)	33%	2.5+? 2.3+?	3 weeks 3 weeks	1. BSFT and BSFT engagement 2. BSFT and engagement as usual (empathy and support) use of illegal drugs (and behavioral problems)

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
x	x -	x -	delinquent behavior/ offenses: 1 = 2 (decreased)	Delinquent behavior/offenses: (decreased) 6-month-fu: 1 = 2; 12-month-fu: 1 = 2; 18-month-fu: 1 < 2; No more offenses: 1 (90%) > 2 (63%)	+
x	(x) -	(x) -	-	3-years (21-49 months): Rearrested for sex. crimes: 1 (12.5%) < 2 (75%); Rearrested for nonsex. crimes: 1 (25%) = 2 (50%)	+
x	x	x	Decrease in crime, behavioral symptoms, improved family relations in 1 > 2;	9-years: recidivism rate: 1 (8%) < 2 (43%); recidivism rate sex. crimes: 1 (8%) < 2 (46%); recidivism rate nonsexual crimes: 1 (29%) < 2 (58%); arrests: 1 (-70%) < 2; days in detention: 1 (-80%) < 2	+
x	x -	x (x)	—	12-months postrecruitment: Sexual behavior problems: 1 < 2; externalizing symp.: 1 < 2; delinquency: 1 < 2; substance use: 1 < 2; out-of-home placement: 1 < 2	+
-	- -	x n/i	Both group improved: drug use, comorbidity, behavioral problems: 1 = 2	6-12 months: 2 better than 1 (drug use, problem behav.) (no urine analyses)	+
-	x -	x x	FT started: 1 (93%) > 2 (42%); therapy completed: 1 (77%) >>> 2 (25%); drug abstinence: both group improved	-	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	Duration (weeks)	
s3	Friedman (1989)	USA	x	(169)	85 50 (135)	17.9 (14–21)	39%	n/i 24	24 weeks 24 weeks	1. IT + GT + Functional FT 2. IT + GT + Parenting groups (Rogers) illegal drugs, outpatient treatment
s4	Lewis et al. (1990), Trepper et al. (1993)	USA	x	n/i n/i n/i (151)	44 40 (84)	16.1 (11–22)	24%	11 (–.12) (–.12) 19	12 weeks 12 weeks 12 weeks	1. Purdue Brief FT (PBFT) (= structural, strategic, functional and CBT) 2. Family drug psychoeducation 3. IT (treatment as usual, TAU) “trouble because of drug or alcohol use”
s5	Joanning et al. (1992)	USA	x rand. assigned with replacement until 23 fam. per group	40 52 42	31 23 28	15.4 (11–20)	40%	7–15 12 × 1.5 h 6 × 2.5 h	7–15 weeks 12 weeks 12 weeks	1. Family Systems Therapy (FST, Minuchin, Haley, Selvini-Palazzolli) 2. Adolescent Group Therapy (AGT) 3. Multi-Family Drug Education abuse of illegal drugs (39% drug-related legal problems)

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
-	x (x)	x -	Parent involvement: 1 (93%) > 2 (67%)	9-months: 1 = 2, both efficacious with regard to drug use (no urine analyses), well-being, and family relations; parent satisfaction: 1 = 2	+?
-	- - -	- - -	Drug use: 1 = 3 < 2; clin. sign. reduction in drug use: 1 (55%) > 2 (47%); cost effectiveness: 1 > 3	-	+
-	x (x) (x)	(x) - -	Retention: 1 (78%) > 3 (67%) > 2 (44%); abstinence: 1 (54%) > 3 (28%) > 2 (16%) (urine analyses by chance and self-report); family functioning: 1 = 2 = 3 all partially improved	-	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)			Interventions		Treatment and Control Groups Type of Disorder Researched	
				Treated	pt	Age IP	Sex IP	Number Sessions		Duration (weeks)
s6	Liddle et al. (2001)	USA	x	47 53 52 (152)		15.9 (13-18)	20%	12-16 9 × 90 min	20 weeks 16 weeks	1. Multidimensional FT (MDFT) 2. Group CBT 3. Multifamily group education Cannabis-, alcohol-, Polydrug-abuse
s7	Smith et al. (2006)	USA	x	58 40 (98)	58 37 (95)	15.8 (12-18)	24%	10 + 5 10 + 5	12 weeks 12 weeks	1. Strength-oriented FT (SOFT) 2. GT (The 7 Challenges) Substance abuse; outpatient treatment
s8	Tossmann et al. (2010) INCANT-Study	Germany	x	59 61 (120)		(13-18)		37.6 20.4	6 months 6+ months	1. MDFT 2. TAU: IT (person-centered, CBT, motivational interviewing) DSM-IV-Cannabis dependence or abuse
s9	Hendriks et al. (2011) INCANT-Study	NL	x	55 54 (109)		16.8 (13-18)	10%	2 h/week 1 h/week	5-6 months 5-6 months	1. MDFT 2. CBT IT + CBT Parent therapy (1 x/month) DSM-IV-Cannabis use disorder
s10	Robbins et al. (2011)	USA	x	246 235 (481)	245 235 (480)	15.5	21%	9.5 6	8 months 8 months	1. BSFT 2. TAU (IT, GT, parent training, FT, case manag.) DSM-IV-drug abuse 73%; Alcohol abuse 26%

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
-	x x x	(x) (x) (x)	Retention: 1 (73%) > 3 (65%) > 2 (52%) clinically sign. reduction of drug use: 1 (42%) > 3 (32%), 2 (25%)	1-year: drug use: all improved 1 > 2 > 3; school performance: 1 (improved) > 2, 3 (constant) > dropouts (deteriorated); family functioning (behavioral rating): 1 > 2, 3	+
x	x x	x x	Abstinence and substance use: 1 = 2, both efficacious; retention rate: 1 (57%) > 2 (45%)	6-months: Abstinence and substance use: 1 = 2, both efficacious	+?
x	x -	x -	Retention rate: 1 (88%) > 2 (74%)	12-months postrecruitment: Cannabis use: 1 < 2 (both groups reduced). Problematic substance use: 1 < = 2; delinquency: 1 = 2; mental health: 1 = 2; school absenteeism: 1 = 2.	+?!
x	x x	x (x)	Treatment retention (weeks in treatment): 1 (23 weeks) > 2 (11 weeks); treatment dose (mean hours in therapy): adolescent 1 (35 h) > 2 (10 h); family 1 (49 h) > 2 (13 h);	12-months postrecruitment: Cannabis use (past 90 days): 1 (-20 days) = 2 (-15 days) (both groups reduced); Cannabis abstinence: 1 (18%) = 2 (15%) Delinquent behavior reduced: 1 = 2; Treatment response and recovery: 1 = 2.	+/-?
-	x -	x -	Trajectories of youth self-reported 28-day drug use: 1 = 2;	12-months: Self-reported drug use (Median): 1 (2) < 2 (3.5); urine drug use screen: 1 = 2; family functioning: parent report: 1 > 2; adolescent report: improved 1 = 2.	+?

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)			Interventions		Treatment and Control Groups	Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions		
s11	Santisteban et al. (2003)	USA	x	14 14 (28)	12 13 (25)	14-17	n.i.	37 12	16 weeks 16 weeks	1. Culturally Informed and Flexible FT (CIFTA) 2. Traditional FT Hispanic youth with DSM-IV substance abuse
(b) Substance use disorders combined with dissocial disorders/youth delinquency (3 RCTs)										
s12	Henggeler et al. (1991) Trial 2 (S. Carolina)	USA	x	n/i n/i	28 19 (47)	15.1	28%	36 h	12 weeks	1. MST 2. Usual juvenile justice services Juvenile offenders
s13	Henggeler et al. (1996), Schoenwald, Ward, Henggeler, Pickrel, and Patel (1996); Henggeler et al. (1999) , Brown et al. (1999), Huey et al. (2000): Sample 2; Schoenwald, Ward, Henggeler, and Rowland (2000), Henggeler et al. (2002) <i>CDA Project</i>	USA	x	58 60 (118)	54 n/i (n/i)	15.7 (12-17)	21% n/i	40 n/i	16-24 weeks n/i	1. MST 2. Usual community services Juvenile offenders with DSM-III-R substance use disorder 75%, 72% with psychiatric comorbidity; Ø 2.9 previous arrests; conduct d. 35%, oppositional defiant d. 12%, MD 9%, anxiety disorder 10 + 10 + 19 + 16%, ADHD 4%
s14	Santisteban et al. (1996) , Santisteban, Coatsworth et al. (2003)	USA	x	40 40 46 (126)	28 28 29 (85)	15.6 (12-18)	30%	11.2 (4-20) 8.8 (6-16)	11.2 weeks (4-20 weeks) (4-20 weeks) 16 weeks	1. BSFT + BSFT engagement 2. BSFT + Engagement as usual 3. Group counseling + Engagement as usual Conduct/antisocial disorder, delinquency, cannabis (ab)use.

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
-	x -	x x	-	8-months: self-reported drug use: 1 < 2; parenting practices: adolescent report: 1 better 2; parent report: 1 = 2; parent report: adolescent behavior problems: 1 = 2.	+?
-	(x) -	(x) -	Use of Alcohol, Cannabis: 1 < 2	-	+
- comparison dropouts completers	x -	x -	Therapy completed: 1 (98%); 6 months: drug use: 1 < = 2; out-of-home placement: 1 (30 days) < 2 (66 days); criminal activity: 1 = 2 (!); costs: 1 (3.928 \$); school attendance: 1 (increase) > 2 (unchanged)	12-months: days in prison: 1 < 2; combined costs mental health + prison: 1 (6.027 \$) > 2 (5.150 \$); 4-years: aggressive criminal activity: 1 < 2; property offenses: 1 = 2; drug use self-report: 1 = 2; urine Cocaine: 1 = 2; urine Cannabis abstinence: 1 (55%) > 2 (28%); psychiatric symptoms: 1 = 2	+
-	x x -	x x x	Entering into FT: 1 (81%) > 2, 3 (60%) IP-symptoms (conduct, delinquency, drugs): 1 + 2 more improved than 3; family cohesion IP + observed family interaction: 1 + 2 more improved than 3; conduct disorder: 1 + 2 (46% impr., 5% deterior.) < 3 (0% impr., 11% deterior.); social aggression: 1 + 2 < 3; Cannabis use: 1 + 2 < 3; Subgroups: initial impaired family function: 1 + 2 (improved) > 3 (unchanged); initial higher family function: 1 (unchanged) > 2 (deteriorated)	-	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)			Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	
(c) Multiple mental disorders, always including substance use disorders (F1, F55) (10 RCTs)									
s15	Waldron et al. (2001), Flicker et al. (2008), French et al. (2008)	USA	x	30 30 30 30 (120)	n/i n/i n/i n/i (114)	15.6 (13-17)	14%	12 12 24 12 12-16 weeks 12-16 weeks	1. CBT-IT + Motivational-Enhancement Intervention (MIT) 2. Functional FT (FFT) 3. FFT + CBT-IT 4. Psychoeducational group therapy DSM-IV illicit substance use disorder, mostly Cannabis + ca. 1 comorbid diagnosis
s16	Dennis, Titus, Diamond, Donaldson, Godley, and Tims (2002), Diamond et al. (2002), French et al. (2002, 2003), Dennis et al. (2004) Cannabis Youth Treatment Study (CYT) Trial 2: Interv. 1, 4, 5	USA, multi-site	x	202 100 100 (402/ 600)		(12-18)	27%	1)5.0 (5) 2)3.8 (5) 7.9 (14) 9.5 (14) 14 weeks	1. Motivational Enhancement IT (MIT) + CBT-IT+GT (MIT/CBT5) 4. Adolescent Community Reinforcement Approach (ACRA): 10 x IT + 4 x PT/FT 5. Multidimensional FT (MDFT) DSM-IV cannabis abuse or dependence; 95% additional disorders.
s17	Liddle (2002), Liddle et al. (2008), Henderson et al. (2010), Henderson et al. (2010): study 1	USA	x	90 90	43 37	15.4 (13-17)	19%	16-30 16-30 16-30 weeks weeks	1. Multidimensional FT (MDFT) 2. CBT IT DSM-IV Cannabis dependence (75%), abuse (13%); Average 2.5 DSM-IV diagnoses

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
x	x x x x	x x x x	4-months: days with Cannabis use: 2, 3 (reduced) < 1, 4 (unchanged); clinical change: minimal drug use (max 10% of days): 2, 3, 1 > 4; family conflict scores: 1 = 2 = 3 = 4; decreased delinquency: 1 = 2 = 3 = 4	3-months: % days with cannabis use: All reduced, 1 = 2 = 3 = 4; clinical change: minimal drug use (max 10% of days): 2, 3, 4 > 1; Family conflict scores: 1 = 2 = 3 = 4 Significant decline in delinquency scores: 1 = 2 = 3 = 4; Cost effectiveness: 4 > 1, 2, 3; Ethnic match of therapist is important for the outcome of Hispanic FFT clients but not for Angelos.	+?
x	x x x	x x x	Costs per treatment episode: 4 < 1 < 5; cost effectiveness: 4, 1 > 5; therapy completed: 5 (70%) = 1 (60%) = 4 (61%)	12-months: abstinent days: all improved: 4 (265) = 5 (257) = 1 (251) Recovered (no substance problems + living in the community): all improved, 4 (34%) = 1 (23%) = 5 (19%); Benefit cost analysis: 3 > 1 > 5, site was decisive, not treatment condition	+?
x	x x	x x	Drug use: 1 = 2 (both improved); externalizing and internalizing problems: 1 = 2	6- and 12-months: additional improvement only in 1, not in 2; 12 months: Cannabis abstinence: 1 (64%) > 2 (44%); reduction in cannabis and alcohol use: 1 = 2; substance use severity: 1 < 2; use of other drugs: 1 < 2; minimal substance use: 1 < 2; Subgroup lower severity: 1 = 2; Subgroup higher severity and comorbidity: 1 more effective than 2	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)				Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP	Sex IP	Number Sessions	Duration (weeks)	
s18	Liddle et al. (2004, 2009)	USA	x	39 38 (77)	n/i n/i (n/i)	13.7 (11-15)	27%	24-32 24-32	12-16 weeks 12-16 weeks	1. MDFT 2. Group CBT Substance abuse 47%, dependence 16%, conduct disorder 39%, ADHD 29%, depressive disorder 9%
s19	Rowe et al. (2004)	USA	x	n/i n/i (182)	n/i n/i (n/i)	15 (12-17)	18%	10 (-24) 10 (-24)	10-24 10-24	1. MDFT 2. CBT IT Opiat-, Polydrug dependency (DISC, ICD-10, DSM-IV), 1 + comorbid psychiatric disorder: 88%
s20	Slesnick and Prestopnik (2005), Slesnick et al. (2006)	USA	x	n/i n/i (124)	53 44 (97)	14.8 (12-17)	59%	(-15) n/i	n/i n/i	1. Ecologically - Based FT (EBFT) 2. Service as Usual (SAU) Substance disorder + 74% additional DSM-IV axis I disorder Runaways from home
s21	Robbins et al. (2008)	USA	x	57 67 66 '(190)	57 67 66 (177)	15.6 (12-17)	22%	24-28 12-16 10.7	6 months 6 months 6 months	1. Structural Ecosystems Therapy (SET) 2. Family Process-only therapy (FAM) 3. Community Services (KG) DSM-IV substance use disorder (Cannabis, Cocaine, other) + 86% 1 + comorbid psychiatric disorder(s)
s22	Henggeler, Halliday-Boykins et al. (2006), Rowland et al. (2008)	USA	x	42 38 38 43 (161)	33 31 29 37 (120)	15.2 (12-17)	17%	48 + 12 + 24 weekly 66 h 57 h	3 months and aftercare 12 months 12 months 12 months	1. Family court + community services (group CBT, individual CBT, Family Group Therapy) 2. Drug court + community services (group CBT, individual CBT, Family Group Therapy) 3. MST + drug court 4. MST + drug court + contingency management DSM-IV illicit substance use disorder + juvenile offenses

Study Design			Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
ITT-Analyses	Manual	PT-Integrity			
-	x x	x x	Cannabis and alcohol use: 1 < 2; individual, peers, school: 1 better 2; family: 1 better 2 (1: increased cohesion, 2 cohesion decreased; conflict unchanged 1 = 2); delinquency reduced 1 = 2; therapy completed: 1 (97%) > 2 (72%)	6-months: Days with substance use: 1 < 2; abstinence: 1 > 2; delinquency: 1 < 2 (increased!); 12-months: drug use: 1 < 2; drug problems: 1 < 2; delinquency: 1 < 2; internalized disorders: 1 < 2; family function: 1 > 2; school function: 1 > 2	+
-	x x	x x	1 = 2 generally weak success; decisive is the degree of comorbidity:	12-months: 1 = 2; success: exclusive substance abuser > substance + externalizing problems > substance + extern. + intern. problems.	+
x	x	(x)	Substance abuse: 1 < 2; psychological and family functioning: 1 = 2, both improved.	6- and 12- months: substance abuse: 1 < 2; other problem areas: 1 = 2	+
x	x x -	x x -	-	12- and 18-months: reduction in drug use: 1 = 2 = 3; only in Hispanic subgroup: 1 > 2, 3.	+?
x	- - x x	- - x x	Reduction in drug use and criminal behavior: 1 < 2, 3, 4; 4-months: drug use according to urine tests: 2 > 3 > 4; mental symptoms (mothers' view): 1, 2 > 4	12-months: drug use: 1 > 2, 3, 4; alcohol use: 1, 2 > 3, 4; Cannabis use: 1 > 3, 4; polydrug use: 1 > 3, 4; Cannabis in urine tests: 2 > 3, 4; delinquency: 1 > 2, 3, 4; arrests: 1 = 2 = 3 = 4; mental symptoms: mother report: 1 = 2 = 3 = 4; days in out-of-home placement: 1 = 2 = 3 = 4; 18-months: siblings' drug use: 1, 2 > 3, 4	+

(Continued)

TABLE 1
Continued

No.	Authors and Year	Country	R	Sample (N-IP)			Sex IP	Interventions		Treatment and Control Groups Type of Disorder Researched
				Treated	pt	Age IP		Number Sessions	Duration (weeks)	
s23	Slesnick and Prestopnik (2009)	USA	x	37 40 42 (119)	20 17 26 (63)	15.1 (12–17)	55%	16 16 n/i	1.3 + 2.4 weeks 1.3 + 2.4 weeks 1.3 + 2.4 weeks	1. Home-based ecologically-based FT 2. Office-based Functional FT (FFT) 3. TAU Runaways: DSM-IV-Alcohol use disorder 89%, Cannabis abuse 29%, other substance abuse 17%; sexual abuse 39%, physical abuse 36%, suicide attempts 48%.
s24	Henderson et al. (2010): study 2	USA	x	76 78 (154)	76 78	15.4 (13–17)	17%	6 4	8 8	1. MDFT—Detention to Community 2. Enhanced TAU Substance abuse and in juvenile detention DSM-IV disorders: cannabis 61%, alcohol 20%, another substance 10%; average of: 3.9 lifetime arrests, 2.8 DSM-diagnoses

Note. x = yes//— = no//n/i = no information given.

R: Random assignment; x: yes; m: matched samples.

N-IP: Sample size: Number of index patients (IP).

Treated: N that was treated.

pt: N of which posttest data are presented.

Age IP: average age or age range of index patients.

Sex IP: sex/gender: Rate of female IP in %.

number sessions: number of therapy sessions.

duration (weeks): duration of the intervention in weeks.

ITT Analysis: Intent-to-treat analysis realized; x: yes; (x): not necessary because sample was fully retained (no dropout); —: no/not mentioned.

manual: x: yes: manual mentioned; (x): publication about intervention mentioned, not clear if it is a “real” manual; —: no/not mentioned.

PT integrity: x: manual fidelity/adherence was evaluated systematically; (x): therapy integrity was maintained “only” through supervision; —: no: no evaluation/not mentioned.

FT = family therapy; GT = group therapy; IT = individual therapy; CG = control group; TAU = treatment as usual; BSFT = brief strategic family therapy; CBT = cognitive behavioral therapy; FFT = functional family therapy; FST = family systems therapy; MDFT = multidimensional family therapy; MET = motivational enhancement therapy; MST = multisystemic therapy; PD = psychodynamic therapy; CBCL = child behavior checklist; CSR = child self report.

Systemic interventions are printed in bold letters.

Description of the results of the trial:

1 < 2: Treatment 2 had significantly stronger effects than Treatment 1;

1 > 2: Treatment 1 had significantly stronger effects than Treatment 2;

1 = 2: there was no significant difference between the effects of Treatment 1 and Treatment 2;

Evaluation (of the trial and its results):

+ : trial with positive results for the efficacy of systemic therapy (ST) (ST more efficacious than alternative interventions or control groups without intervention or equally efficacious as other evidence-based interventions);

Study Design					
ITT-Analyses	Manual	PT-Integrity	Results at the End of Intervention (posttest)	Follow-Up Results	Evaluation
x	x x -	(x) (x) -	Alcohol and drug use: 1 < 2 < 3; engagement 1 > 2 > 3; improved in all conditions	15-months: alcohol and drug use: 1 = 2 < 3	+
	x -		Retention in treatment: 1 (87%) > 2 (23%)	substance use problem severity: 1 = 2 substance use frequency: subgroup with initial low frequency: 1 = 2 subgroup with initial high frequency: 1 < 2	+/-

+?: trial with predominantly positive results for the efficacy of ST;
 +/-: trial with mixed (positive and negative) results for the efficacy of ST; and
 -: trial with negative results for the efficacy of ST (ST less efficacious than alternative interventions or control group).

Guevremont, Anastopoulos, & Fletcher, 1992; a2: Saile & Forse, 2002). In a Chinese trial on children with ADHD and oppositional defiant behavior, medication alone and medication combined with structural family therapy both reduced hyperactivity. The combined condition was superior because additional symptoms (behavioral, learning, psychosomatic problems, and anxiety) were reduced, and family cohesion improved (a3: Zhu & Lian, 2009).

Conduct Disorders and Delinquency

Results from meta-analyses

A *Cochrane review* including eight trials (four on unspecified family therapy, three on MST, and one on BSFT) concluded that although the pooled posttest results did not show superiority of MST over standard treatment (probation) with regard to adolescent and parent mental health, family relations and family functioning showed a clear superiority of MST at both 1- and 3-year follow-ups. After completion of MST, reincarceration risk, time spent in institutions (e.g., jail), and self-reported criminal activity of the former index patients were markedly reduced (Woolfenden et al., 2001). Another *meta-analysis* of seven studies showed similar medium-sized positive effects for MST compared to other interventions (Curtis et al., 2004; $d = .55$, $p < .05$). In a third meta-analysis of eight MST trials from the United States, Canada, and Norway, the relative effects of MST compared to usual services were not significantly different from zero. Due to small sample sizes and inconsistent effects across studies, the authors question whether MST has clinically significant advantages over other services (Littell et al., 2005; see also Henggeler, Schoenwald, Swenson, & Borduin, 2006).

A new meta-analysis (Baldwin et al., 2012) summarizes the results of $k^3 = 24$ trials comparing either BSFT, FFT, MDFT, or MST for adolescent delinquency and substance abuse to either treatment-as-usual (TAU), an alternative treatment, or a no-treatment control group. All English language publications until 02/2009 were included. As a group, the four systemic family therapies had statistically significant, but modest effects as compared to TAU (random-effect weighted-average effect size: $d = .21$, $p = .03$; $k = 11$: MST = 10, BSFT = 1) and as compared to alternative treatment ($d = .26$, $p < .05$; $k = 11$: MST = 2, FFT = 3, MDFT = 4, BSFT = 3). The effect of family therapy compared to no-treatment control was larger, but was not statistically significant ($d = .70$, $p = .08$; $k = 4$: FFT = 1, BSFT = 3). There was insufficient evidence to determine whether the various models differed in their effectiveness relative to each other. Influence analysis suggested that three studies had a large effect on aggregate effect sizes and heterogeneity statistics. Moderator and multivariate analyses were largely underpowered. But the proportion of female participants moderated outcomes significantly: the more females in the study, the smaller the effect sizes. Effect sizes were larger for delinquency measures and substance abuse measures than for other measures. Studies focusing on delinquency had significantly better outcomes than studies focusing on substance abuse (Baldwin et al., 2012).

Results from single trials

We identified 20 RCTs on conduct disorders: Twelve evaluated MST, three BSFT, two FFT, and three other models of systemic therapy (Tables 1 and 2). In one trial, systemic therapy was less efficacious than another intervention (Trial c (conduct disorders and delinquency) 2: Wells & Egan, 1988), in one MST was not superior to TAU (c14: Sundell et al., 2008; Olsson, 2010).

³ k = number of studies.

TABLE 2
Summary

Type of Disorder and Type of Specific Treatment Model	Number RCTs	Number Successful RCTs
Attention deficit hyperactivity disorder (ADHD)	3	3
Other systemic FT	3	3
Conduct disorders	20	17
BSFT	3	3
FFT	2	1
MDFT	0	0
MST	12	11
Other systemic FT	3	2
Substance use disorders	24	22
BSFT/SET	5	5
FFT	3	3
MDFT	8	6
MST/EBFT	4	4
Other systemic FT	4	4
SUM	47	42
BSFT/SET	8	8
FFT	5	4
MDFT	8	6
MST/EBFT	16	15
Other systemic FT	10	9

Note. Number RCTs: Number of controlled randomized (or parallelized) primary trials.

Successful RCTs: Number of RCTs in which systemic therapy was equally as or more efficacious than other established interventions (e.g., individual or group CBT; family psychoeducation), significantly more efficacious than control groups without treatment, or more efficacious than routine treatment.

Successful studies are marked in Table 1 with “+” or “+?”.

As expected, MST completers had the best prognosis, but even MST dropouts with an average of only four therapy sessions had a better prognosis than dropouts from individual therapy (c5: Borduin et al., 1995).

The U.S.—Henggeler—MST research team, three European teams (c8, c14, and c17), and one independent U.S. team (c13) published data on 12 MST trials on juvenile delinquency and three more on comorbid clients with behavioral problems and substance use disorders (described in the section on substance disorders). MST reduced behavior problems, delinquency, and/or out-of-home placements more than U.S. standard treatment at posttreatment (c4 and c7) and at follow-up intervals ranging from 0.5 to 4 years (c6, c7, c13, c15, and c20) and 9 years (c19). After 13.7 years MST still was superior to individual therapy (c5: Schaeffer & Borduin, 2005). Time spent in institutions and recidivism rates were considerably lower after MST than after individual therapy. A new follow-up of Borduin et al., 1995 (see Table 1: trial c5), showed that felony recidivism, misdemeanor offending, and involvement in family-related civil suits during adulthood were significantly reduced in former MST clients compared to former individual therapy clients 22.9 years postintervention (Sawyer & Borduin, 2011).

Similar positive effects were found in the first independent replications in the United States (c13: Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006) and in Norway (c8: Ogden & Halliday-Boykins, 2004; Ogden & Hagen, 2006). But in Sweden, results were less positive (c14: Sundell et al., 2008): MST was compared with the elaborate Swedish youth welfare standard treatment, which includes supportive sessions, optional family therapy, provision of a legal guardian, out-of-home placements, antiaggression trainings, and trauma therapy. An intention-to-treat analysis showed a general reduction in psychiatric

problems, substance abuse, and antisocial behavior. There were no significant differences between treatment groups, but youths in the MST condition were more satisfied with their treatment. Parents from the MST group had fewer mental symptoms (anxiety, depression), and 6 months after treatment, parents' interpersonal sensitivity was higher than that of parents in TAU. Treatment fidelity in this trial was considerably lower for the MST condition. The Swedish TAU group improved more than the TAU groups in U.S. and Norwegian trials, whereas the MST group improved as much as the MST groups in Norway and the United States. In a British trial, there was no significant difference between the efficacy of MST and TAU (youth offending teams) in the 6- and the 12-month follow-up; only in the 18-month follow-up, delinquent behavior/offenses were significantly lower in the MST group (c17: Butler, Baruch, Hickey, & Fonagy, 2011).

Other systemic interventions (Table 1: FFT: Trial c1: Alexander & Parsons, 1973; BSFT: c3: Szapocznik et al., 1989; c11: Nickel, Luley et al., 2006; c12: Nickel, Muehlbacher et al., 2006) also significantly reduced dissocial symptoms at postintervention and at 1-year follow-up evaluations. In a large U.S. trial, overall there was no significant difference in the efficacy of FFT and probation services, but therapists with high adherence to the FFT treatment model were more efficacious in reducing felony and violent crimes than the control group, whereas the opposite was true for therapists with low adherence to the FFT model (c16: Sexton & Turner, 2010).

Within a small sample, systemic interventions reduced delinquent behavior of index patients' siblings within 3 years after treatment (FFT: sibling involvement with the juvenile court: 20%; control group (no intervention): 40%; client-centered intervention: 59%; psychodynamic intervention: 63%; c1: Klein, Alexander, & Parsons, 1977).

Adolescent sexual offenders benefited significantly more from MST than from treatment as usual (U.S. TAU) or individual therapy. Sexual behavior problems, delinquency, substance use, and externalizing symptoms were reduced to a significantly larger extent, and out-of-home placements were lower (c18; c19; c20; Letourneau et al., 2009). At 8.9-year follow-up, the recidivism rate was lower (8% vs. 46%; c19: Borduin, Schaeffer, and Heiblum, 2009).

Cost effectiveness

In most U.S. trials, MST had a favorable cost-effect ratio (Trial c7: Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). In the Swedish trial, MST costs, on average, SEK 105,400 (approximately \$14,000) per youth. While placement intervention costs were not reduced, nonplacement intervention costs were (reduction of SEK 62,100). However, this did not offset the extra costs of providing MST (c14: Olsson, 2010). The picture changes when longer follow-up intervals are analyzed: The economic analysis of 13.7-year follow-up data of a trial that compared MST to individual therapy (c5: Borduin et al., 1995; Schaeffer & Borduin, 2005) took into account expenses of the criminal justice system and the costs of crime victims. The cumulative benefits were estimated to be ranging from \$75,110 to \$199,374 per MST participant compared to individual therapy participant. This implies that every dollar spent on MST provides \$9 to \$24 savings to taxpayers and crime victims in the 14 years ahead (c5: Klietz, Borduin, & Schaeffer, 2010).

Substance Use Disorders

Results from meta-analyses

The *meta-analysis* by Waldron and Turner (2008) analyzed findings from 17 studies of outpatient treatments for adolescent substance use disorders published since 1998. The sample included seven individual CBT, 13 group CBT, 17 family therapy, and nine minimal treatment control conditions. The mean effect size of all treatment conditions was .45,

a small-to-moderate effect. Only three models fulfilled criteria for “well-established” models for substance abuse treatment—two systemic (MDFT and FFT), and one behavioral (group CBT) treatment approaches. Three additional family-focused models were classified as “probably efficacious”: two systemic approaches (BSFT, MST) and behavioral family therapy. None of the treatment approaches appeared to be clearly superior to any other in terms of treatment effectiveness for adolescent substance abuse.

Another meta-analysis of interventions for adolescent alcohol abuse concluded that treatments appear to be effective in reducing alcohol use. But individual-only interventions had larger effect sizes than family-based interventions. Effect sizes decreased as length of follow-up increased. Posttreatment, MDFT, CBT, the 12-step approach, motivational interviewing, and active aftercare had large effect sizes ($>.80$). MDFT and CBT demonstrated sustained long-term effects (Tripodi et al., 2010).

Results from single trials

We identified 24 relevant trials, more than those reviewed by Hogue and Liddle (2009: 14 RCT, 12 of them systemic). The trials could be grouped into three phases of research (see Table 1): (1) Research on “pure” substance use disorders (where only this aspect was diagnosed); (2) research on index patients who (mostly) suffered from substance abuse and dissociative disorders; and (3) research on patients with multiple mental disorders.

Dropout rates were generally significantly lower in systemic therapy than in any other form of substance abuse treatment, such as group therapy (Table 1: Trial s2: Szapocznik et al., 1988; s4: Lewis, Piercy, Sprenkle, & Trepper, 1990; s5: Joanning, Quinn, Thomas, & Mullen, 1992; s7: Smith, Hall, Williams, An, & Gotman, 2006; s14: Santisteban et al., 1996; and s18: Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009), individual therapy (s8: Tossmann, Jonas, Weil, & Gantner, 2010; s9: Hendriks, van der Schee, & Blanken, 2011), or TAU (s21: Robbins et al., 2011). In ST, 70–90% of patients/families were held in treatment (s13: Henggeler, Pickrel, Brondino, & Crouch, 1996; Hogue & Liddle, 2009). Engagement strategies developed in structural–strategic therapy were found to be very helpful to reach these patients and motivate them to participate in therapy (Szapocznik et al., 1988). By utilizing family members, usually mothers, in an average of 2.5 contacts (phone calls, home visits, or “office” sessions), 93% of problematic youths were effectively reached—compared with 42% in the “engagement as usual” condition (see also Santisteban et al., 1996). However, patients from minority groups (in the United States i.e., African Americans, Hispanics) are more likely to fail to engage in treatment and to be retained in treatment (e.g., s23: Robbins et al., 2011).

Systemic therapy resulted in significant improvements in core *symptoms of substance abuse at posttest* (reduction in substance use, abstinent days, and recovery; Rowe & Liddle, 2003; see Table 1). With regard to the comparative efficacy it was shown that ST was equally efficacious as group therapy (s7: Smith et al., 2006) or even more efficacious than (CBT) group therapy (s5: Joanning et al., 1992; s6: Liddle et al., 2001; and s18: Liddle et al., 2009). When ST was compared to individual CBT, two trials found no significant differences (s16: Dennis et al., 2004; s19: Rowe, Liddle, Greenbaum, & Henderson, 2004), whereas two trials showed a higher efficacy of ST (Trial s17: Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008; s15: Waldron, Slesnick, Brody, Turner, & Peterson, 2001). When ST was compared to psychoeducational interventions, again, there was either no significant difference (Adolescent Community Reinforcement Approach: s16) or superior effects of systemic therapy were found (family psychoeducation: s4: Lewis et al., 1990; s5: Joanning et al., 1992; and s6: Liddle et al., 2001). However, in one trial, two forms of systemic family therapy were only equally efficacious as the control group (community services) for the total group, whereas the systemic intervention was most efficacious for the subgroup of Latino patients (s21: Robbins et al., 2008). New trials conducted in Europe

have shown that MDFT improved substance abuse and other symptoms in Germany (s8: Tossmann et al., 2010) and the Netherlands (s9: Hendriks et al., 2011) and had superior retention rates. However, when MST was compared to TAU (individual therapy: s8) or to individual CBT combined with parent therapy, the slightly more positive results often failed to reach significance.

“Pure” substance abusers benefited more from therapy than adolescents with additional internalizing or externalizing symptoms (s17: Rowe et al., 2004).

Follow-up results show that the positive effects of systemic therapy were maintained across 6–12 months posttherapy termination (Trials s1, s3, s6, s7, s8, s11, s17, s18, s20, and s22; Ozechowski & Liddle, 2000). A “sleeper effect” in favor of systemic therapy, already described in the meta-analysis by Stanton and Shadish (1997), could be discovered in more recent trials as well. In one trial, there was no significant difference between the efficacy of systemic therapy (MDFT) and individual CBT. But during the follow-up interval, the systemic group further improved while the CBT group remained unchanged (s17: Liddle et al., 2008). At 4-year follow-up in Trial s13, urine analysis showed that the MST group had a significantly higher Cannabis abstinence rate (55%) than the community service as usual group (28%; Henggeler, Clingempeel, Brondino, & Pickrel, 2002). Trial s15 showed a different picture: here, systemic therapy (FFT) was superior to individual or group CBT in substance use reduction at the end of treatment, but 3 months later, no significant differences could be found (French et al., 2008).

Positive effects on drug use reduction and daily functioning were *clinically significant* at the end of treatment (s4; Ozechowski & Liddle, 2000; Liddle, Rowe, Dakof, Ungaro, & Henderson, 2004) and at follow-up evaluation. In a MDFT trial with high-risk substance use and comorbid disorders, the degree of substance problems was comparable to low-risk samples at the 12-month follow-up (s18: Liddle et al., 2009).

Systemic therapy reduced *comorbid behavior problems* to an equal or even larger degree than established forms of standard treatment. This was demonstrated for psychiatric comorbidity (s3, s14, s17, and s20), delinquency (e.g., s18: Liddle et al., 2009; s22: Henggeler, Halliday-Boykins et al., 2006)—which could increase during group CBT (s18: Liddle et al., 2009)—daily functioning (Trial s20; Ozechowski & Liddle, 2000), and school functioning (s6: Liddle et al., 2001; s13: Brown, Henggeler, Schoenwald, Brondino, & Pickrel, 1999; s18).

Drug-related arrests are significantly lower in MST than in treatment as usual for up to 14 years after treatment termination (c5: Schaeffer & Borduin, 2005). A 22.9-year follow-up of a MST trial (Borduin et al., 1995) showed that felony recidivism, misdemeanor offending, and involvement in family-related civil suits during adulthood were significantly reduced in former MST clients compared to former individual therapy clients (c5: Sawyer & Borduin, 2011).

Family relations improved in the systemic family therapy condition. In one study, improvements did not differ significantly from those found in individual CBT or psychoeducational group therapy (s15: Waldron et al., 2001), whereas another study found superior effects for systemic therapy compared to group CBT or multifamily drug education (s6: Liddle et al., 2001; Schmidt, Liddle, & Dakof, 1996). Substance use also decreased significantly among index patients' siblings who had received MST (s22: Rowland, Chapman, & Henggeler, 2008).

Two trials with substance abusing runaways from home and comorbid axis-I disorders showed that family systems interventions were not only applicable to difficult high-risk samples, but were also more efficacious than standard treatment (s20: Slesnick & Prestopnik, 2005; s23: Slesnick & Prestopnik, 2009). In this sample, with difficult families of origin, substance use reductions during treatment were predicted by family cohesion and drug use history (Slesnick, Bartle-Haring, & Gangamma, 2006). This fits with basic

systemic assumptions that family functioning has a pivotal influence on individual symptoms and on courses and outcomes of individual psychotherapy.

Clinical therapy issues

According to Szapocznik, Kurtines, Foote, Perez-Vidal, and Hervis (1983, 1986): s1), systemic treatment effectively reduced drug use in *different family configurations*: a conjoint family setting as well as in a one-person family therapy setting.

Cultural and ethnic issues matter. In a FFT trial, ethnic matching of therapists was associated with better treatment results for Hispanic, but not for Anglo index patients (s15: Flicker, Waldron, Turner, Brody, & Hops, 2008). Specific forms of systemic therapy like structural ecosystemic therapy (SET) showed different effects for different ethnic groups (s21: Robbins et al., 2008). Culturally informed and flexible FT (CIFTA) was more efficacious with Hispanic youth with substance use disorders (s11: Santisteban, Mena, & McCabe, 2003).

Adolescent and parent *working alliance* both had unique and interactive effects on the treatment outcome of substance abusing adolescents (Shelef, Diamond, Diamond, & Liddle, 2005; Tetzlaff et al., 2005).

Cost effectiveness

One trial compared the *cost effectiveness* of individual CBT, systemic therapy (FFT), group therapy, and a combination of individual CBT and FFT. Seven months postrecruitment, days with Cannabis use were least in the combination intervention (FFT + CBT: 35%), followed by FFT (40%) and CBT (41%), whereas the highest was in group therapy (52%). However, due to the small sample size, these results did not reach significance. Therefore, the least expensive intervention (group therapy) was considered the most cost effective (s15: French et al., 2008). In a multicenter trial (s16), site was more decisive for the therapy costs than treatment condition (Dennis et al., 2004). During the 12-month follow-up interval, MST significantly reduced combined mental health and prison costs for adolescents with substance use problems and delinquency (s13: Henggeler, Pickrel, & Brondino, 1999).

DISCUSSION

We identified 47 RCTs on the efficacy of systemic therapy for child and adolescent externalizing disorders, published in English, German, and Chinese (Mandarin) through 2011. Three trials focused on ADHD, 20 trials on conduct disorders and juvenile delinquency, and 24 trials on substance abuse.

It might seem “old-fashioned” to write reviews about the efficacy of certain interventions defined through their common theoretic approach, when psychotherapy research is more focused on common factors, and disorder-, client-, therapist-related, and relational factors. Yet this study is necessary, not only from a scientific standpoint but also from a European practice standpoint. Because health/psychotherapy regulations in several European countries are tied to the scientific acknowledgments of “therapy schools”, the demonstration of the efficacy of systemic approaches is a crucial achievement.

Summary Findings

Our results can be summarized as follows (Tables 1 and 2; see also Baldwin et al., 2012; Becker & Curry, 2008; Budney, Roffman, Stephens, & Walker, 2007; Carr, 2009; Hogue & Liddle, 2009; Perepletchikova, Krystal, & Kaufman, 2008; Pinosof & Wynne, 1995; Shadish & Baldwin, 2003; Sexton et al., 2011; Sprenkle, 2012; Waldron & Turner, 2008):

1. We found no indication for adverse effects of systemic (family) therapy.
2. Engagement and retention rates of systemic (family) therapy are superior to other therapy approaches for externalizing disorders (Hamilton, Moore, Crane, & Payne, 2011; Ozechowski & Liddle, 2000).
3. Systemic (family) therapy is an efficacious treatment approach for externalizing and juvenile delinquency: In 42 of 47 RCT, systemic therapy was either significantly more efficacious than control groups without a psychosocial intervention, or systemic therapy was equally as or more efficacious than other evidence-based interventions (e.g., individual and group CBT, family psychoeducation).
4. Systemic therapy is efficacious in multiple domains of functioning (primary and secondary mental symptoms, family outcomes, problems with the justice system, and school performance).
5. The positive effects of systemic (family) therapy are long lasting and can be demonstrated not only 6–12 months posttreatment termination but also for longer follow-up intervals—up to 23 years posttreatment (c5: Sawyer & Borduin, 2011).
6. Some of the latest European trials have less positive results than older U.S. trials.
7. Engagement and retention rates of patients from minority groups are lower than those of majority groups (e.g., s23: Robbins et al., 2011).
8. Treatment programs are adapted more to the needs of boys and men, which are the majority of patients with externalizing disorders, and more efficacious for male index patients (Baldwin et al., 2012).
9. Results on cost effectiveness of ST are promising, but, to some extent, inconclusive at this point (see also Crane & Christenson, 2012).

Comparative Effectiveness I: Systemic (Family) Therapy Compared to Other Models of Psychotherapy

Within the field of childhood and adolescent *dissocial disorders and juvenile delinquency*, only few psychotherapy models are empirically supported (www.thecochranelibrary.com/details/browseReviews/579425/Delinquency.html), namely, systemic (family) therapy, CBT, parent training, and multidimensional foster care. A new meta-analysis suggests that participants with dissocial and/or substance use disorders receiving manualized systemic family therapy (BSFT, FFT, MDFT, and MST) fared significantly better than participants receiving either TAU or an alternative therapy. Systemic family therapy has a modest added benefit beyond TAU and alternative treatments. The outcomes of systemic therapy are significantly better for delinquency than for substance abuse (Baldwin et al., 2012).

According to a meta-analysis on the efficacy of specific treatment models for adolescent *substance use disorders*, only three models emerged as “well-established”: two systemic family therapy models (MDFT and FFT) and one group CBT. Three additional family-focused models were classified as “probably efficacious”: two systemic approaches (BSFT and MST) and one behavioral family therapy (Waldron & Turner, 2008; similar conclusions in Becker & Curry, 2008; Vaughn & Howard, 2004). It seems that systemic (family) therapy for substance disorders is superior to CBT group therapy. But data on the comparative effectiveness and cost effectiveness of individual CBT versus systemic (family) therapy are inconclusive: Individual CBT might be most useful and cost effective for youth with less severe substance use disorders, whereas systemic interventions (e.g., MDFT) might be more helpful and cost effective for patients with more severe and comorbid impairment and a highly dysfunctional family background (Hendriks et al., 2011).

Within *ADHD* research, systemic family therapy is neglected. A Cochrane review analyzed only two behavioral family therapy trials and did not include systemic FT (Bjornstad

& Montgomery, 2005). We could identify three trials, all showing ST being efficacious (see Table 1)—published in English (a1: Barkley et al., 1992), German (a2: Saile & Trosbach, 2001), and in Mandarin (a3: Zhu & Lian, 2009).

Comparative Effectiveness II: Comparisons Between the “Big Four” Subtypes of Systemic Family Therapy for Externalizing Disorders

Tables 1 and 2 show that the “big four” models of systemic therapy have different strengths: Brief strategic family therapy (BSFT/SET) is the most culture-sensitive model, especially designed for the needs of Hispanic clients and their families (Trials c3, c11, c12; s1, s2, s10, s19, and s23). Multisystemic therapy (MST/EBFT) is supported by the greatest number of trials with the longest follow-up intervals (Trials c4, c5, c6, c7, c8, c13, c14, c15, c17, c18, c19, c20; s8, s9, s18, and s20). MST is well established for the treatment of dissocial problems and delinquency (Budney et al., 2007; Hogue & Liddle, 2009; Perepletchikova et al., 2008). MDFT has assessed DSM-IV diagnoses and has been compared to evidence-based alternative treatments (group or individual CBT) most frequently (in six Trials: s6, s11, s12, s14, s15, s16, s17, and s22). FFT (Trials c1, c16; s3, s15, and s23) has been successfully applied to the most severe and difficult cases (s23). Baldwin et al. (2012) found in their meta-analysis no significant differences between the “big four” approaches for the treatment of juvenile delinquency and substance abuse.

According to the *guidelines for classifying evidence-based treatments in couple and family therapy* proposed by Sexton et al. (2011), all “big four” systemic family therapy approaches for the treatment of behavioral and/or substance use disorders—BSFT, FFT, MDFT, and MST—meet the requirements for “evidence-based treatments”: they use treatment manuals, apply measures of treatment fidelity, clearly identify client problems, describe service delivery contexts, and use valid measures of clinical outcome. All “big four” models show absolute or relative evidence of effectiveness, and effectiveness for specific client populations with specific problems in specific contexts (“contextual efficacy”), especially for Hispanic, Black, and White U.S. clients, and males (Santisteban et al. 2003; Sexton et al., 2011).

In studies with treatment manuals, therapists with *high adherence to the treatment model* were more successful (Sexton & Turner, 2010).

Research Implications

Over the years, the evidence base for systemic therapy with children and adolescents has grown considerably. By 2004, we had identified 47 RCTs (Sydow et al., 2006) compared with 85 trials by 2011: 47 trials on externalizing and 38 trials on internalizing disorders (Retzlaff et al., 2013). Research has made considerable progress in quality as well. In contrast to a general trend in psychotherapy research, efficacy research in systemic therapy focuses on youth disorders (85 RCTs) more than on adult disorders (37 RCTs published until 2008; Sydow et al., 2010). The most advanced field of research is focused on adolescents’ externalizing disorders, especially substance disorders and delinquency/antisocial disorders. In this field, evidence-based alternative interventions, like CBT, are employed more frequently than in research on systemic therapy with adults (Sydow et al., 2010) or with adolescent internalizing disorders (Retzlaff et al., 2013; see also Hogue & Liddle, 2009; Lebow & Gurman, 1995; Sprenkle, 2012).

We included in our systematic review only RCTs with standardized definitions of the *disorder(s)* (ICD and DSM) or of clinically relevant symptoms. As can be seen in Table 1, within the trials reviewed here, mostly *manuals* (ADHD: in two of the three trials; dissocial problems: 16 of 20 trials; and substance abuse: 21 of 24 trials), *multiple data sources* (self-report, physiological data, and health insurance data) from multiple informants

(patient, parents, and teachers), and multiple *standardized outcome measures* were used. In one of three ADHD trials, 17 of 20 dissocial, and 19 of 24 drug trials, *follow-up* evaluations were assessed. They usually covered intervals between 6 months and 4 years postintervention, but two MST trials covered follow-up intervals of 9 (c19: Borduin et al., 2009), 14, and 22.9 years (c5: Sawyer & Borduin, 2011). *Treatment adherence* was assessed in two ADHD trials, 11 dissocial, and 17 substance trials. *Intent-to-treat analyses* were computed in none of the ADHD trials, in eight delinquency/conduct trials, and in ten substance abuse trials.

DSM/ICD diagnoses were assessed in two ADHD trials, only five of 20 delinquency trials, and 14 of 24 drug studies. The *use of common measures* for individual and family functioning (e.g., CORE: Barkham et al., 1998; SCORE: Stratton, Bland, Janes, & Lask, 2010) is not yet common. Research should assess not only symptoms and problems, but also *resources and indicators of positive development* (Hogue & Liddle, 2009) and *treatment effects in the family system beyond the index patient* (e.g., effects on parents, siblings). Because some forms of individual treatment seem to have negative effects on family functioning, this appears mandatory (Schwartz, 2005; Szapocznik & Prado, 2007).

The *control of attention placebo effects* and the comparability of the applied *therapy doses* are neglected topics, as they are in psychotherapy research generally. In some trials, alternative interventions were applied in similar doses. But none of them used an attention control group.

It is remarkable that more and more “*difficult*” *multiproblem client families* that resemble clinical “*real world*” populations are researched (e.g., Liddle et al., 2008; Slesnick & Prestopnik, 2009), and increasingly more often, systemic therapy trials are conducted in “*real world*” *settings* (e.g., Sexton & Turner, 2010).

Systemic family therapy is not always inexpensive on a short-term basis. Costs depend on site, demands of therapy protocol (e.g., 24-hour availability of the therapy team in MST), and local and national variations in therapy fees. More research on *cost effectiveness* is needed, including additional systemic cost effects of treatments in index patients and in relatives as well (Crane & Christenson, 2012).

Strengths and Limitations of our Review

Some new MST and MDFT trials have less positive results than older trials and meta-analyses (Curtis et al., 2004; Littell et al., 2005; Woolfenden et al., 2001). Differences between systemic interventions and TAU did not always reach significance in new trials (see Table 1: c8; c14, c17; s8, s9). This could be related to the fact that the new trials were conducted by independent investigator teams, not by the original developers of MST or MDFT, and to the location of the trials (Europe instead of the United States). Treatment-as-usual is of varying quality and seems to be more elaborate in certain European countries than in the United States. It is therefore possible that European TAU sometimes have better outcomes. Treatment fidelity issues and other factors (e.g., common therapy factors) may be operating as well (Table 1: Trials c8: Ogden & Halliday-Boykins, 2004; c13: Timmons-Mitchell et al., 2006; and c14: Sundell et al., 2010). However, a new British trial shows that MST is also effective when practiced by others than the pioneers (c17: Butler et al., 2011).

Although a few studies compare differences between various family therapy approaches (Diamond, Diamond, & Hogue, 2007; Sydow et al., 2007a), the *degree of similarity and difference between various forms of systemic family therapy* has not yet been sufficiently studied. With regard to the substantial *theoretical and clinical overlap between established U.S. “trade mark” therapies* (BSFT, FFT, MDFT, and MST; see Schindler, Sydow, Beher, Retzlaff, & Schweitzer, 2010; Sydow et al., 2007a), more research is needed to find out to

what degree these approaches differ, what are their *effective common factors, key skills, and interventions*, and what specific ingredients are useful for whom (Baldwin et al., 2012; Sexton et al., 2011). It remains open how *treatment adherence* is related to the qualities of the therapist, to contextual factors of his/her workplace, the quality of the supervisor–therapist relationship (especially, e.g., if treatment adherence is rated by the supervisor: Sexton & Turner, 2010), and the quality of the therapist–family relationship.

Current process research in systemic family therapy focuses on therapeutic alliance, treatment fidelity, treatment techniques, and family change during treatment. Few trials explore effects of *client and therapist factors (including therapeutic training) and their interaction*. But more research is needed on “what works for whom,” and on specifically tailored treatments for specific subgroups (Hogue & Liddle, 2009). More research is also needed on the adaptation of treatment programs to *female clients* and to *specific minority groups in Europe* (e.g., from Turkey or from Russia), and their families too.

Although systemic therapy is an efficacious treatment method for externalizing disorders, and may even improve the situation of *multiproblem clients* (e.g., Slesnick & Prestopnik, 2009), current approaches cannot help all clients and their families. Across all therapy models, prognosis is less positive for patients with multiple diagnoses and more intensive (poly)drug use (Clingempeel, Curley Britt, & Henggeler, 2008; Rowe et al., 2004). Such client families may need longer treatments than the interventions researched up to this point.

Readers should be aware of some *limitations* of this review due to the selection of certain languages and noninclusion of other languages (e.g., Japanese), the subsuming of trials of varying methodological quality, possible effects of a publication bias, and the nonpresentation of data on the cultural-ethnic background of the samples studied, due to limitations of space (see Retzlaff et al., 2013).

The boundaries between systemic and other treatments (e.g., CBT, psychodynamic therapy) are blurring. Some of the approaches that were labeled as systemic also include other ingredients (e.g., CBT elements and/or interventions with individual adolescents based on a developmental framework). At the same time, many, maybe all, other family therapy approaches that we did not include, due to their predominant CBT orientation, also include systemic concepts within a cognitive-behavioral framework.

The strength of our review is that we included non-English publications. In contrast to our reviews of adult psychotherapy (Sydow et al., 2010) and on internal and mixed youth disorders (Retzlaff et al., 2013), we identified only four non-English language publications about three trials: two from Germany (a2: Saile & Trosbach, 2001; Saile & Forse, 2002; s8: Tossmann et al., 2010, see www.incant.eu) and one from China (a3: Zhu & Lian, 2009). Altogether, 36 of 47 trials come from the United States (77%), ten from Europe (21%; Germany: 6; the Netherlands: 1; Norway: 1; Sweden: 1; and United Kingdom: 1), and one from China (2%). More research in a greater diversity of countries and cultures would be desirable.

Implications for Therapeutic Practice and Therapy Training

The inclusion of the relevant intra- and extrafamilial context and of relevant others (e.g., parents, teachers, friends) in the clinical work through systemic questions and interventions and/or work in a family/multiperson setting is important for therapy success. But the joint physical presence of adolescent patients and their parents in the therapy room is not necessarily required (Szapocznik & Williams, 2000).

Research supports the assumption that strong therapeutic alliances with all family members and enhanced cross-system collaboration are key to successful family treatment (Hogue & Liddle, 2009; Shelef et al., 2005; Tetzlaff et al., 2005)—especially for adolescent

clients with more severe impairments (Trials s14 and s21: Henderson, Dakof, Greenbaum, & Liddle, 2010).

Therapy approaches need to take into account issues of *gender, developmental age, culture, and ethnicity*. More therapists with ethnic and culturally diverse backgrounds are needed and treatment programs have to be adapted to the specific needs of different cultural groups (Flicker et al., 2008; Parra Cardona et al., 2012; Robbins, Horigian, & Szapocznik, 2008; Szapocznik & Prado, 2007; Szapocznik, Prado, Burlew, Williams, & Santisteban, 2007).

Scientific Acknowledgment and Implementation

U.S. clinical practice guidelines underscore the importance of involving family members in the treatment of adolescent drug users (American Academy of Child and Adolescent Psychiatry [AACAP], 1997; Center for Substance Abuse Prevention [CSAT], 1999; CSAT, 2000). Manualized systemic interventions, like MST, MDFT, and FFT, are considered evidence-based practice for substance use disorders and juvenile delinquency/conduct disorders and are supported by the U.S. government (e.g., National Alliance for the Mentally Ill, 2008; Rowe & Liddle, 2003; Substance Abuse and Mental Health Services Administration, 2007). But interventions with the strongest evidence are not necessarily those applied most frequently (Santisteban, Suarez-Morales, Bobbins, & Szapocznik, 2006).

In the United Kingdom and Norway, a similar development as in the United States can be found (Carr, 2009; Ogden & Hagen, 2006; Olsson, 2010). In Germany, evidence summarized in German language publications (Sydow et al., 2006, 2007a,b) resulted in scientific recognition of systemic therapy as an evidence-based model for the treatment of adult and youth disorders by the German Scientific Advisory Board of Psychotherapy in 2008 (Wissenschaftlicher Beirat Psychotherapie [Scientific advisory board psychotherapy], 2009). But in contrast to CBT and psychodynamic therapy, systemic therapy is not yet covered by the German health insurance system. To achieve this, another evaluation by other standards will be needed. This process starts in this year—5 years after scientific acknowledgment.

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