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Child and adolescent psychotherapy in research and practice contexts: Review of the evidence and suggestions for improving the field

■ **Abstract** The body of evidence on child and adolescent psychotherapy outcomes has now grown

to more than 500 studies. Here we summarize key findings, focusing on *effectiveness* and *efficacy* research. Research is sparse on the effectiveness of treatment in everyday practice, but available evidence suggests little benefit. By contrast, extensive research on efficacy of structured treatments administered under controlled conditions shows very substantial evidence of benefit. We note several specific treatments for which evidence is encouraging, and we offer suggestions for future

research. Particularly important will be research on treatment models most often used in practice settings, tests of outcome mediators and moderators, tests employing a broadened range of treatment delivery models, and research bridging the gap between lab-tested treatments and the conditions of real-world practice.

■ **Key words** Children – adolescents – psychotherapy – efficacy – effectiveness

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Introduction

The body of evidence on child and adolescent psychotherapy outcomes has grown to more than 500 studies. Here we summarize the findings of many of these studies, encompassing research on efficacy and effectiveness. By efficacy, we refer to the probability that a given intervention will produce beneficial effects under ideal conditions. Such conditions may include treatment of recruited study volunteers in carefully arranged laboratory clinic settings, with treatment administered by researcher-trained and researcher-supervised therapists. By effectiveness, we refer to the probability that an intervention will produce beneficial effects for typical clients, treated by the average practitioner, under ordinary clinical practice conditions (20). Throughout this article, we use the term children to refer to the age period from early childhood to adolescence, except where we need to make a distinction between children and adolescents.

Evidence on the effectiveness of child psychotherapy

Weisz, Donenberg, Han, and Weiss (19) initiated a search for studies investigating the effectiveness of traditional clinic-based therapies. They sought studies involving: 1) treatment of clinic-referred (i.e., not “analog” or recruited) youngsters; 2) treatment done in service-oriented clinics, programs, or agencies, not in non-clinical settings (e.g., university labs); 3) therapy carried out by practicing clinicians (as opposed to researchers and trained research assistants); and 4) therapy that was a natural part of the array of services provided by the clinic or agency, not a research-based treatment procedure designed specifically for a clinical trial. To be included, the studies needed to provide a direct comparison between a treated group and a control group that received either no intervention or some form of placebo or control condition.

Weisz et al. (19) found ten effectiveness or “clinic” studies. Since that article, we have identified four more studies that meet the criteria. To facilitate comparison of findings across these 14 studies, we calculated an effect size (ES) or ES estimate for each of the 14 studies. These ES values were calculated by (a) computing the difference between the treatment and control group means on each dependent variable, and (b) dividing the difference by the standard deviation of the dependent variable (for studies that did not report the statistics needed for standard ES calculation, we used estimation procedures (8, 16). A positive ES indicates treatment benefit relative to the control condition; a negative ES indicates a detrimental effect of treatment. Each ES value corresponds to a particular percentile standing of the average treated child on the outcome measure if that child were placed in the control group after treatment; for example, an ES of .90 indicates that the average treated child scored better after treatment than 82% of the control group (i.e., 82% of the area within a normal distribution is below .90 SD). As an aid to interpretation, Cohen’s (6) guidelines suggest that an ES of 0.20 may be considered a “small” effect, 0.50 a “medium” effect, and 0.80 a “large” effect.

Across the 14 effectiveness or “clinic” studies, the mean ES was -.001. The mean was virtually identical for the nine studies employing non-random assignment to treatment and control groups (e.g., treatment completers vs. clinically similar dropouts; mean ES = .004) and the five studies employing random assignment (mean ES = -.011). Two of the studies (one random, one non-random) investigated not just one treatment but a full “system of care” or “continuum of services” program for children. Such programs are designed to provide an array of services to children and their families, typically coordinated by a case manager. In both of these studies (1, 2), the system of care produced a much higher volume of treatment and higher costs, but there were no reliable differences between system and control groups in either clinical or functional outcomes at the end of treatment. Similar findings have emerged from other studies designed to modify, link, or otherwise improve delivery of conventional clinical services (see (20) for citations).

The findings on clinical interventions delivered to children in traditional settings are summarized as follows: (a) the limited evidence on conventional clinical treatments provides little support for their effectiveness, and (b) studies on the effects of integrating conventional interventions into systems of care also show little evidence of treatment benefit. These points are based on a limited pool of evidence, and future research could conceivably modify these negative conclusions. However, the findings to date offer little support for the effectiveness of conventional clinical intervention for young people.

Evidence on the efficacy of child psychotherapy

In contrast to the paucity of research on effectiveness of conventional treatments, more than 500 studies have examined the efficacy of child and adolescent psychotherapy, as performed under controlled research conditions. Subsets of the efficacy studies have been combined in various meta-analyses; typically, ES values are averaged across outcome measures within studies, with mean ES reported overall (i.e., for all the studies in a set) and compared across variables of interest, such as the type of therapy or target problem.

To date, there have been four broad-based child psychotherapy meta-analyses – that is, meta-analyses in which few restrictions were placed upon the types of target problems or interventions to be included. In the earliest of the four, Casey and Berman (4) collected studies published between 1952 and 1983, focusing on children aged 12 and younger. Mean ES was .71 for the studies that included treatment-control comparisons (i.e., the average treated child scored better after treatment than 76% of control children). Weisz et al. (22) surveyed outcome studies published between 1952 and 1983 with children aged 4–18. Mean ES was .79; following treatment, the average treated child was at the 79th percentile of control group peers (for an analysis of how variations in study methodology related to ES in the studies, see (18)). In a third broad-based meta-analysis, Kazdin and coworkers (10) included studies with youngsters aged 4–18 published between 1970 and 1988. Mean ES for studies that compared treatment and no-treatment control groups was .88; mean ES for comparisons of treatment to active control groups was .77. In the fourth meta-analysis, Weisz, Weiss, Han, Granger, and Morton (24) surveyed studies published between 1967 and 1993 involving children aged 2–18. The mean ES was .71. For more detailed descriptions of the procedures and findings of the various meta-analyses, see (21).

These four broad-based meta-analyses point to rather consistent beneficial treatment effects; ES values ranged from 0.71 to 0.84 (.84 is the estimated overall mean from (10) for Kazdin et al.). This range falls near the threshold of 0.80 for a “large” effect, although recent analyses (24) suggest that the true ES means, adjusting for heterogeneity of variance, may be closer to “medium” effects. Mean effects found in child meta-analyses fall roughly within the range of effects found in adult meta-analyses (e.g., 15, 17). Figure 1 shows findings from the four child meta-analyses together with the mean ES for the clinic-based studies discussed earlier. As Fig. 1 indicates, the mean effects found in child meta-analyses of research therapies are well above those found in the effectiveness studies of conventional psychotherapy. Similar positive effects have also been identified in a number of more narrowly-focused meta-analyses concerned with specific problem clusters or disorders (e.g., depression) and spe-

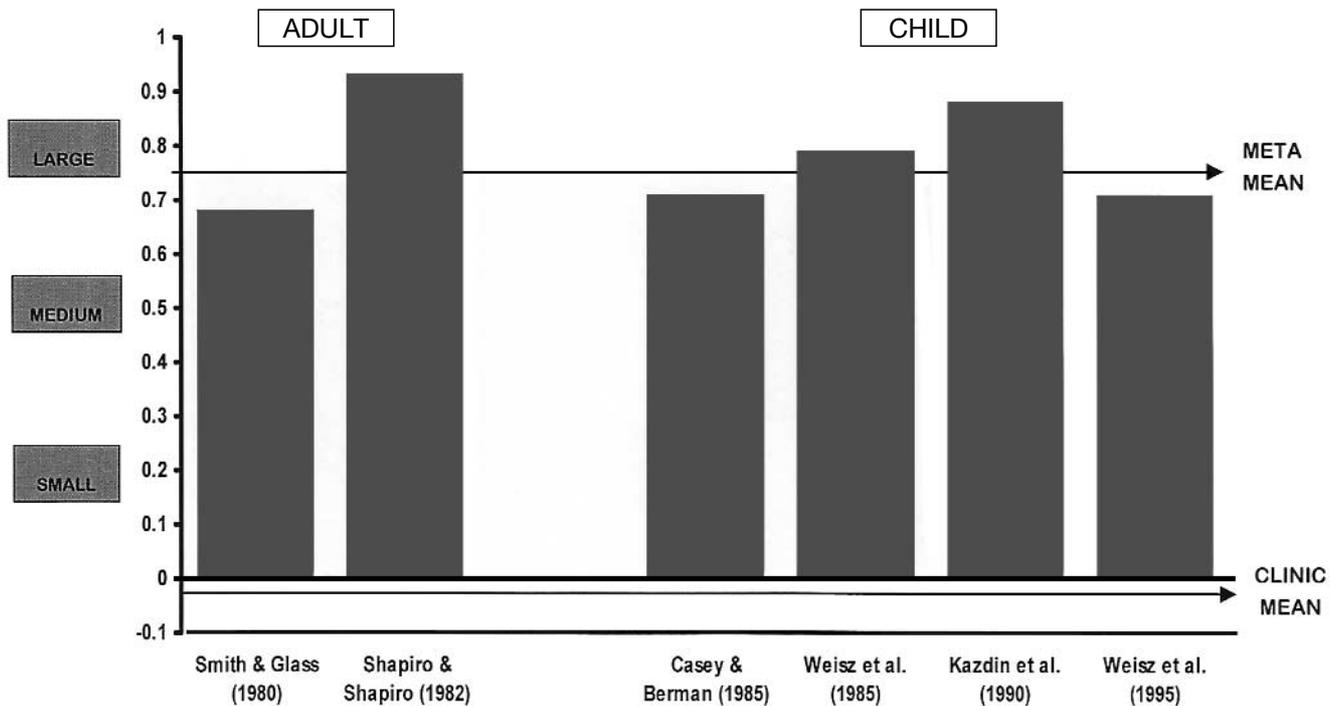


Fig. 1 Mean effect sizes found in meta-analyses of psychotherapy outcome studies in the predominantly adult meta-analysis by Smith and Glass (17), in the exclusively adult meta-analysis by Shapiro and Shapiro (15), and in four broad-based meta-analyses of psychotherapy outcome studies with children and adolescents. Horizontal arrows show mean effect sizes for fourteen clinic-based studies (bottom) and averaging across the four broad-based meta-analyses of laboratory outcome studies (top).

cific forms of treatment (e.g., cognitive-behavioral); other reviews provide details (see, e.g., 20, 21).

Two additional meta-analytic findings are relevant to an understanding of treatment efficacy. First, effects measured immediately after treatment have been found to be quite similar to those measured at follow-up assessments averaging 6 months post-treatment (22, 24), suggesting that treatment benefits tend to be durable, at least within typical follow-up time frames, and for those studies that have reported follow-up assessments. Second, ES means have been found to be about twice as large for the specific problems addressed in treatment as for related problems that were not specifically addressed (24). This finding addresses concerns raised by some (e.g., 7) that psychotherapy has general, “nonspecific” effects. The Weisz, Weiss et al. (24) finding suggests that these tested child psychotherapies are not simply producing global or nonspecific good feelings that affect diverse outcomes equally, but rather appear to have precise, focused effects consistent with the particular objectives of therapy. In summary, evidence from broad-based meta-analyses of child psychotherapy outcome studies

points to beneficial, problem-specific, and durable effects of mental health interventions for a variety of child conditions. But what are the specific treatments this evidence supports?

Identifying specific empirically supported psychotherapies

One means of answering this question has been developed by task forces within the American Psychological Association (e.g., (5)). Here we outline the criteria used by these task forces to identify “empirically supported treatments”, and we note some of the treatments that have been judged to meet these criteria.

Two levels of empirical support are involved. The most rigorous set of criteria is used to identify treatments that are *well established*. To be considered well established, treatments must be supported by either group-design studies or single-case experiments. For group-design studies, there must be at least two such studies demonstrating that the treatment is superior to medication, a psychological placebo, or an alternate treatment, or by showing that the treatment is as effective as an already established treatment in studies with adequate statistical power. If support is based on single-case design experiments, there must be at least nine well-designed experiments comparing the target treatment to an alternative treatment. (The term *single case* refers

to experiments in which the treatment is alternatively applied and withdrawn, and treatment effects are inferred from associated changes in client behavior; these designs may be applied to either a single individual or to a group.) In addition to the group-design or single-case requirements, a well-established treatment must also (a) be supported by at least two independent investigators or research teams, (b) have clearly specified client samples, and (c) use a manual. The second tier of recognition is the *probably efficacious* category. This category requires (a) two studies showing the target treatment to be superior to a wait-list control group, or (b) at least three single-case design experiments. This category also requires use of a manual and clearly defined client samples, but does not require independent replication by different investigators.

A child specialist task force within the American Psychological Association set out to identify well-established and probably efficacious treatments for childhood autism, depression, fears and anxiety, ADHD, and conduct problems/disorder. The literature reviews in each content area were conducted by reviewers selected for their expertise in that area. The specific review procedures used in each case are detailed in the articles reviewed in the following sections. We briefly summarize findings of the task force on four of the most frequently-referred forms of child dysfunction.

■ Depression

The task force review of depression treatment studies (9) concluded that no treatments for child depression qualify as well established, and only two qualify as probably efficacious. One of the probably efficacious treatments is a specific cognitive-behavioral treatment originally developed for youth ages 9 to 12. The other is a cognitive-behavioral program for adolescents. Both treatment programs are delivered in group format and both include training in skills such as self-control, social interaction, deep muscle relaxation, scheduling pleasant activities, and identifying and modifying negative, unrealistic cognitions. Each treatment is supported by two clinical trials. As Table 1 indicates, five additional studies have shown support for variants of cognitive-behavioral interventions with children or adolescents. [For the relevant references to treatments for depression, see (9).]

■ Phobias and anxiety disorders

The task force review for phobias and anxiety disorders (12), identified several empirically supported treatments, most of which were placed in the probably efficacious category. Two in this category are variants of systematic *desensitization* therapy, which is based on the view that

Table 1 Empirically supported psychotherapies for internalizing conditions

Depression^a	
Well-Established	
None	
Probably Efficacious	
Cognitive-Behavioral Therapy for Children (Stark et al.)	2 Studies
Adolescent Coping with Depression Course (Lewinsohn et al.)	2 Studies
Other Cognitive-Behavioral Treatments for Children	
Kahn et al. (1990), Weisz et al. (1997)	2 Studies
Other Cognitive-Behavioral Treatments for Adolescents	
Brent et al. (1997), Fine et al. (1991), Reynolds & Coats (1986)	3 Studies
Phobias and Anxiety Disorders^b	
Treatments for Fear and Phobias	
Well-Established	
Modeling: Participant Modeling	5 Studies
Operant: Reinforced Practice	4 Studies
Probably Efficacious	
Classical: Imaginal Desensitization	4 Studies
In Vivo Desensitization	2 Studies
Modeling: Live Modeling	2 Studies
Filmed Modeling	2 Studies
Cognitive-Behavioral: Cognitive-Behavior Therapy	2 Studies
Treatments for Anxiety Disorders	
Well-Established	
None	
Probably Efficacious	
Cognitive Behavioral: Cognitive-Behavior Therapy	3 Studies
Cognitive-Behavioral + Family Therapy	2 Studies

^a See review by Nadine J. Kaslow and Martie P. Thompson (1998)

^b See review by Thomas H. Ollendick and Neville J. King (1998)

phobias are classically conditioned responses. Both imaginal desensitization and *in vivo* desensitization involve the principle that these responses may be unlearned by presenting the fear-producing stimuli in the presence of other stimuli that produce responses incompatible with fear, such as relaxation. Children are exposed to progressively more fear-producing stimuli, at a pace intended to insure that the relaxation response remains more powerful than the fear response, thus inhibiting the fear.

The second broad approach falling into the probably efficacious category is modeling, which builds on the power of observational learning (or “vicarious conditioning”). Interventions in this group are based on the theory that the avoidance responses will be extinguished vicariously as the child observes a model showing the feared behavior (e.g., seeing a snake, approaching and petting a dog) occurring without any adverse consequence. Treatments using live models and those using filmed models have both been designated probably efficacious.

A group of cognitive-behavioral therapies has also been rated probably efficacious. One of these is a set of treatments designed to treat phobias by modifying chil-

dren's cognitions about feared objects, often with a reinforcement component added. In one approach, for example, fear of the dark was successfully treated by training 5 and 6 year olds to make positive statements about themselves and their competence ("I am a brave boy/girl. I can take care of myself in the dark."). Other cognitive-behavioral components used in fear of the dark include muscle relaxation training and reinforcement of dark tolerance with praise and "bravery" tokens.

In addition to cognitive-behavioral treatments for simple phobias, two cognitive-behavioral interventions for full-fledged anxiety disorders were placed in the probably efficacious category. One, called "Coping Cat", is a 16-session individual treatment for 9- to 13-year olds diagnosed with generalized anxiety disorder, separation anxiety disorder, or social phobia. In treatment, children are taken through F-E-A-R steps. They identify their own physical signs of "Feeling frightened", so they can recognize that they are anxious. They learn to identify the fearful cognitions associated with "Expecting bad things to happen". They then learn "Actions and Attitudes that can help" – i.e., ways to modify their fearful cognitions and voluntarily expose themselves to feared situations. Finally, they "Rate [their performance] and Reward [their effort]." In a related approach, Coping Cat-type training has been combined with a family anxiety man-

agement training component, and this combined individual-plus-family treatment program has now generated sufficient empirical support to be rated probably efficacious in its own right.

Two treatments for childhood anxiety met criteria for the well-established category. The first is participant modeling, in which the anxious child is gradually encouraged to participate in the feared activities with a model, whose actions mediate the exposure. In direct comparisons, participant modeling has outperformed both filmed and live modeling, as well as *in vitro* (i.e., office-based) systematic desensitization. The second well-established treatment for childhood anxiety is an operant procedure called reinforced practice. This strikingly simple treatment involves inducing fearful children to confront the feared stimulus, then rewarding them for having done so. In this treatment, preliminary cognitive training is minimized or omitted, as is relaxation training. In direct comparisons, reinforced practice has outperformed both verbal coping skills and live modeling, both of which are respectable alternative treatments. Overall, a relatively strong array of empirically supported treatments is available for children with phobias and anxiety disorders. [For the relevant references on treatments for phobias and anxiety disorders, see (12).]

Table 2 Empirically supported psychotherapies for externalizing conditions

Attention Deficit Hyperactivity Disorder^a	
Well-Established	
Behavioral Parent Training (Various, by Firestone et al., Gittelman et al., Horn et al., Pelham et al.)	6 Studies
Behavior Modification in Classroom Settings (Various, by Gittelman et al., Pelham et al.)	2 Studies
[Single-Subject and Within-Group Design studies]	21 Studies]
Probably Efficacious	
Behavioral Parent Training (Various, by Anastopoulos et al., Pisterman et al., Dubey et al.)	5 Studies
Behavior Modification in Classroom Settings (O'Leary et al.)	1 Study
Conduct Problems and Conduct Disorder^b	
Well-Established	
Behavioral Parent Training based on Living with Children (Patterson & Gullion)	4 Studies
Videotape Modeling Parent Training (Webster-Stratton et al.)	3 Studies
Probably Efficacious	
Anger Control Training with Stress Inoculation (Feindler et al.)	2 Studies
Anger Coping Therapy (Lochman et al.)	2 Studies
Assertiveness Training (Huey & Rank)	1 Study
Delinquency Prevention Program (Tremblay et al.)	2 Studies
Multisystemic Therapy (Henggeler, Borduin, et al.)	3 Studies
Parent-Child Interaction Therapy (Eyberg et al.)	3 Studies
Parent Training Program (Peed et al.)	2 Studies
Problem Solving Skills Training (Kazdin et al.)	3 Studies
Rational-Emotive Therapy (Block)	1 Study
Time-Out Plus Signal Seat Treatment (Hamilton & MacQuiddy)	1 Study

^a See review by William E. Pelham, Jr., Trilby Wheeler, and Andrea Chronis (1998)

^b See review by Elizabeth V. Brestan and Sheila M. Eyberg (1998)

■ Attention deficit-hyperactivity disorder

The task force review of psychosocial treatments for ADHD (14) found that two approaches, behavioral parent training and behavioral classroom intervention, met criteria for well-established treatments. As Table 2 shows, the task force reviewers cited multiple studies in support of these two approaches. Here we will provide an example of each type of program. In a representative behavioral parent training program, parents first meet with a therapist for three consultation sessions, where they learn behavioral concepts such as reward, punishment, time out and contingent consequences. They then read a book on behavioral methods parents can use to manage their children's misbehavior. After they demonstrate a knowledge of behavioral principles, the parents join with four or five sets of parents and participate in six group sessions, focusing on more specific child-rearing and behavior management procedures.

In a representative classroom behavioral management program, therapists work with teachers to identify child problem behaviors, antecedent conditions, and appropriate replacement behaviors. School behavior contracts are drawn up outlining contingencies for positive and negative behaviors, which are then monitored regularly in the classroom (every half hour, at first). Parents provide additional reinforcers for good teacher reports on the child's behavior. [For the relevant references on treatments for ADHD, see (14).]

Despite the empirical support for behavioral parent training and behavior modification in the classroom, the acute ES values (as distinguished from follow-up assessments) for these psychosocial interventions tend to be lower than the acute ES values for psychopharmacological treatments, such as methylphenidate, and the relative potency of stimulant medication was recently underscored by findings of a large multi-site study (11). However, some 20 – 30% of ADHD youngsters show either no response or an adverse response to stimulants and thus need some alternative treatment. Even those who are helped by stimulant medication may experience unwanted side-effects, such as appetite reduction and mild insomnia. For those who need or prefer a non-medical approach, the evidence on psychosocial treatment effects is quite relevant.

■ Conduct problems and conduct disorder

In their review of psychosocial interventions for conduct problems, Brestan and Eyberg (3) rated 2 treatments as well-established and 10 others as probably efficacious. One of the well established treatments is actually a family of behavioral parent training programs based on Patterson and Gullion's 1968 book, *Living with Children*. These behavioral treatments, similar to those in the ADHD area, teach parents skills such as use of consistent rules, establishment of clear contingencies for appropriate and inappropriate behavior, and utilization of time out procedures to manage their children's misbehavior. The second well-established treatment is a parent-training videotape series. The program teaches parents and other caregivers how to communicate, set limits, manage misbehavior, and solve problems in interactions with their noncompliant children.

The ten probably efficacious treatments for conduct problems employ a variety of techniques to reduce problem behavior. Two of the treatments teach children to manage the anger that often triggers conduct problems. Two other programs use behavioral principles to train parents to (a) interact positively with their children, and thus strengthen the relationship, and (b) manage non-compliance effectively (e.g., through methods such as ignoring and time-out). One, a delinquency prevention program, is specifically intended to begin in kindergarten; it combines behavioral parent training with prosocial training for child groups that blend at-risk and highly prosocial kindergartners.

Problem solving skills training teaches children who have conduct problems to apply systematic problem solving steps (define the problem, generate alternative solutions, evaluate the alternatives, etc.) to simple, neutral games (e.g., Connect Four) and then to apply them to real-life situations (e.g., peer conflict) that can trigger externalizing behavior. An assertiveness training pro-

gram teaches disruptive children socially acceptable ways to express their wants and feelings. Rational Emotive Therapy (RET) uses the "rational appraisal" principles of RET with poorly achieving African American and Latino high school students. Time-out Plus Signal Seat involves use of a buzzer that is activated when children leave time-out without permission, thus making time-out easier to monitor and more effective in reducing conduct problems. And Multisystemic Therapy (MST) brings behavioral, cognitive, and systems techniques to bear on multiple systems in the lives of delinquent youth – e.g., family, school, and peer group. This environmentally-focused treatment approach has shown impressive success in reducing rates of delinquency and arrests, and in improving school and family functioning. [For relevant references on treatments for conduct problems, see (3).]

■ Problems and disorders of childhood and adolescence for which clinical trials are sorely needed

There remain several problems of childhood for which empirically supported treatments are lacking. Although investigators have begun the process for some of these, we still appear to lack rigorously-tested treatments for conditions such as anorexia and bulimia, post-traumatic stress disorder (often diagnosed among maltreated children), bipolar disorder, obsessive-compulsive disorder, panic disorder, and substance abuse and dependence.

■ Looking to the future

The evidence reviewed thus far suggests that treatment researchers have learned a good deal about how to help troubled youngsters and their families. However, there is much that can be done in the years ahead to sharpen our understanding and improve treatments. One important direction is to expand the range of treatments we test. There are currently hundreds of named therapies in use with children and adolescents, and the great majority have never been subjected to a clinical trial. Such popular generic approaches as psychodynamic and family therapy come in numerous specific forms that are among the most widely practiced by clinicians but among the least researched. The gap between what is practiced and what is studied needs to be closed.

For those treatments that *are* researched, a particularly important challenge is to understand *why* they succeed when they do. Researchers must be clearer about positing mediators of change, and bolder in testing whether change in the proposed mediators is indeed linked to treatment gains. To fully understand and build on current treatments, we must unearth their effective ingredients.

We also need to expand what we know about moderators of outcome. The boundaries within which our treatments work, and outside of which they may not, are rarely studied, even for such easily accessible factors as age, gender, and ethnicity, and certainly not often for such challenging factors as patterns of comorbidity. The interplay between treatment and person characteristics is a critical topic for future research.

Researchers also need to broaden the array of service delivery models within which tests are conducted. The traditional office visit model may be less effective than delivering treatment through community networks or in school, using periodic checkups and booster sessions as needed, and expanding the use of video to enhance fidelity. The success of our treatments thus far may have been limited by overly constrained models of delivery.

Finally, we return to the contrast between efficacy tests using what we have called “research therapy” (19, 23) and effectiveness tests using “clinic therapy”. The remarkable proliferation of efficacy tests has left us with a rich array of treatments that work well as research therapy (e.g., with recruited children treated by research-trained therapists in a research clinic using a single manual), but most of which have not yet been seriously tested in clinical practice settings. We need a generation of research in which these treatments are taken out of labs and examined in the crucible of real-life clinical practice. Over time, this will tell us which of our efficacious treatments are also effective with genuinely disturbed, clinically referred children, treated by practicing clinicians, in real-world mental health service settings.

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