Toward Large-Scale Implementation of Empirically Supported Treatments for Children: A Review and Observations by the Hawaii Empirical Basis to Services Task Force

Bruce F. Chorpita and Letitia M. Yim, Department of Psychology, University of Hawaii
John C. Donkervoet and Alfred Arensdorf, Hawaii Department of Health
Mary Jane Amundsen, School of Nursing, University of Hawaii
Clifton McGee, Alberto Serrano, Alayne Yates, and John A. Burns, School of Medicine, University of Hawaii
Paula Morelli, University of Hawaii

This article details the context and findings of a review conducted by a state-established panel established to examine the efficacy and effectiveness of child treatments for Anxiety Disorders, Depression, Attention Deficit Hyperactivity Disorder, Conduct and Oppositional Disorders, and Autistic Disorder. The review emphasizes not only the specific results obtained, but also the process by which a university, Department of Health, and family partnership was established to address specific issues of relevance to statewide implementation of empirically based services. The review of treatment efficacy is consistent with the recent child treatment literature, and these findings were extended through a systematic cataloguing of effectiveness parameters across more than one hundred treatment outcome studies. The importance of such findings and the process by which they were obtained are discussed in the context of a statewide effort to improve mental health practice for children through the extension and application of much of the work by Division 12 of the American Psychological Association with respect to empirically supported treatments.

Key words: **clinical practice, training, evidence-based treatments, treatment evaluation, dissemination, nonmajority populations.** ***[Clin Psychol Sci Prac 9:165–190, 2002]***

Address correspondence to Bruce F. Chorpita, Department of Psychology, University of Hawaii at Manoa, 2430 Campus Road, Honolulu, HI 96822. E-mail: chorpita@hawaii.edu.

Mental health practice is witnessing a new era in the development and implementation of treatments supported by research (e.g., Barlow, 1994; Chambless & Hollon, 1998). Many of these changes have followed the reports of the American Psychological Association (APA) Clinical Division, as well as numerous contributions and commentaries by clinical scientists (e.g., Chambless et al., 1996; Chambless et al., 1998; Task Force on Promotion and Dissemination of Psychological Procedures, 1995; Task Force on Psychological Intervention Guidelines, 1995). These efforts have greatly increased the attention given to the quality of evidence for various psychological treatments and have provided new criteria with which to understand, evaluate, and select treatments for various mental health problems. Over the past five years, these reports, their updates, and associated commentaries have constituted a substantial movement within psychology for the selection and implementation of the best psychosocial treatments (Barlow, 2000).

Many of these developments formally originated with the APA Task Force on Psychological Intervention Guidelines (1995). This group outlined a template for measuring the quality of psychosocial treatments, with the goal of establishing guidelines to determine which treatments are best for various mental health problems. The group outlined the two well-known dimensions along which treatments should be evaluated: (a) efficacy, i.e., how well a treatment is known to bring about change in a target disorder in clinical research, and (b) effectiveness, i.e., how well a treatment is expected to perform in a real world setting. These terms have been defined and dis-

cussed in detail elsewhere (e.g., Chambless & Hollon, 1998; Task Force on Psychological Intervention Guidelines, 1995).

In 1994, the Division 12 Task Force on Promotion and Dissemination of Psychological Procedures outlined a detailed definition of efficacy and developed a list of those psychosocial treatments with the best empirical support. The Division 12 Task Force issued the first official list of empirically supported treatments in 1995 and has since published several updates (Chambless et al., 1996; Chambless et al., 1998). The implications of these efforts have been profound regarding the need for changing the nature of clinical training, research, and practice (Chambless & Hollon, 1998; Elliott, 1998; Glass & Arnkoff, 1996; Kazdin, 1996, 1998; Kendall, 1999; Kendall & Chambless, 1998; Nathan & Gorman, 1998; Nathan, Stuart, & Dolan, 2000; VandenBos, 1996; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000).

Recent focused efforts have also been made to identify the most promising treatments for childhood disorders as described by Lonigan, Elbert, and Bennett Johnson (1998), Ollendick and King (2000), and U.S. Department of Health and Human Services (1999). To that end, APA Clinical Division's Child Section (now Division 53) organized the Empirically Supported Psychosocial Interventions for Children Task Force, cochaired by Christopher Lonigan and Jean Elbert. This group published a series of reviews in 1998 that examined the efficacy of a wide variety of treatments for children, which appeared in Volume 27 of the *Journal of Clinical Child Psychology.* These reviews represent some of the most important information to date regarding which treatments are most promising for childhood disorders.

Despite these national and increasingly international developments in empirical approaches to mental health service, questions remain about the best specific mechanisms for dissemination or implementation of empirical approaches to practice. These issues are complicated in that (a) mental health practitioners have long viewed treatment outcome research with skepticism (Barlow, 1981; Hayes, Barlow, & Nelson-Gray, 1999) and may thus be resistant to research-driven recommendations, and (b) the needs of particular practice sectors can vary from one location to the next, such that a universal method for treatment selection may not be possible.

The present article illustrates a statewide effort to address these two obstacles and to build on the substantial developments in the knowledge of empirically based treatments. The work summarized here represents an initial step in a large-scale initiative to address the concerns of practitioners regarding the relevance of psychosocial treatment research and to allow for the implementation of evidence-based services to be adapted based on the many considerations arising across a culturally, geographically, and economically diverse area. The context in which this evidence-based review of treatments was initiated is important to consider as well.

HAWAII AND CHILD MENTAL HEALTH SERVICES

Over the past several years, the state of Hawaii has undergone a number of significant changes in mental health service delivery for children. In 1994, the State of Hawaii settled a class action lawsuit brought before Federal court on behalf of children with special needs. The Felix Consent Decree (named for the index plaintiff) ensured that the state would provide all services deemed necessary in order for children with mental health problems to be able to benefit from their free and appropriate education. In addition to the mandates of the Individuals with Disabilities Education Act of 1990 (Public Law 101–476) and Section 504 of the Vocational Rehabilitation Act of 1973 (Public Law 93–112), the state of Hawaii agreed to develop a coordinated and comprehensive system of care for students aged 0 to 20 with mental health needs. This system of care would have a process for the early identification of challenged children, a capacity for thorough assessment, a comprehensive array of services that would be individualized to the child and family, and a mechanism by which service agencies would be coordinated and services integrated. Since 1994, the number of children identified and receiving mental health services as part of the Felix Consent Decree has increased from 1,400 to over 11,000. The past six years have involved statewide efforts to develop new standards for assessment and treatment to address these critical issues.

As is to be expected in system development, the initial phases of the consent decree involved the development of a quantity of services necessary to meet the growing population in need. The State of Hawaii altered its approach to obtaining professional mental health services by contracting directly with private agencies specifically to address children's mental health issues. This public-private partnership meant that if a child's treatment planning team felt that a child required a certain type of service

in order to benefit from free and appropriate public education, the state had a mechanism by which to immediately procure the service. Having created a flood of services, the state then turned its attention to the quality or effectiveness of the services. These efforts to improve quality can largely be broken into two categories: (a) improving the technology available to existing providers and providing a feedback loop about performance and outcomes and (b) importing or implementing new and empirically demonstrated approaches to specific mental health challenges. Such strategies have resulted in a number of important innovations for the state, including a full-time service testing team to monitor the effects of service delivery,[1] a dedicated training organization for clinicians statewide (i.e., the Felix Staff/Service Development Institute), a child research, assessment, and treatment center cosponsored by the University of Hawaii, the Department of Health, and the National Institutes of Mental Health (i.e., Center for Cognitive Behavior therapy), statewide implementation of Multisystemic Therapy (MST; an empirically supported treatment approach for delinquent youth [Henggeler & Borduin, 1990]), and a completely school-based mental health delivery system on the island of Kauai (the *Mokihana* project, which houses all mental health staff on public school campuses).

To improve the technology of services delivered within the mental health system, the Child and Adolescent Mental Health Division (CAMHD) of the Hawaii Department of Health established the CAMHD Empirical Basis to Services (EBS) Task Force in October 1999. This group was designed to provide a multidisciplinary evaluation of psychosocial treatments for common disorders of childhood and adolescence based on a formal and scientific literature review of controlled studies in psychology, psychiatry, and related mental health disciplines. The primary methodology, procedures, and criteria for evaluating treatment studies were adapted from the guidelines published in previous national efforts of APA Division 12. In addition, the EBS Task Force relied heavily on the findings of the Lonigan and Elbert's Task Force for childhood problems. Participants in this review process included department of health administrators, parents of challenged children, clinical service providers, and academicians from the areas of psychology, psychiatry, nursing, and social work.[2]

Because the EBS Task Force was designed specifically to improve practice on a large scale, its members emphasized the need to move from identifying promising treatments to evaluating the likelihood of their successful application in the community. Although many existing reviews have clear implications for clinical practice, the standards for ranking treatments have been largely based on efficacy and have not addressed in great detail the effectiveness criteria originally proposed by the 1995 APA report (see Chambless & Hollon, 1998, regarding effectiveness). It was the consensus of the EBS Task Force that the mere distribution of existing lists of efficacious treatments to mental health providers and administrators would be insufficient to ensure that quality treatments would ultimately be delivered to children.

Such factors as family and provider interest were considered critical components to successful implementation of empirically supported treatments. Other factors specific to location were also of great concern, e.g., the robustness of treatments in isolated rural settings, the appropriateness of particular treatments with highly multiethnic and culturally diverse groups, and the difficulty of training therapists spread over a geographically disconnected area. For example, the state of Hawaii has no ethnic majority, with some 20 ethnic groups well represented among public school children. In addition, the state has some islands with no licensed doctoral-level mental health providers, such that attempts to implement certain types of services would not be appropriate.

Unfortunately, there is little research literature that directly addresses why treatments that were successful in one setting or with one cultural group were not successful in another setting or with another cultural group, perhaps at least in part due to the lack of published negative findings. It is therefore likely that many of our inferences about obstacles to generalization were as much a function of clinician reluctance to use empirically supported treatments as anything else. Nevertheless, in such a case, clinician reluctance remained a primary obstacle to dissemination, which we continued to agree was best addressed through a credible evaluation of protocols along the dimensions considered important to families and practitioners in the local communities.

Along these lines, the EBS Task Force identified a need to focus on effectiveness issues, noting that the perceived irrelevance of clinical research appeared to be a primary barrier to putting evidence-based approaches into practice. For example, the state's mental health "gatekeepers" (e.g., teachers, parents, and school social workers who refer children for particular services) were primarily con-

cerned about who was appropriately trained to provide certain treatments, how long treatment would last, what treatments were appropriate for what age, whether treatment would be at school, and other similar details, all issues that are not easily answered, even in the wake of a series national efforts to evaluate mental health services (e.g., Task Force on Promotion and Dissemination of Psychological Procedures, 1995; Task Force on Psychological Intervention Guidelines, 1995; U.S. Department of Health and Human Services, 1999). These issues were therefore a focus of the CAMHD Task Force, which accordingly chose to extend national efforts in its summary review of treatments through a careful examination and cataloging of effectiveness parameters (cf. Brestan & Eyberg, 1998).

Cautionary Remarks

It is important to keep in mind a number of factors when considering the results presented in this report. First, any review of scientific support for treatments is a work in progress, in that findings are continually accumulating as new treatments are developed and tested. Thus, these findings were meant to represent the state of the art at the time that the committee met and cannot address quality of treatments that may still be in the lab or on the horizon. Second, this review did not examine psychopharmacological treatments. Thus, it is possible that for many of the mental health conditions discussed, the use of pharmacological treatments may be appropriate (see Riddle, Subramaniam, & Walkup, 1998, for a review of medication trials using Task Force criteria). Third, the EBS Task Force was fully aware that the results would not provide a panacea for selection of best treatments. Rather, the goals of the group were (a) to rank treatments in order of their demonstrated efficacy, (b) to provide detailed but easily referenced information about the effectiveness parameters from the studies in which such treatments have been supported, and (c) to outline a specific and detailed plan of implementation consistent with the findings. Fourth, although there are numerous reviews recommending the best practices for children in the treatment literature, such reviews are often consensus based. As with previous national efforts by Division 12, our approach involved the establishment of predefined scientific criteria designed to yield a determination of best practices that was more conservative and reliable than a purely consensus-based review. Consequently, these results may be inconsistent with consensus-based recommendations found elsewhere. Fifth, because our methodology was an adaptation and extension of that of APA Division 12, treatments defined in terms of their location as opposed to their procedures were not given consideration. That is, such potentially important treatments as therapeutic foster care and residential treatment were not evaluated in this review (see U.S. Department of Health and Human Services, 1999, for a review of these approaches). Finally, the set of criteria and methodology used was adapted for the specific needs of the Hawaii state mental health system. Thus, our results may also differ to some degree from previous national efforts using nearly identical efficacy criteria, due to the inevitable subjectivity of our approach (see Weisz & Hawley, 1998, for a discussion of subjectivity in interpretation of criteria). Accordingly, the information that follows was not intended to be so much prescriptive as descriptive in nature (see Lonigan et al., 1998). In other words, our primary goal for this report was to provide an illustration of a large-scale implementation effort on a local level, along with insights gathered through a multidisciplinary review and partnership among university, government, and community geared towards improving state mental health practice. Other states or practice organizations may find that our methodology and adaptations of criteria are not completely suitable for their specific needs.

These limitations notwithstanding, this report is intended to make at least two contributions to the literature on empirically based treatments. First, we provide the only review of child treatments across a broad range of areas involving systematic classification and review of the effectiveness parameters outlined by the APA Task Force (1995). Second, our methods are intended to provide an example of a large-scale effort to implement services that was driven by system needs rather than by a predominantly academic committee (for example, field supervisors and parents of challenged children were included in the membership of the Task Force and played a significant role in shaping the methodology of the group). To that end, it is hoped that this illustration will inspire spirited discussion about partnerships among research, practice, and community and the resulting strategies used to arrive at a reasonable and realistic compromise on the many important issues involved in treatment selection.

METHOD

Psychosocial treatments for the Hawaii CAMHD Task Force review were identified through: (a) computerized

searches of the PSYCINFO database dating back to 1980;[3] (b) evaluation of studies reviewed by the Lonigan and Elbert Task Force on Empirically Supported Psychosocial Interventions for Children, the American Academy of Child and Adolescent Psychiatry Practice Parameters, and other major published scientific literature reviews; (c) personal communication with members of the Lonigan and Elbert Task Force and other national scholars in effectiveness research; and (d) additional nominations from Task Force members. Approximately 400 articles were identified. Elimination of those articles that represented follow-up evaluations, prevention studies, or uncontrolled efficacy trials yielded 235 studies, which were reviewed over a period of 7 months. Of these, a final 115 studies that had appropriate treatment descriptions, posttreatment data, and so forth contributed to the final results.

Using the methodology outlined by the Task Force on Psychological Intervention Guidelines (1995), all treatments were evaluated with respect to efficacy and effectiveness. The Task Force on Promotion and Dissemination of Psychological Procedures (1995) defined two different levels at which a treatment may be deemed efficacious (see the first two levels in Table 1). At the highest level, a "Well-Established" treatment refers to a treatment that has demonstrated efficacy either (a) in a minimum of two good between-group design experiments where the treatment is superior to pill, psychological placebo, or to another treatment, or (b) in a large series of controlled single-case experiments ($n \geq 9$) that have compared the

Table 1. Adaptation of Efficacy Criteria for Empirically Supported Treatments

Level 1: Well-Established Treatments

I. At least two good between group design experiments demonstrating efficacy in one or more of thefollowing ways:
   a. Superior to pill placebo, psychological placebo, or another treatment.
   b. Equivalent to an already established treatment in experiments with adequate statistical power (about 30 per group; cf. Kazdin & Bass, 1989).

OR

II. A large series of single case design experiments ($n \geq 9$) demonstrating efficacy. These experiments must have:
   a. Used good experimental designs.
   b. Compared the intervention to another treatment as in I.a.

AND

Further criteria for both I and II:

III. Experiments must be conducted with treatment manuals.
IV. Characteristics of the client samples must be clearly specified.
V. Effects must have been demonstrated by at least two different investigators or teams of investigators.

Level 2: Probably Efficacious Treatments

I. Two experiments showing the treatment is (statistically significantly) superior to a waiting-list control group.
   Manuals, specification of sample, and independent investigators are not required.

OR

II. One between group design experiment with clear specification of group, use of manuals, and demonstrating efficacy by either:
   a. Superior to pill placebo, psychological placebo, or another treatment.
   b. Equivalent to an already established treatment in experiments with adequate statistical power (about 30 per group; cf. Kazdin & Bass, 1989).

OR

III. A small series of single case design experiments ($n \geq 3$) with clear specification of group, use of manuals, good experimental designs, and compared the intervention to pill or psychological placebo or to another treatment.

Level 3: Possibly Efficacious Treatments

I. One between group design experiment with clear specification of group and treatment approach and demonstrating efficacy by either:
   a. Superior to pill placebo, psychological placebo, or another treatment.
   b. Equivalent to an already established treatment in experiments with adequate statistical power (about 30 per group; cf. Kazdin & Bass, 1989).

OR

II. A small series of single case design experiments ($n \geq 3$) with clear specification of group and treatment approach, good experimental designs, at least 2 different investigators or teams, and comparison of the intervention to pill, psychological placebo, or another treatment.

Level 4: Unsupported Treatments

I. Treatment does not meet criteria for Level 1, 2, 3, or 5.

Level 5: Possibly Harmful Treatments

I. At least one study demonstrating harmful effects of a treatment that otherwise would meet criteria for Level 4.

treatment to another treatment. In either case, treatments must be conducted with a treatment manual and effects must have been demonstrated by at least two different investigators. At the second level, the status of "Probably Efficacious" refers to a treatment that has been found to be: (a) superior to a wait-list control group in two experiments, (b) equivalent to an already established treatment or superior to pill placebo, psychological placebo, or another treatment in a single experiment, or (c) superior to pill placebo, psychological placebo, or another treatment in a small series of single-case design experiments ($n \geq 3$).

It is noted that for some disorders or problems, we and previous reviewers were unable to identify treatments that met criteria for Well-Established (Level 1) or Probably Efficacious (Level 2) status. This led to the decision of the EBS Task Force to expand the efficacy criteria in such cases to include a wider range of treatments for consideration. The final expanded criteria were adapted from the definitions of the Division 12 Task Force and consisted of five levels (see Table 1). Of primary interest was the addition of a third level that corresponded to "Possibly Efficacious" treatments. According to our definitions, to be classified as "Possibly Efficacious" a treatment was required to demonstrate efficacy either (a) in one between group design experiment in which the treatment is superior to pill, psychological placebo, or to another treatment, or (b) in a small series of controlled single-case design experiments ($n \geq 3$) with clear specification of group and treatment approach, at least two investigators or teams, and comparison of the intervention to pill, psychological placebo, or another treatment.

This specific revision to the Division 12 criteria reflected concern on the part of the state mental health system that it would not be acceptable to have an area with no recommended approaches. In other words, practice agencies have an obligation to make clinical decisions and apply services now, and cannot always afford to wait for future research developments. Rogers' (1998) recent review of the literature on treatments for autistic disorder forecasted that such a problem was likely, and our committee felt that both practitioners and families would need more guidance than a two-level system offered. This particular adaptation has the problem that is introduces more liberal criteria that could result in the application of weak treatments; again, this type of adaptation to the national methodology is likely to be specific to particular agencies and their agendas and may not be advisable as a general principle.

As noted previously, this group also examined effectiveness of treatments by reviewing selected aspects of the treatment studies. Effectiveness variables were defined by this group based on descriptions from the APA Task Force (1995). The lists of variables coded for each study and the corresponding definitions appear in Table 2.[4] To minimize disagreement among reviewers, our approach was generally to establish reliable definitions of these variables through extensive discussion prior to reading the literature. For example, the "compliance" variable was meant to be calculated directly from data on dropouts available in the research reports. Thus, some of the validity of these effectiveness constructs may be attenuated due to our interest in high reliability, in that it is possible to define some of these variables much more broadly than we did here. Disagreement among reviewers during the process of defining variables was fortunately rather minimal, and when it arose, was usually resolved through discussion and informal consensus.

Treatments were not defined at the level of specific manuals. Rather, treatments sharing a majority of components with similar clinical strategies and theoretical underpinnings were considered as the same treatment for the purposes of evaluation. For example, different treatments for depression that involved self-monitoring, identifying problem thoughts, developing coping thoughts or problem-solving strategies, and accompanying behavioral exercises were collectively labeled "cognitive-behavior therapy" and evaluated as a single approach. This was meant to simplify planned dissemination efforts, for which training in multiple versions of a single approach for a single disorder would not be feasible. Only when one treatment protocol within a conceptual grouping outperformed another in a controlled study were such treatments considered distinct (e.g., if two separate behavior therapy protocols performed differently in a comparative test).

RESULTS

Anxiety Disorders

Treatments Identified. The treatments reviewed for anxiety disorders included all those with controlled outcome research as identified through the search procedures outlined previously. These treatments were: (a) Cognitive-behavior therapy (CBT), (b) CBT with Parents Included, (c) CBT plus CBT for Parent's Anxiety, (d) Educational

Table 2. Definitions of Effectiveness Parameters

Feasibility	
Compliance	Equal to the percentage of children who did not drop out (posttreatment *n*/pre-treatment *n)* within that treatment condition. For example, if 6 of 30 children drop out during treatment, compliance = 80%.
Trainability	High = manual available AND treatment was successfully used by nondoctoral level practitioners; Moderate = manual available OR treatment was successfully used by nondoctoral level practitioners; Low = no manual available AND treatment was successfully used by doctoral level practitioners only.
Generalizability	
Gender	The percentage of boys or girls within each condition; if information was not reported for a specific treatment condition, this number was estimated using information for the entire study; also, when the lower percentage was greater than 30%, the term "both" was used.
Age	Years or months since birth; when range was not reported, it was estimated by using the mean age plus or minus 1.5 *SD (*approximately 87% of a normal distribution); thus, for a mean age 9.0 and *SD* = 1.6, the estimated range would be 6 to 11; if information was not reported for a specific treatment condition, this number was estimated using information for the entire study.
Ehtnicity	Percentage of each ethnic group within condition; if information was not reported for a specific treatment condition, this number was estimated using information for the entire study under the assumption of the independence of ethnicity and treatment condition.
Therapist	The training/profession, if known, for the main provider(s) involved within each treatment condition; doctoral graduate students were classified as Master's level.
Frequency	Frequency of contact with child/family, reported either in sessions per unit time (e.g., weekly) or in total hours per unit time (e.g., 5 hours/day).
Duration	The length of time from pre treatment to posttreatment assessment.
Format	Whether the treatment was group therapy or individual therapy and whether it included parents or family.
Setting	The primary type of location in which treatment was delivered; when setting was not reported, it was sometimes inferred based on aspects of the treatment (e.g., teacher as therapist implied a school setting)
Robustness	High = more than one investigator team AND more than one protocol showing positive outcome AND no specialized setting required; Moderate = no specialized setting required AND one of the following: (a) more than one investigator team OR (b) more than one protocol showing positive outcome OR (c) more than 3 positive demonstrations; Low = specialized setting required OR all of the following: (a) single investigator AND (b) single protocol AND (c) 3 or fewer positive demonstrations.
Cost and Benefit	
Cost	Estimated from consideration of both the therapist training and the total number of contacts using the following strategy:

	Provider Strategy				
Cost	**Teacher**	**Bachelor's**	**Master's**	**Doctoral**	**Inpatient or Residential**
Low	Any	< 120	< 40	< 20	
Moderate/low		121 to 240	41 to 80	21 to 40	< 4 days
Moderate		241 to 500	> 80	41 to 80	4 to 7 days
Moderate/High		> 500		> 80	8 to 15 days
High					> 15 days

Effect size	Calculated as the number of standard deviations that each group improved from pre treatment to posttreatment on a measure selected by clinical consensus, with highest consideration given to use the most commonly and most sensitive measures for that area of the research literature.

Support, (e) Eye Movement Desensitization and Reprocessing (EMDR), (f) Exposure (g) Modeling, (h) Play Therapy, and (g) Supportive Therapy. The collective results for anxiety treatments are summarized in Table 3.

Efficacy. Of the treatments identified, three were supported at Level 1: CBT, exposure, and modeling. CBT, broadly defined, was found to be superior to a waitlist or no treatment control condition in eight studies (Barrett, 1998; Barrett, Dadds, & Rapee, 1996; Goenjian et al., 1997; Graziano & Mooney, 1980; Kendall, 1994; Kendall et al., 1997; King et al., 1998, Silverman et al., 1999). In two studies, CBT techniques were found to be superior to two other treatments: Imagery and Supportive Therapy (Cohen & Mannarino, 1996; Kanfer, Karoly, & Newman, 1975). Exposure was better than no treatment or waitlist in 12 studies (Barabasz, 1973; Cornwall, Spence, & Shotte, 1996; Kuroda, 1969; Leitenberg & Callahan, 1973; Lewis, 1974; Mann & Rosenthal, 1969; Menzies & Clark, 1993; Murphy & Bootzin, 1973; Obler & Terwillinger, 1970; Ritter, 1968; Sheslow, Bondy, & Nelson, 1982; Ultee, Griffioen, & Schellekens, 1982), and was

Table 3. Empirically Supported Treatments for Anxiety Disorders

Treatment	Train	Compliance	Gender	Age	Ethnicity	Therapist	Frequency	Duration	Format	Setting	Robustness	Cost	Effect Size
Level 1													
CBT	High	89%	Both	2 to 17	54% Not specified; 33% Caucasian; 7% Armenian; 7% African American	Undergrad; MA; Ph.D.	Weekly	3 to 16 weeks	Group; Individual	Clinic; School	High	Low	1.05[a]
Exposure	High	*	Both	3 to 17	69% Not specified; 15% Caucasian; 8% Japanese; 8% African American	Undergrad; BA; MA; Ph.D.	Daily; Weekly	1 day to 12 weeks	Group; Individual	Clinic; School	High	Low	2.02[a,b]
Modeling	*	*	Both	3 to 13	65% Not specified; 23% Caucasian; 11% African American	Not specified	2/day; Daily; Weekly	1 day to 8 weeks	Group; Individual	Clinic	High	Low	0.55[b]
Level 2													
CBT with Parents Included	High	93%	Both	7 to 14	Not specified	MA; Ph.D.	Weekly	12 weeks	Group; Individual	Clinic	Low	Low	1.68[a,b]
CBT plus CBT for Parents	High	91%	Both	7 to 14	Not specified	Not specified	Weekly	12 weeks	Group	Clinic	Low	Low	0.47[a]
Educational Support	High	*	Both	6 to 17	92% Caucasian; 4% African American; 4% Hispanic	Not specified	Weekly	12 weeks	Individual	Clinic	Low	Low	N/A

Note: CBT, Cognitive-behavior therapy; Train, Trainability; N/A, not reported; Effect sizes reported are the median effect size across all relevant studies ([a] = Revised Children's Manifest Anxiety Scale; Reynolds & Richmond, 1978; [b] = Child Behavior Checklist, Internalizing Scale; Achenbach, 1991). *Could not be determined due to lack of information in published reports.

Table 4. Empirically Supported Treatments for Attention Deficit/Hyperactivity Disorder

Treatment	Train	Compliance	Gender	Age	Ethnicity	Therapist	Frequency	Duration	Format	Setting	Robustness	Cost	Effect Size
Level 1													
Behavior Therapy	High	89%	81.5% male	6 to 12	Not specified*	Teacher; Teacher's aide; MA;	Daily to Weekly	1 to 12 weeks	Group; Individual	Clinic; School	High	Low	1.24[a,b]

Note: CBT, Cognitive-behavior therapy; Train, Trainability; N/A, not reported; Effect sizes reported are the median effect size across all relevant studies ([a] = ADHD Rating Scale; DuPaul, 1991; [b] = Conners Teacher Rating Scale-Hyperactivity; Conners, 1990). * A single study described its sample as "predominantly Caucasian."

superior to other treatments (Coping Strategies, Modeling, EMDR, and Imagery) in 5 studies (Menzies & Clark, 1993; Muris, Merckelbach, Holdrinet, & Sijsenaar, 1998; Ritter, 1968; Sheslow et al., 1982; Ultee et al., 1982). Modeling was found to be better than no treatment in four studies (Bandura, Grusec, & Menlove, 1967; Lewis, 1974; Mann & Rosenthal, 1969; Ritter, 1968), and superior to observation of the feared object in one study (Bandura et al., 1967). Modeling was also found to be equivalent to a Level 1 treatment, Exposure, in one study (Mann & Rosenthal, 1969).

Two variations of CBT were supported at Level 2. CBT with Parents Included proved better than a waitlist condition in three studies (Barrett, 1998; Barrett et al., 1996, Mendlowitz et al., 1999), and in one of those studies was found to be superior to CBT (Barrett et al., 1996). One study found that CBT plus CBT for Parent Anxiety was equivalent to CBT alone, and although preliminary, the details of the study suggested that CBT plus CBT for Parent's Anxiety might be superior to CBT alone in situations involving a parent with an anxiety problem (Cobham, Dadds, & Spence, 1998). Finally, Educational Support was found to be equivalent to CBT in the treatment of anxiety-based school refusal in a single study (Last, Hansen, & Franco, 1998).

The evidence was insufficient to establish the efficacy of EMDR, Play Therapy, and Supportive Therapy for anxiety disorders. Of the available psychosocial treatments reviewed, CBT, Exposure, and Modeling emerged as the treatments of choice, and the question of whether and when to include parents in that treatment requires additional consideration.

Effectiveness. The parameters of effectiveness for anxiety treatments are summarized in Table 3. All of the supported treatments have been used successfully with boys and girls, are relatively short term, were delivered by therapists ranging from undergraduate level to doctoral level, and showed rather large effects. Of the Level 1 treatments, CBT and Exposure consistently showed the largest effects. Effect size estimates for exposure suggested that the average child at post-test scored better than 98% of children's pre-treatment scores. That figure was 85% for CBT and 71% for Modeling. The higher effects for exposure may be due to the fact that most studies of Exposure (and Modeling) involved phobic disorders in young children. Studies that specified ethnicity mostly involved Caucasian or African American children, and one small study of Exposure involved Japanese children. CBT was supported in children from 2 to 17; Exposure was supported in children 3 to 17; and Modeling was supported in children from 3 to 13. CBT with Parents Included and CBT plus CBT for Parent Anxiety were supported in children from 7 to 14; Educational Support was supported in children 6 to 17. In general, Exposure and Modeling appear to be briefer than CBT and were most successfully applied with children having specific phobias (e.g., animals, swimming). CBT and it variants appeared to be more appropriate for more complex anxiety disorders (e.g., social phobia, separation anxiety disorder, generalized anxiety disorder, post-traumatic stress disorder).

Attention Deficit Hyperactivity Disorder (ADHD)

Treatments Identified. The treatments reviewed for ADHD included those with controlled outcome research as identified through the search procedures outlined previously, with the exception of some older multiple baseline studies that did not provide incremental information regarding efficacy. The specific treatments were: (a) Parent Training, (b) Classroom Behavior Management, (c) Social Skills Training, (d) Parent Effectiveness Training, and (e) Self-Control Training. As noted by Pelham, Wheeler, and Chronis (1998), Parent Training and Classroom Behavior Management are highly similar treatments in terms of content and techniques, differing mainly in the setting in which they were used (in clinic with parents versus in school with teachers). Although previous reviews have considered these interventions separately, these treatments were collectively referred to as Behavior Therapy in this review, and information about the different settings in which Behavior Therapy were tested was provided under the description of setting in the effectiveness tables.

Efficacy. Of the treatments identified, only a single psychosocial treatment, Behavior Therapy, was supported at Level 1 (see Table 4). Behavior Therapy was found to be superior to pill placebo in a single study (Carlson, Pelham, Milich, & Dixon, 1992), and was found superior to no treatment or waitlist conditions in five studies (Anastapolous, Shelton, DuPaul, & Guevremont, 1983; Dubey, O'Leary, & Kaufman, 1983; O'Leary, Pelham, Rosen-

baum, & Price, 1976; Pelham et al., 1993; Pisterman et al., 1989). There was insufficient evidence to support the efficacy of Social Skills Training, Parent Effectiveness Training, or Self-Control Training.

Effectiveness. The parameters of effectiveness for Behavior Therapy for ADHD appear in Table 4. Behavior Therapy has been tested mainly with boys, is relatively short term, was delivered by therapists ranging from teachers and teacher's aides to doctoral-level therapists, and showed large effects in those studies reporting degree of change. Effect size estimates from two studies suggested that the average child at post-test scored better than 89% of children's pre-treatment scores. Classroom Behavior Management tended to be more frequent and short term within the studies reviewed (e.g., daily implementation of a classroom time-out or reward program), as opposed to Parent Training, which generally involved a therapist meeting weekly with parents to review similar behavior management strategies for the home. Although the follow-up evidence was not reviewed, it appears that behavior management programs for ADHD may need to be ongoing. For example, one study showed that when a classroom behavior program was withdrawn, children's problems returned (Wolraich, Drummond, Salomon, O'Brien, & Sivage, 1978). Also, there was essentially no information regarding differences among ADHD subtypes (i.e., inattention, hyperactive, combined) in terms of response to Behavior Therapy.

Autistic and Related Disorders

Treatments Identified. Evaluation of the autism treatment literature was divided into two main areas as delineated by Rogers (1998): (a) *comprehensive treatments,* which referred to treatments designed to improve overall functioning, address multiple symptoms, and exist over the long term, and (b) *focal treatments,* which were designed more to eliminate problematic or undesired behaviors associated with autism (e.g., self-injurious behavior, tantruming, self-stimulation). Although a great number of treatments have been proposed for autistic disorder, we only considered studies that included a pill or placebo control, an alternative treatment condition, or a waitlist control. This requirement reduced the very large number of treatments for review to six areas: (a) Auditory Integration Training, (b) Discrete Trial Training, (c) Functional Communication Training and Applied Behavior Analysis (FCT/ABA; FCT was considered a subset of ABA in the domain of focal treatments), (d) Playschool Program, (e) Caregiver-Based Intervention Program, and (f) the TEAACH Program. Although Discrete Trial Training has its origins in ABA as well, it was reviewed separately from FCT/ABA, given that the primary research studies on Discrete Trial Training posit the intervention as comprehensive, with IQ and diagnosis typically the main dependent measures. The majority of the ABA literature, on the other hand, typically tracks specific behavioral deficits and excesses as dependent variables.

Efficacy. No comprehensive treatments were found to have support for their efficacy as defined by our criteria. This somewhat discouraging conclusion was consistent with recent independent reviews (e.g., Rogers, 1998), and speaks to the need for additional research on treatments for autism. Although clinical improvements were frequently observed, in much of the research on comprehensive treatments for autism (e.g., Discrete Trial Training), essentially all of this research failed to rule out alternative explanations for improvement, which was judged a necessary component for efficacy. Thus, it could not be said with confidence whether the improvements often noted in young children with autism were due to treatment or simply to group selection procedures, maturation, misdiagnosis, or some factors other than therapy (e.g., Lovaas, 1987).

Nevertheless, there was support identified for some focal treatments, that is, treatments whose goals were not to eliminate autism but rather to change specific behaviors or provide new skills to the child or family. FCT/ABA was supported at Level 3, with over 15 careful demonstrations of controlled single-subject experimental designs (e.g., Carr & Durand, 1985; Durand & Carr, 1992; Derby et al., 1997), most involving alternative treatment conditions (e.g., differential reinforcement vs. noncontingent praise). FCT is based on the principle of providing children who have limited or no communication skills with a means to communicate requests in order to avoid engaging in negative behaviors (Carr & Durand, 1985). Using similar strategies, ABA trials typically involved teaching new skills or eliminating unwanted behaviors (e.g., echolalia; Carr, Schreibman, & Lovaas, 1975). The research in these areas often showed that treatment effects were due to a specific and individualized aspect of therapy and were not simply the result of therapist contact or attention. The

Caregiver-Based Intervention Program was a focal treatment designed to assist parental confidence and knowledge for parenting a child with autistic disorder. It was supported at Level 3 (see Table 5) based on a single study that found it to be superior to day care alone in terms of its ability to inform, educate, and support parents of children with autism (Jocelyn, Casiro, Beattie, Bow, & Kneisz, 1998).

Effectiveness. FCT/ABA was used with boys and girls from ages 2 to 15, and often involved parents and teachers delivering specific components of the treatment. More than any other treatment reviewed in any area, FCT/ABA demonstrated an appropriateness for school-based implementation, given that in multiple demonstrations teachers were successful at managing the programs under the guidance of the therapist or investigator. Frequency of treatment was high and results for many cases were achieved rather quickly, some as quickly as 2 weeks. Sessions were sometimes multiple times a day in 5- to 10-minute blocks. Although effect size information could not be calculated due to the individualized nature of the designs, it should be noted that FCT/ABA was often associated with clinically important changes in behavior, such as the termination of self-injury.

The Caregiver-based Intervention Program was a weekly parent group lasting 12 weeks for parents of children aged 2 to 6. Compliance was high and the effect on parents' reported level of distress and their knowledge about autism was moderate. The effect size indicated that the average parent at the end scored better than 79% of the pre-test scores.

Depression

Treatments Identified. The treatments reviewed for depression included all those with controlled outcome research as identified through the search procedures outlined previously. These treatments were: (a) Behavioral Problem Solving, (b) CBT, (c) CBT with Parents Included, (d) Family Therapy, (e) Interpersonal Therapy (IPT), (f) Relaxation, (g) Self-Control Training, (h) Self-Modeling, and (i) Nondirective Supportive Therapy.

Efficacy. Of these, CBT was the only treatment supported at Level 1. CBT was found to be superior to a waitlist or no treatment control condition in six controlled studies (Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999; Kahn, Kehle, Jenson, & Clarke, 1990; Lewinsohn, Clarke, Hops, & Andrews, 1990; Reynolds & Coats, 1986; Rosello & Bernal, 1999; Weisz, Thurber, Sweeney, Proffitt, & LeGagnoux, 1997). In two studies, CBT was found to be superior to three other treatments: Family Therapy, Supportive Therapy, and Relaxation (Brent et al., 1997; Wood, Harrington, & Moore, 1996). CBT with Parents Included was supported at Level 2, having been found equivalent to CBT and better than a waitlist condition in 2 studies (Clarke et al., 1999; Lewinsohn et al., 1990). IPT was supported at Level 2 and found to be better than waitlist in two studies (Mufson, Weissman, Moreau, & Garfinkel, 1999; Rosello & Bernal, 1999) and as well as CBT in the latter study. Also at Level 2 was Relaxation, which was superior to a waitlist condition in two studies (Reynolds & Coats, 1986; Kahn et al., 1990). Evidence was not sufficient for Family Therapy, Self-Control Training, Self-Modeling, Supportive Therapy, or Behavioral Problem Solving. Of the available psychosocial treatments reviewed, CBT appeared to be the treatment of choice, and the question of whether to include parents in that treatment awaits further research. IPT appears to be a reasonable alternative to CBT, particularly given that it uses a somewhat different approach. For example, IPT might be useful for those who do not respond to CBT and vice versa, although definitive conclusions about such strategies await further research. Finally, although there was some support for Relaxation, the finding that Relaxation alone was inferior to CBT suggests it is not likely the best treatment for depression under most circumstances.

Effectiveness. The parameters of effectiveness for depression treatments are summarized in Table 6. All of the supported treatments have been used successfully with boys and girls, are relatively short term, were delivered by therapists at the Master's level or above, and showed rather large effects. CBT consistently showed the largest effects of the supported treatments, with the average child at post-test scoring better than 96% of children's pre-treatment scores. In most cases, ethnicity of participants was not specified; however, one study with an entirely Puerto Rican sample supported both IPT and CBT, another study with 39% minority participants (mostly African American) supported CBT, and a study with a 79% Hispanic sample supported IPT. CBT was supported in children from 9 to 18; IPT was supported in children from 12 to 18; CBT with Parents Included was supported in children from 14 to 18; and Relaxation was supported

Table 5. Empirically Supported Treatments for Autistic and Related Disorders

Treatment	Train	Compliance	Gender	Age	Ethnicity	Therapist	Frequency	Duration	Format	Setting	Robustness	Cost	Effect Size
Level 3													
FCT/ABA	Mod	100%	Both	2 to 15	95% Not specified; 5% African American	Parent; Teacher; BA; MA	5/day to twice per week	2 weeks to 11 months	Individual	School	High	Low	N/A
Caregiver Based Intervention Program	High	100%	94% male	2 to 6	Not specified	BA	Weekly	12 weeks	Group	Day Care	Low	Low	0.81[a]

Note: ABA, Applied Behavior Analysis; FCT, Functional Communication Training; Mod, Moderate; Train, Trainability; Effect sizes reported are the median effect size across all relevant studies ([a] = TRE-ADD Autism Quiz; Factor, Perry, Freeman, & Darjes, 1987). No treatments were supported at Level 1 or Level 2. ABA/FCT and Caregiver-based Intervention Program were supported only as "focal" treatments, meaning they only addressed certain aspects of child or family functioning and made no claims about eliminating the presence of autism.

Table 6. Empirically Supported Treatments for Depression

Treatment	Train	Compliance	Gender	Age	Ethnicity	Therapist	Frequency	Duration	Format	Setting	Robustness	Cost	Effect Size
Level 1													
CBT	High	94%	Both	9 to 18	84% Not specified; 13% Puerto Rican; 3% African American	MA; Ph.D.	Weekly or twice per week	5 to 16 weeks	Group; Individual	Clinic; School	High	Low	1.74[a]
Level 2													
CBT with Parents Included	High	88%	Both	14 to 18	Not specified	MA; Ph.D.	Twice per week	7 to 8 weeks	Group	Clinic	Low	Low	1.40[b]
IPT	High	85%	Both	12 to 18	49% Puerto Rican; 41% Hispanic 10% Caucasian	MA; Ph.D.; MD	Weekly	12 weeks	Individual	Clinic	High	Low	1.51[a,b]
Relaxation	High	100%	Both	11 to 18	Not specified	MA; PhD	Twice per week	5 to 8 weeks	Group	School	Low	Low	1.48[a,b]

Note: CBT, Cognitive-behavior therapy; IPT, Interpersonal Therapy; Train, Trainability; Effect sizes reported are the median effect size across all relevant studies ([a] = Children's Depression Inventory; Kovacs, 1981; [b] = Beck Depression Inventory; Beck & Steer, 1987).

in children from 11 to 18. Only CBT and Relaxation were administered in school settings.

Conduct and Oppositional Disorders

Treatments Identified. All treatments with controlled outcome research for conduct or oppositional disorders and related behaviors were reviewed as outlined previously (see Table 7). These included: (a) Anger Control Training, (b) Anger Coping, (c) Client-Centered Therapy; (d) Communication Skills, (e) Goal Setting, (f) Group Discussion, (g) Group Discussion of Parent Training, (h) Group Discussion of Videotape Modeling, (i) Parent Training with Child, (j) Parent Training without Child, (k) Parent Training with 2 Parents, (l) Human Relations Therapy, (m) Juvenile Justice System, (n) MST, (o) Parent Child Interaction Therapy, (p) Problem Solving Skills Training, (q) Rational Emotive Therapy, (r) Relationship Therapy, (s) Relaxation, (t) Stress Inoculation, and (u) Supportive Attention. This was clearly the most voluminous literature, partly a function of our choice not to consider oppositional defiant disorder and conduct disorder separately (e.g., Brestan & Eyberg, 1998). Because many of the techniques of the behavioral parent training protocols are similar, studies supporting this approach were considered together as studies of Parent Training. Similarly, Anger Control Training and Anger Coping were collapsed to be considered as variants of a common treatment approach, Anger Coping Therapy, a CBT-based group treatment for disruptive behavior.

Efficacy. Parent Training in its various forms was the only treatment supported at Level 1. It was found to be superior to alternative treatments (including Client-Centered Therapy, Family Therapy, Relationship Therapy, and Supportive Attention), in six controlled studies (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991; Bernal, Klinnert, & Schultz, 1980; Patterson, Chamberlain, & Reid, 1982; Spaccarelli, Cotler, & Penman, 1992; Wells & Egan, 1988), and superior to waitlist in six studies (Hamilton & MacQuiddy, 1984; Hughes & Wilson, 1988; Peed, Roberts, & Forehand, 1977; Webster-Stratton, 1984, 1990; Webster-Stratton, Kolpacoff, & Hollinsworth, 1988). Several manuals are available and formats ranged from videotape modeling of parenting skills to individual therapy with parents.

Several treatments were found to be supported at Level 2. Anger Coping Therapy was better than Goal Setting in a single study (Lochman, Burch, Curry, & Lampron, 1984) and was better than no treatment in two studies (Feindler, Marriott, & Iwata, 1984; Lochman et al., 1984). Assertiveness Training was better than Group Discussion in a single study. MST was found superior to Individual Therapy in a single study (Borduin et al., 1995) and superior to the Juvenile Justice System in two additional studies (Henggeler, Melton, & Smith, 1992; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). Problem Solving Skills Training was found to be superior to Relationship Therapy and Supportive Attention in four studies (Kazdin, Bass, Siegel, & Thomas, 1989; Kazdin, Esveldt-Dawson, French, & Unis, 1987a, 1987b; Kazdin, Siegel, & Bass, 1992). Finally, a single study of Rational Emotive Therapy found it to be superior to Human Relations Therapy (Block, 1978). Of these treatments, Parent Training showed the clearest support for its efficacy, having been evaluated in a dozen studies in its various forms.

Effectiveness. Parent Training was primarily used with younger, mostly male children (few studies did not treat children older than 13), although at least one study supported its short term efficacy with delinquent adolescents (Bank et al., 1991). Parent Training appeared to be highly robust, low cost, and relatively rapid (most studies documented improvements within 3 months). Its effectiveness across different ethnic groups was less clear, as most studies failed to specify the ethnicity of the children. The effect size for Parent Training was moderate, suggesting that the average treated child scored better than 81% of children's scores before treatment.

MST was tested primarily on male adolescents involved with the criminal justice system. The majority of these adolescents were African American. Cost was higher than for most traditional clinic-based treatments, given the higher intensity of contact. The effect size for MST was modest, suggesting that the average treated child scored better than 69% of children's scores before treatment. Also, the robustness of this treatment was rated as moderate, possibly due to the elaborate and highly orchestrated supervision network that appears to account for much of the success of the treatment. Consistent with this observation, no studies to date support MST other than those conducted by its developers. Nevertheless, the support for the effectiveness of MST is rather good, given that it has been tested with some of the most challenging youth within this category, and that it is one of the only treatments that

Table 7. Empirically Supported Treatments for Conduct and Oppositional Disorders

Treatment	Train	Compliance	Gender	Age	Ethnicity	Therapist	Frequency	Duration	Format	Setting	Robustness	Cost	Effect Size
Level 1 Parent Training	High	96%	> 75% male	3 to 15	64% Not specified; 27% Caucasian; 6% African American; 3% Hispanic American	Self; MA; Ph.D.	Weekly	2 weeks to 6 months (typically 13 weeks)	Self-administered Video; Parent Group; Parent Individual	Clinic; Home	High	Low	0.89[a]
Level 2 Anger Coping	High	*	100% male	9 to 15	55% Not specified; 27% Caucasian; 18% African American	Not specified; School Counselor	Weekly	7 to 18 weeks	Group	School	Mod	Low	0.55[b]
Assertiveness Training	*	Not specified	100% male	13 to 14	100% African American	Not specified	Twice per week	4 weeks	Group	Clinic	Low	Low	Not specified
MST	Mod/ High	85%	> 75% male	10 to 17	59% African American; 41% Caucasian	MA	Daily to Weekly	3 to 5 months	Individual	Home; School	Mod		0.5[c]
Problem Solving Skills Training	High	85%	78% male	7 to 13	65% Caucasian; 35% African American	MA	2 to 3 times each week to weekly	7 weeks to 8 months	Individual	In-patient; Clinic	High	Mod	1.59[d]
RET	Mod	*	Both	15 to 17	African American; Hispanic**	MA	Daily	12 weeks	Group	Clinic	Low	Low	3.07[e]

Note: MST, Multisystemic Therapy; RET, Rational Emotive Therapy; Mod, Moderate; Train, Trainability; N/A, not reported; Effect sizes reported are the median effect size across all relevant studies ([a] = Child Behavior Checklist-Total Problems Scale; Achenbach, 1991; [b] = Missouri Child Behavior Checklist-Aggression Subscale; Sines, 1986; [c] = Revised Behavior Problem Checklist; Quay & Peterson 1987, 1996; [d] = Child Behavior Checklist-Externalizing Scale; Achenbach, 1991; [e] = observations of disruptive classroom behavior). * = Could not be estimated due to lack of information in published reports; ** = breakdown not specified by percentages.

has demonstrated superiority to realistic and commonly employed alternative treatments. For example, although MST was rated as moderately costly, it appears to be less costly and to provides greater benefit for youth with severe conduct disorders than its current alternatives (Henggeler et al., 1992).

Problem Solving Skills Training was tested with mostly young boys, about one-third African American, two-thirds Caucasian. Sessions were usually weekly and were successfully delivered in both clinic and inpatient settings. The effect size was large, suggesting that the average treated child scored better than 94% of children's scores before treatment. Overall, the research suggested that Problem Solving Skills Training may be a reasonable alternative to Parent Training for younger children with aggressive behavior. Although combined treatments were explicitly reviewed, Problem Solving Skills Training in combination with Parent Training was noted to be superior to either alone in a single study (e.g., Kazdin et al., 1992), suggesting additive benefits conferred by Problem Solving Skills Training.

Anger Coping Therapy was tested with children from 9 to 18, with two different variants of the therapy for children and for teens. The interventions were administered in group format at school. The effect size was modest, suggesting that the average treated child scored better than 71% of children's scores before treatment Robustness was rated as moderate, given that the children did not appear to be as severe as some children evaluated in other studies in this literature. Anger Coping Therapy may be an alternative to other treatments in this area for less severe cases. Given its group format and the accumulating evidence suggesting that group treatments for such children may be contraindicated (Dishion, McCord, & Poulin, 1999) this approach was not considered as a first choice treatment.

Assertiveness Training was tested in a single study with an African American middle school sample. It involved 8 sessions over 4 weeks. Limited information was available regarding compliance and effect size. It was judged to be only moderately robust and similar concerns were noted about its group format (Dishion et al., 1999).

Finally, Rational Emotive Therapy was supported in a single study of late adolescent ethnically mixed boys and girls who demonstrated noncompliance or truancy. Rational Emotive Therapy also employed a group format, meeting once each weekday for 12 weeks. The treatment is notable in that it is one of the few to include a large proportion of girls and may be a suitable treatment to consider for adolescent girls, particularly those not responding to treatments with stronger support. The effect size on disruptive classroom behavior was rather large, with the average treated child demonstrating fewer problems than 99% of the group before treatment. This effect size is not directly comparable with other treatments in this area, for which effect size was estimated using different dependent variables. Cohort effects should also be noted, in that this single study was conducted in 1978 and its applicability to present day disruptive adolescents may be questionable.

DISCUSSION

Review

The summary of findings suggests that a variety of efficacious procedures exist across a range of childhood disorders. Although our methodology was somewhat different from that of previous reviews (more conservative in some areas and considerably less conservative in others[5]), it is interesting to note that the pattern of findings is relatively consistent with the existing literature. In anxiety disorders, for example, the methodology was relatively liberal with broadly-defined treatments (e.g., self-instructional coping was considered a form of CBT) and, in contrast to previous reviews, all anxiety disorders were considered simultaneously. Previous reviews of efficacy (e.g., Ollendick & King, 1998) found slightly different results when considering the phobia and anxiety literatures separately, but again, these are differences in degree and not in order. The review of effectiveness parameters suggested a need for better specification of ethnicity in this literature and greater clarity regarding dropout rates across studies.

Another interesting finding emerged in the anxiety literature, highlighting the complexity of considerations required in selecting the best treatments. Although CBT alone was noted to have better status in terms of efficacy, the CBT Plus Parents was actually found to be better than CBT alone in a well-controlled study and demonstrated a larger effect size (Barrett et al., 1996). From an implementation perspective, the question becomes whether to choose CBT alone or CBT Plus Parents, essentially a question of weighting efficacy versus effectiveness. Although much of the literature on empirically supported treatments tends justifiably to privilege efficacy in this contest (Chambless & Hollon, 1998), our Task Force struggled

with such questions and decided to make provisions for either treatment to be implemented, depending on such factors as availability of family members and parental motivation.

Regarding ADHD, our findings necessarily represent a simplification of the literature. As noted elsewhere (e.g., Pelham, Wheeler, & Chronis, 1998), the majority of the research on ADHD does not lend itself to being held up against the traditional efficacy criteria, given the required complexity of most experimental designs in this literature. For example, almost all treatments included stimulant medication as the alternative treatment, whereas other literatures have been able to employ "psychological placebos" (e.g., supportive attention) with greater frequency. This design constraint raised the empirical challenge for psychosocial treatments considerably relative to other literatures. Also, given the impairment and need for immediate intervention often associated with ADHD, no-treatment and waitlist conditions were rare. The investigations most typically asked complex questions about combined treatment conditions and relative effects across dosage or treatment intensity levels. Accordingly, and as pointed out by Pelham et al. (1998), there was a great deal of empirical support for Behavior Therapy that could not be easily represented in reviews using Task Force criteria. Nevertheless, as was the case with anxiety disorders, the results were robust despite the methodology and Behavior Therapy emerged as the nonpharmacological treatment of choice. A more detailed discussion of combined treatments, the role of medication in the treatment of ADHD, the selection of appropriate dependent measures for such research, and other issues can be found in several excellent sources (e.g., Barkley, 1997; MTA Cooperative Group, 1999; Pelham et al., 1998).

This issue of research complexity and inconsistency with Task Force criteria was even more pronounced in the area of autistic disorder. As noted by Rogers (1998) and Lonigan et al. (1998), there is extensive literature on focal treatments for autism, with multiple replications of well-controlled single-case designs. Often, however, such designs do not include a formal alternative treatment, a requirement according to Task Force criteria with respect to single-subject designs. Further, such studies are penalized in such a review process due to their lack of manualization of treatment protocols, although such treatments are often more individualized and thus harder to codify than are treatments for other disorders. Another challenge facing this literature involved the difficulty with randomization, with EBS Task Force members (particularly parent representatives) noting that between-group designs, although heavily favored in the efficacy criteria, are less suitable with this population, given parents' concern that every child should get the active treatment. These considerations in large part motivated the creation of our Level 3 efficacy status, without which there could be no distinction between those treatments with substantial single-subject experimental support (e.g., Applied Behavior Analysis) from those treatments with no credible evidence (e.g., Facilitated Communication; Biklen, 1993).

Nevertheless, despite these unique and perhaps undue challenges to demonstrating efficacy in this literature, our results are consistent with most recent reports, suggesting that behavior analytic techniques appear to provide the greatest chance of focal improvement in children with autism (e.g., Howlin, 1998). With respect to the effectiveness information, it was interesting to note that most services were provided by Bachelor's-level practitioners, graduate students, or teachers, under the supervision of the investigator (although supervision was presumably intensive and administered by someone at the doctoral level). This observation was viewed as a positive finding in this area, given the clinical resource problems often encountered by families of children with autism. It was also noted that only very limited information about ethnicity was provided in this literature. Although this omission may seem less relevant in this literature, our Task Force felt this information had potentially strong bearing on the notion of acceptability, with some ethnic or cultural groups finding particular types of intervention preferable to others (e.g., home-based vs. school-based).

In the area of depression, our findings differed somewhat from the recent review by Kaslow and Thompson (1998), due to our more liberal definition of CBT (see Weisz & Hawley, 1998, for a discussion of treatment definition and its implication for efficacy) and our collapsing across children and adolescents (age was considered an effectiveness parameter in our methodology). That is, a variety of CBT manuals for children and adolescents were collectively considered CBT. Given the multiple demonstrations of support using different manuals and populations, it appears that CBT was a fairly robust treatment for depression. Also, several important studies have emerged subsequent to the review by Kaslow and Thompson (1998), providing additional support for both CBT and IPT.

Two important issues were noted in the area of conduct disorder. First, perhaps here more than anywhere, a large number of treatments involved different formats for delivering highly similar information and strategies. In particular, Parent Training and its variants (e.g., time-out, reward contracts, giving commands) included videotaped instruction, parent group discussion, parent training alone, and parent training with the child present. All of these variations demonstrated positive outcomes, suggesting that the parent training techniques were particularly robust.

Second, the population of children represented by conduct and oppositional disorders varied considerably, from misbehaving youngsters to delinquent adolescents. Thus, developmental considerations and child characteristics (effectiveness issues) must be considered when selecting treatments in this area. In other words, we did not believe that a Level 1 treatment was the best choice for all children with conduct or oppositional problems, unless the effectiveness parameters (most notably, age) also suggested evidence of success. For example, the support for MST for delinquent adolescents suggested its relative appropriateness over Parent Training, despite its currently lower demonstrated efficacy.

Observations: Putting the Review in Context

As has been argued elsewhere, a critical next step involves moving these services into communities (e.g., Lonigan et al., 1998; Weisz, Donenberg, Han, & Weiss, 1995; Weisz et al., 2000). Both the process of reviewing psychosocial treatments within the context of a multidisciplinary, academic-practice partnership and the subsequent training and state policy revisions raised a number of important issues and insights, which are outlined here. As noted previously, our procedures may not be uniformly relevant to other practice organizations. For example, the Hawaii child and adolescent mental health system is undergoing a large-scale reorganization mainly as a result of the federal consent decree mandating such improvements. Many practice organizations may consider a wholesale restructuring unnecessary or inappropriate. Also, the relative importance of various effectiveness parameters for the various treatments may differ from region to region. The unique geographic and cultural aspects of Hawaii necessitated an emphasis on the generalizability of empirically based treatments, about which local doubts were highest. Other areas, particularly those whose populations are similar to those represented in efficacy trials, may find that such dimensions as cost or duration of treatments are of greater concern. Overall, however, we do feel that our adaptations and extensions of existing reviews are for the most part likely to be useful in other efforts to implement empirically based treatments, most notably our addition of new efficacy levels and consideration of effectiveness dimensions. In any organization that must issue and enforce practice guidelines, such methods are likely to bring more of the relevant data to the table.

Some insights were gained from the multidisciplinary nature of the committee itself. For example, one notable obstacle to changing the nature of mental health practice concerns the disparate, often incongruous, and occasionally competing recommendations to practice organizations stemming from multiple mental health disciplines. Administrators in the Hawaii state mental health system have been quick to point out that a consistent set of practice standards needed to be issued and that the training and roles for various mental health disciplines should be established based on this consistent reading of the literature across disciplines.

This process thus increased the collective understanding of what elements contribute to change among the procedures of social workers, psychiatrists, psychologists, and other health care providers. In fact, much of the group discussion involved different members identifying with those aspects of treatments that were most similar to the theoretical approach of their own training, allowing all members to learn about the strengths of the various mental health practice disciplines. As the available treatment procedures continue to evolve, it is likely that new advances will be fostered through a distillation of the most powerful techniques established within various disciplines. As an example, MST for Conduct Disorder has successfully blended skills and knowledge drawn from such disciplines as social work, psychology, psychiatry, and criminal justice.

Another benefit of this multidisciplinary review was feedback on the largely psychological research methodology from a variety of perspectives. For example, the prevailing and justifiable approach within psychosocial clinical research involves multiple teams of investigators working within an area, all using slightly different manuals or protocols. Such an arrangement constitutes the dialectic engine of scientific progress in the area; however, from the practice perspective, this arrangement also creates

difficulties in the selection of treatments or the understanding of substantive differences among treatments. As noted previously, the issue of whether one decides to be a "lumper" (considering treatments equivalent on the basis of similar ingredients) or "splitter" (considering treatments at the level of the manuals) with respect to defining protocols also impacts the volume of empirical support for each approach (Weisz & Hawley, 1998). The perspective of a committee with an obligation to practitioners, families, and educators selecting treatments was that multiple variations of similar techniques not only should be "lumped" but also that such variations in aggregate spoke directly to the robustness of the approach. For example, considering multiple versions of Parent Training collectively both increased confidence in that approach and simplified the process of dissemination.

As noted previously, the main approach used here originated from the initial work of APA Division 12 and its subsequent application to children and adolescents. Because the origins of the Division 12 methodology were designed mainly with adult treatments in mind, some interesting concerns were raised by EBS Task Force members, as well as by visiting national consultants to the Hawaii Department of Health. Specifically, the APA methods define treatments as a set of procedures (e.g., cognitive restructuring, reward contracts), yet many treatments for children are defined and funded in terms of their locations (e.g., residential treatment, group home). The overwhelming majority of well-specified or manualized treatments are administered on an outpatient basis (e.g., Weisz, Huey, & Weersing, 1998). Thus, the APA approach can be problematic for children specifically, for whom outpatient services account for only 40% of services (Burns et al., 1995). For example, such potentially important interventions within the state service system as residential treatment and therapeutic foster care were unable to receive empirical consideration in light of these issues with procedural definitions of treatment. Again, one of the few exceptions was MST, a home-based approach that is nevertheless manualized and rigorously specified (Henggeler & Borduin, 1990).

Our initial approach was to postpone the evaluate of location-based treatments, owing to the immediate need to evaluate the rather substantial evidence base for procedure-basedoutpatient services. However, our Task Force is currently designing a further adaptation of the Division 12 methodology that would allow for the evaluation of these programs, some of which have been evaluated in controlled clinical trials (see the U.S Department of Health and Human Services, 1999, for a comprehensive review). Further, our members noted the need for state policy requiring the blending of procedure-based and location-based treatments, such that inpatient, residential services, group homes, and so forth, would need to specify the types of intervention protocols being used in those settings (e.g., behavior therapy) in order to receive funding. Such a policy could perhaps mean moving some existing well-supported, manualized treatments into school and residential settings; at the same time, this policy could also support emerging programs that arise as procedural specificity increases in the research literature on location-based services. It is expected that future treatment development will witness a blending of the specific therapeutic procedures identified in the treatments reviewed previously with residential, school, and home-based approaches.

Another point of concern raised during this review process, and one that was difficult to address from the literature, involved the sequencing of treatments in instances of comorbidity. Comorbidity is common in child psychopathology (e.g., Kazdin, 1997), and attention to the methods or algorithms by which interventions are applied has increased with the literature on "stepped care" (Haaga, 2000). This notion is of great concern to the practice world, in that nonresponders—which are large in number—must be provided some promising alternative following an initial treatment failure. The adult literature has begun to investigate these issues in the area of eating disorders (Wilson, 1996), for example, but for the majority of areas much work remains to be done to clarify the best approaches.

On a positive note, in contrast to the some of the current thinking regarding the efficacy and effectiveness distinction (Nathan et al., 2000), it did not seem necessary to wait for effectiveness trials to answer some important questions relevant to implementation (cf. Jacobson & Christensen, 1996). Our group concluded that—particularly as a starting point—inferences about effectiveness can already be drawn from efficacy trials, through a systematic review of the parameters outlined by the APA Task Force (1995). Although effectiveness trials are needed (Weisz et al., 1995; Weisz et al., 2000), it will be helpful to continue to track information more systematically when conducting and reviewing efficacy studies,

particularly information related to compliance, acceptability, and child characteristics.

Conversely, it was also noted that despite recent national initiatives to support effectiveness research (Norquist, Lebowitz, & Hyman, 1999), effectiveness trials will not guarantee useful information about effectiveness. Although effectiveness trials substitute real world clinicians for university-based therapists and increase the range of pathology addressed, other differences from efficacy research are only implied (e.g., ethnic diversity, socioeconomic status, treatment setting). Thus, our EBS Task Force agreed, for example, that an efficacy trial with Pacific Island children as participants might be more relevant to local practice than an effectiveness trial with African American youth in New York. Such considerations will clearly be important as research policy continues to develop along the dimensions of efficacy and effectiveness.

Inconsistent with our expectations, it was difficult to arrive at a consensus for the placement of any specific treatments into Level 5. Meta-analytic work did suggest that group interventions for adolescent aggression were potentially iatrogenic and harmful (e.g., Lipsey, 1992), and for this reason, our Task Force has introduced formal cautions regarding such treatments into state policy. However, we could not easily identify individual studies that demonstrated significant deterioration relative to a control group that allowed us to place specific protocols into Level 5. As noted by Dishion et al. (1999), much of this challenge may be due to the file drawer problem, with researchers and journals not publishing studies with null or negative effects. Despite being an empty condition in the present review, a Level 5 may nevertheless be useful in highlighting the need to publish negative research findings more consistently in the future. Perhaps future reviews will be in a better position to identify harmful treatments.

Apart from these issues related to mental health practice and dissemination, the group also articulated a desire for a more uniform methodology across outcome studies. Specifically, the level of detail of the various effectiveness parameters within studies was found to be rather inconsistent, even in treatment research published after the APA Task Force (1995) report on effectiveness. These issues were of great concern to families and those who work directly with families, particularly in light of evidence that some empirically supported treatments appear to be less effective with nonmajority populations (Chambless et al., 1996; Leong, 1994). In particular, owing to its diversity Hawaii is a state in which practitioners and families are justifiably hesitant to invest in a new set of strategies without sufficient knowledge of therapist, client, and setting characteristics in previous clinical research. For a variety of areas, basic information on ethnicity was mostly absent from research reports, representing a potential obstacle to disseminating treatments among nonmajority providers and consumers. It is our hope that journal editors might work to better standardize the reporting of effectiveness criteria in future efficacy studies, as in so many cases with our review the data were available to the investigators but were not reported or were difficult to find.

Finally, the group recognized the value of establishing and maintaining a mental health system–university–parent partnership in working toward the design of clinical practice guidelines. Although this group encountered some obstacles with respect to differences in perspective, these differences ultimately fostered growth and learning that directly impacted state policy. Moreover, a principal benefit of administrators, academicians, and families working on the same committee was that the immediate concerns from the "front lines" of practice were and continue to be fed back directly to those individuals managing clinical research, training clinicians, and developing policy. As Hawaii moves to develop further its child mental health service delivery through the dissemination of promising treatments and the establishment of appropriate supervision networks, the value of a team to bridge the gap between university and community is clear.

As has been noted elsewhere, the need for successful implementation of empirically based treatments represents the next great challenge to the discipline (Barlow, 2000; Weisz et al., 1995). Clearly the methods selected by the Hawaii CAMHD of the Department of Health are not uniformly relevant to other practice organizations, but it is the hope of this group that a description of our methods and results might provide some benefit in similar implementation efforts elsewhere (cf. Andrews, 2000; Hunsley & Johnston, 2000; Schulte & Halhweg, 2000). We acknowledge also that the great number of details involved in such a review will necessarily involve some errors or omissions and we welcome feedback in this regard. More generally, this group welcomes feedback, questions, or comments from other groups implementing empirically based practice on a large-scale. It is a dialogue that one hopes will continue to improve the nature of practice.

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NOTES

1. Service testing involves sending a team of trained individuals to spend two days in the field interviewing all major stakeholders (parents, the youth, state and private mental health workers and educators). The team reviews all of the available records, examines existing plans, and reviews the progress of the child. From each school complex a number of youth (generally between 10 and 15) are selected for service testing and the results are compiled to demonstrate a "snapshot" of service effectiveness and child well-being at that moment in time. The results are presented in a public forum and each school complex (and related stakeholders) follows up with a planning forum to either address existing needs or capitalize on identified strengths of the local service system.

2. The specific composition up of the core reviewers at the time of the review was as follows: 6 psychiatrists, 4 psychologists (Ph.D.), 3 parents, 2 state administrators, 1 nurse (Ph.D.), 1 social worker (Ph.D.), and 1 psychology doctoral student (M.A.). Of these, seven were employed by the state Department of Health, three were faculty at the University of Hawaii, and six were employed by both organizations.

3. Our strategy here was somewhat a compromise of academic and system interests. We thus searched for original articles only back to 1980 in a effort to expedite the process of identifying best treatments, particularly given that much of the efficacy review had been accomplished previously. We sought to minimize any errors of omission through further evaluation of any older studies cited in recent review articles.

4. The APA Task Force (1995) also noted that "acceptability" was an important part of feasibility, yet we were unable to meaningfully include the dimension of acceptability in our review. This was not so much due to problems defining acceptability (we would have defined it as the percentage of families offered treatment who accepted), but to the lack of appropriate treatment acceptance data in many efficacy trials. Given that we would have had to rely mainly on clinical consensus to rate treatment acceptability, our group ultimately omitted this variable from our procedures (with the encouragement of an outside reviewer). This does not mean, however, that future reviews should not include acceptability as a variable of interest. On the contrary, we encourage efficacy researchers to more consistently present data on treatment acceptance in their reports, such that future reviews can evaluate treatments in a way that ours could not.

5. Our definition of experimental control resulted in the omission of several partially-controlled studies cited elsewhere as supporting the efficacy of treatments, including some of those listed in the Division 12 Section 1 (1998) Special Issue and the American Academy of Child and Adolescent Psychiatry practice parameters (1997, 1998, 1999). On the other hand, our more liberal practice of considering similar treatment manuals as the same treatment resulted in a greater accumulation of empirical support than would have been documented using the Division 12 criteria as written by the original Division 12 Task Force (1995).

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