



▶ 2007 Biennial Report

Effective Psychosocial Interventions for Youth with Behavioral and Emotional Needs

Evidence Based Services Committee

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Effective Psychosocial Interventions for Youth with Behavioral and Emotional Needs

This report is an updated review summarizing selected areas of the scientific literature on interventions, services, and medications for youth with significant emotional or behavioral needs. The Child and Adolescent Mental Health Division (CAMHD) of the Hawaii Department of Health Task Force for Empirical Basis to Services issued the original review in August 2000, and its authors disseminated the findings nationally in the journal *Clinical Psychology: Science and Practice* in spring 2002. Updates have been published in 2002 and 2004.

The CAMHD Task Force for Empirical Basis to Services was established in 1999, and in August 2002, the Task Force became a standing committee (Evidence Based Services Committee). This committee continues to read, review, and incorporate into policy the various scientific findings related to child emotional and behavioral health.

Committee membership is an open process, by which a member petitions in writing to join. Continual membership requires regular attendance (no more than two consecutive absences) and participation in the reading and presenting activities conducted for the purposes of reviewing findings. Detailed coding of papers on psychosocial treatments is conducted independently by PracticeWise, LLC, who provides coding results to the committee for review purposes.

Committee members have included parents, providers, educators, university faculty, and health

administrators, with backgrounds in nursing, social work, psychology, psychiatry, and special education.

The overarching goals continue to be to broaden and update the summary of scientific information used to guide decisions about children's care. This report involves an extensive review of the major randomized, controlled research findings for psychosocial (non-medication) treatments for youth. Particular attention is paid to independent scientific demonstrations promising of outcomes, provider and youth characteristics, intervention setting and format, and size of the observed effects. Information on effective psychopharmacological approaches for youth with behavioral and emotional needs is not included in this report, but will be issued by CAMHD at a later date.

Methods

The methods for this report can be traced back to the multiple efforts conducted within the American Psychological Association (APA) in the mid 1990's. These include the collective reports of APA Task Force on Psychological Intervention Guidelines (1995), the APA Task Force on Promotion and Dissemination of Psychological Procedures (1995), and the APA Task Force on Empirically Supported Psychosocial Interventions for Children (1998).

Because the work of the EBS Committee involves the specific goal of improving practice on a large scale, it has long been the consensus of the Committee that simply distributing lists of evidence-based interventions (e.g., as found in other reports or on the internet) is insufficient to ensure that quality interventions would ultimately be delivered to children locally. Because such factors as the appropriateness of particular interventions for various ethnic groups of various ages in various settings, the recentness of the literature, the magnitude of treatment effects, and the "trainability" of various programs are of high concern to providers

and families, these concerns have remained a major focus of the Committee in its review.

The research literature reviewed in this report is primarily organized around particular problem behaviors, rather than strictly by psychiatric diagnosis. For example, many studies of depression used ratings of low mood rather than diagnosis as a means for including participants. Thus, although the findings in the “depression” section may be relevant to youth with diagnoses of Major Depressive Disorder, they are also relevant to youth with low mood levels.

Services for the EBS Committee review were identified by the PracticeWise coding team through a combination of strategies, including: (a) computerized searches of electronic databases for relevant publications; (b) evaluation of studies reviewed by the APA 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 national scholars in effectiveness research and (d) additional *ad hoc* nominations from EBS Committee members and members of the PracticeWise coding team. Three hundred and twenty two (322) studies were read and coded over a period of 3 years for this report. This is more than double the amount of studies coded for the previous CAMHD Biennial Report.

Levels of Analysis: Treatments and Treatment Families

Interventions were not defined at the level of specific manuals. Rather, interventions sharing a majority of components with similar clinical strategies and theoretical underpinnings were considered to belong to a single “treatment family” for the purposes of evaluation. For example, rather than score each Cognitive Behavior Therapy protocol for anxiety on its own (there are more than a dozen such protocols), these protocols were considered

together as a single group that could achieve a particular level of scientific support.

This decision to aggregate to a lower level of detail was designed to prevent challenges for users of the report that would result from finding a great many related interventions each with only limited support, and little means to select among those interventions for implementation, treatment planning, etc. For example, different interventions for depressive or avoidant behaviors that involved self-monitoring, identifying problem thoughts, developing coping thoughts or problem-solving strategies, and accompanying behavioral exercises were collectively labeled “cognitive behavior therapy” (CBT) and evaluated as a single approach, called a “treatment family.” When differences were more substantial (e.g., one intervention outperformed another in a study), treatment families were considered distinct. When key differences were noted with respect to the inclusion of parents in the intervention, this often defined a new “treatment family” as well.

“Strength of Evidence” Defined: The New Five-Level System

In order to develop a sense of which treatments have the best scientific support, it is important to come up with a system of rules for “grading” the strength of evidence. Again, the starting point was the criteria developed by APA over 10 years ago. The APA’s Task Force on Promotion and Dissemination of Psychological Procedures (1995) defined two different levels at which an intervention may be deemed “efficacious” or having strong evidence for its effects (see the first two levels in Table I). At the highest level, the APA stated that a “Well-Established” intervention refers to an intervention that has demonstrated its effects either (a) in a minimum of two good between group design experiments, where the intervention is superior to pill or psychological placebo or to another intervention, or (b) in a large series of controlled single-case experiments ($n \geq 9$) that have compared the intervention to another intervention. In either

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

In the original EBS Committee reviews from 1999 to 2004, it was not always possible to identify interventions in all problem areas corresponding to “Well-Established” (Level 1) or “Probably Efficacious” (Level 2) status. This led to the decision of the committee to expand and ultimately redefine the criteria for strength of evidence to include a wider range of interventions for consideration. The resulting expanded criteria were adapted from the definitions of the APA Task Force, and consisted of 5 levels, with a third level corresponding to treatments without manuals, a fourth level for treatments with minimal or no evidence, and a fifth level added corresponding to treatments with known risks. This set of definitions was used by CAMHD from 2000 to 2007.

This set of definitions was revised again in 2007 such that the five-level system now simply refers to the strength of *supportive* evidence for a treatment family. Potentially harmful treatments are now identified using a convention other than the five-level classification.

Definitions of the levels of evidence have been revised for 2007 (see Table 1).

Level 1 (**Best Support**) continues to correspond to the APA definition of “Well-Established” described

above. Likewise Level 2 (**Good Support**) corresponds to the APA definition of “Probably Efficacious” described above. Definitions for both levels 1 and 2, however, no longer take into consideration studies involving single case experimental designs, given the increasing depth of the literature involving randomized clinical trials.

Level 3 (**Moderate Support**) continues to refer to treatment families that would otherwise meet criteria for Level 2 but do not involve the use of treatment manuals.

New strength of evidence definitions are being employed for levels 4 and 5, now called **Minimal Support** and **No Support** respectively. A classification of **Minimal Support** (Level 4) denotes that a protocol in that treatment family may have beaten a no-treatment or waitlist control group in a single study, with or without the use of a treatment manual. Given that achieving this level of support is relatively undemanding, treatments families with **Minimal Support** are considered preliminary, and are identified simply for the purposes of differentiating them from interventions with no scientific support whatsoever. Treatments families with **Minimal Support** should rarely if ever be the first line choice of treatment, unless no better options exist for that particular youth problem.

Table 1. Definition of Strength of Evidence Levels

Level 1: Best Support

- I. At least two randomized trials demonstrating efficacy in one or more of the following 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).
- II. Experiments must be conducted with treatment manuals.
- III. Characteristics of the client samples must be clearly specified.
- IV. Effects must have been demonstrated by at least two different investigators or teams of investigators.

Level 2: Good Support

- I. Two experiments showing the treatment is (statistically significantly) superior to a waiting-list or no-treatment 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 (30 participants per group on average).

Level 3: Moderate Support

- 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 (30 participants per group on average).

Level 4: Minimal Support

One experiment showing the treatment is (statistically significantly) superior to a waiting-list or no-treatment control group. *Manuals, specification of sample, and independent investigators are not required.*

Level 5: No Support

The treatment has been tested in at least one study, but has failed to meet criteria for levels I through 4.

A classification of **No Support** indicates that a treatment family was tested and did not once outperform any control condition (active treatment, waitlist, no treatment, placebo, etc.). In other words,

treatments labeled with **No Support** are those that were tested and failed.

Treatment approaches not listed in the analyses or mentioned in this report may also literally have “no

support,” but will not show up in the results. These approaches include the hundreds of named psychotherapies that have never been tested in a randomized clinical trial. One can assume that if the treatment is not listed at one of the 5 levels of evidence in this report, that the EBS Committee through its procedures has not identified any studies—successful or otherwise—that have tested that treatment. For example, the absence of any discussion of Health Realization as a treatment for youth with anxiety problems would simply mean that we were unable to identify any qualified research on that treatment approach for that problem type.

Quality and Relevance

As originally recommended by APA in the early 1990’s, the Committee also examined aspects of interventions that spoke to their feasibility, relevance, and expected benefits. These variables were defined by the Committee in a manner consistent with that of the original APA Psychological Intervention Guidelines Task Force, with several key additions. The information coded for each study and the corresponding definitions appear in Table 2.

Several of these variables warrant specific mention here. The first two columns in Tables 3 through 9 speak to the quality of the research by showing (1) the overall volume of research (the number of successful studies or “trials”) and (2) the recentness of the research (the publication year of the most recent study). Generally speaking, treatment families may be viewed more positively when the research is both plentiful and current. This suggests that treatments of this nature are perhaps better understood and are continuing to be refined and studied, either in new contexts or under varying conditions. Another very important variable in Tables 3 through 9 appears in the rightmost column and refers to the size of the effect observed on average across all positive studies of treatments in that treatment family. Larger numbers are better, and numbers higher than 1.0 generally mean that a youth

on average will improve to a degree equivalent to just above a clinical threshold to average for a non-treated population. In other words, an effect size of 1.0 is quite large, and on a more conventional metric, is equivalent to a change from 85 (low normal) to 100 (normal) in IQ points. These effect sizes are calculated on a single measure of the treatment target for each study, and therefore are subject to especially large errors in estimation when the numbers of studies are small. Therefore, it is recommended that effect size estimates of treatment families with 3 or fewer trials be interpreted with great caution. One should not consider a treatment with one study showing an effect size of 2.0 as definitely “more effective” than a treatment with five studies showing an average effect size of 1.0. Finally, effect size estimates do not take into consideration changes on any variables such as function, education, etc. (see below for definitions of outcomes). Entries in the summary tables are sorted in descending order within level by number of trials, and within number of trials by descending effect sizes.

Definitions of Outcomes

The coding of all studies involved the examination of variables across 6 different domains: **target symptoms** (those related to the youths’ “main problem,” e.g., depression in a study of depression), **other symptoms** (other symptoms that were not the direct target of the interventions, e.g., anxiety in a study of depression), **education** (e.g., attendance, academic performance), **functioning** (e.g., ability to meet role expectations), **satisfaction**, and **ecology**. However, all findings throughout this report are based on findings for the first domain only. Treatment level assignments might be entirely different for the **functioning** domain, for instance. Two major reasons for not including these other domains in this report are (1) to reduce the overall complexity of the findings and (2) to address the fact that most studies report no data in the five domains other than **target symptoms**. Nevertheless, future reports may take a closer look at the findings in these other areas.

Table 2. Codes for Quality and Relevance

| | |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Trials | This is the number of studies that contributed to a particular treatment family achieving an evidence-based status (at a level of 1 through 4). |
| Year | The year of the most recent successful study of an intervention in a particular treatment family. This in some ways may speak to how current the literature is on the intervention type. |
| Trainability | An estimate of the degree to which an intervention can be trained easily to others. “High” = manual available AND treatment was successfully used by non-doctoral level practitioners; “Moderate” = manual available OR treatment was successfully used by non-doctoral level practitioners; “Low” = no manual available AND treatment was successfully used by doctoral level practitioners only. |
| Compliance | An estimate of how acceptable the treatment approach is, but looking at how many children dropped out of the treatment group. Equal to the average percentage of children who did not drop out (post treatment n)/(pre treatment n) within that treatment condition. For example, if 6 of 30 children drop out during treatment, compliance = 80%. |
| Gender | Whether boys or girls (or both) were in the treatment group; if information was not reported for a specific treatment condition, the percentage was estimated using information for the entire study; when the lower percentage was greater than 30%, the term “both” was used. When the lower percentage was below 30%, the treatment was listed as representing the majority gender only (e.g., studies that had 75% boys would be displayed as “boys”). |
| Age | Years or months since birth; when range was not reported, it was estimated by using the mean age plus or minus 1.5 <i>SD</i> (approximately 87% of a normal distribution); thus, for a mean age 9.0 and <i>SD</i> = 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. |
| Ethnicity | Presence of each ethnic group within condition; if information was not reported for a specific treatment condition, this presence was estimated using information for the entire study under the assumption of the independence of ethnicity and treatment condition. |
| Therapist | The training, if reported, for the main provider(s) involved within each treatment condition. |
| Frequency | The highest and lowest observed frequency of contact with child/family, reported in sessions per unit time (e.g., “weekly”). |
| Duration | The minimum and maximum length of time from pre treatment to post treatment. |
| Format | Whether the treatment was group, individual or some other format of therapy, including whether it included parents or family, etc. |
| Setting | The primary location types 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). |
| Effect size | The size of the effect of the treatment, calculated as the number of (pretreatment) standard deviations that each group improved on average (mean) from pre treatment to post treatment on the primary outcome measure. |

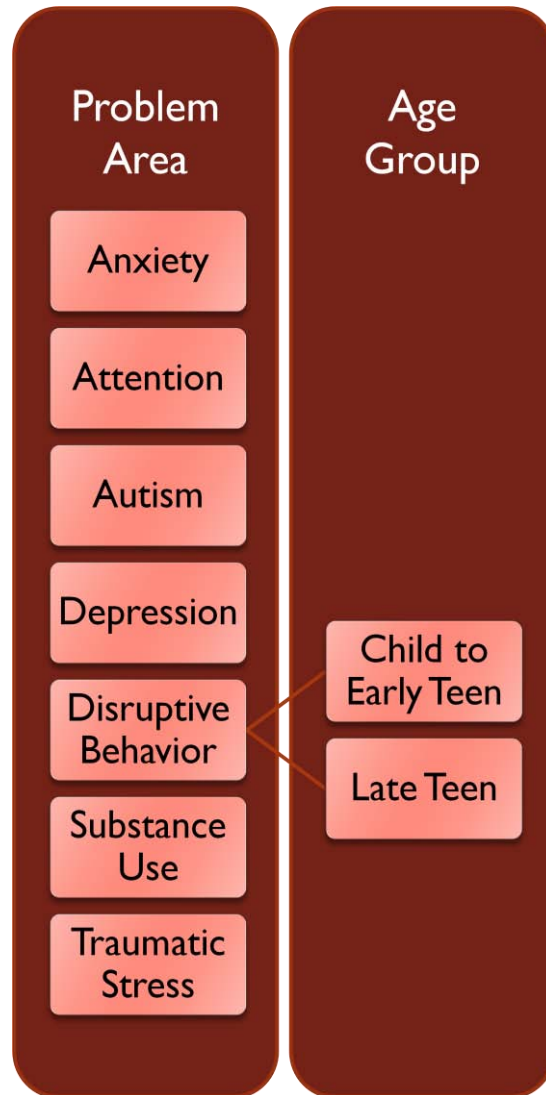
Practice Elements

Keeping with the initiative to develop strategies for measuring and defining clinical practice, the Committee sought to identify their specific “clinical ingredients” of all available evidence-based protocols identified in Section I of this report. These strategies were identified using the PracticeWise clinical coding system, which details over 55 different clinical techniques or procedures, known as “practice elements.” Each protocol was coded for its specific content by two judges regarding the presence or absence of each of these 55 practice elements, and a third judge performed a final validation review. Example practice elements are strategies such as “relaxation,” or “assertiveness training.” Coding was performed on the best available description of the treatment procedures, which in the majority of cases was the description provided in the text of a research study. When the actual manuals were available, these were the first choice for coding.

Graphs or “profiles” were developed to represent the relative frequency with which each element was included in a winning treatment for a particular problem and context. For example, a value of 80% for “relaxation” on a depression figure indicates that 80% of the coded successful protocols targeting depression included relaxation in their approach. A “winning” treatment was defined as an active, non-pharmacological treatment that beat another study group (a treatment group, placebo, waitlist, no-treatment, or other control group) in one or more randomized trials on the main outcome measure in the target symptom domain. Also, practice elements that occurred fewer than 3 times across all “winning” treatments were excluded from the final analyses.

With the codes complete, the Committee then grouped protocols according to the main problem areas represented on the “Blue Menu” summary of psychosocial treatments. Within these areas, a set of analyses was performed to determine whether subgroups of youth were delivered treatment approaches that differed substantially within area.

Figure 1. *Rudimentary Decision Map for Reviewing Practice element Profiles*



* Note. Although listed as its own group here, the practice elements for Traumatic Stress were not so different from Anxiety in the analyses to produce a different group.

This resulted in a “decision map,” although one that was fairly rudimentary given the nature of the treatment literature (see Figure 1). One major finding was that treatments for youth with different problems (e.g., depression versus anxiety) generally received treatment approaches that looked different.

Two exceptions were that (1) practice elements for children with attention and hyperactivity problems were similar to those for children with disruptive behavior, and (2) practice elements for children with traumatic stress were similar to those for children with anxiety. In both cases, the analyses produced a single group for each pair (i.e., “attention and disruptive behavior” and “anxiety and trauma”). Nevertheless, for consistency with the blue menu reporting structure, these problem areas pairs that merged in the analyses were kept separate in the decision map, and separate practice element profiles are presented for each of these areas.

The second major finding was that treatments for youth with delinquency or disruptive behavior problems appeared to look different depending on age groups. Thus, for this problem area, the practice element results are shown individually for each age group rather than in aggregate.

Reliability

Procedures for coding required all papers and protocols to be coded by two independent raters, using a detailed coding manual. The resulting codes were then inspected both by an automated review of rater disagreements and by manual inspection. Coding disagreements generated by the first two raters, as well as any manually identified coding errors were corrected by a third rater in the final record for each protocol and paper.

These coding procedures are similar to those used in previous versions of the CAMHD Biennial Report, which demonstrated adequate reliability for the article and protocol codes. Reliability is expected to be similar or improved for the current report, based on the highly structured and improved coding procedures.

Cautionary Statement

As mentioned in prior reports, it is important to keep in mind a number of factors when considering the

results of these reviews. First, any summary of scientific support for interventions is a work in progress, in that findings are continually accumulating as new interventions are developed and tested. Thus, the reviews are meant to represent the state-of-the-art at the time that the committee met and cannot address quality of interventions that may still be on the horizon or even appearing in journals this year. Second, the Committee at no point entertained the idea that the results would provide a panacea or produce lists of perfect interventions. Rather, the goals of the group were (a) to rank interventions in order of their relative likelihood to be helpful (b) to provide detailed information about the studies in which these interventions have been found to work, and (c) to provide summary descriptions of the frequency of the use of particular practice elements for different problem areas. These materials are meant to be a guide in treatment planning and review and to support and inform decision-making that involves multiple team members, inclusive of youth and their families.

Third, it is worth noting that the practice element profiles for interventions are merely frequency counts of the presence or absence of particular practice elements in “winning” study groups and therefore cannot speak to their necessity, sufficiency, or causality in producing a positive treatment outcome. In other words, the presence of any one technique in a profile—even when very frequent—does not constitute absolute proof of its effectiveness in isolation or in different combinations. Rather, it summarizes the frequency with which researchers who designed successful treatments included those practice elements along with others in their treatment protocols. These practice elements results are thus intended to be used as a descriptive guidepost for service plan review or development, but are not intended to be so strongly prescriptive that a youth’s plan must include or exclude an element based on its presence or absence in the profile.

Finally, although there is a proliferation of other reviews recommending best practices in the literature and on the internet, such reviews are usually consensus-based, meaning that interventions are selected by a panel of experts. Our approach differs in that it measures each intervention against pre-defined scientific criteria. Our criterion-based approach is thus designed to yield a much more conservative and reliable determination of best practices, and consequently may be inconsistent with consensus-based recommendations found elsewhere. Other reviews available may also yield different results due to the application of different definitions of evidence or other differences in review procedures.

Results of the Review

Anxious or Avoidant Behavior Problems

Interventions Identified

The interventions reviewed for anxious or avoidant behavior problems included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 145 interventions in this area were organized into the following 18 treatment families: **Assertiveness Training, Attention, Biofeedback, Client Centered Therapy, Cognitive Behavior Therapy, Cognitive Behavior Therapy plus Medication, Cognitive Behavior Therapy with Parents, Education, Eye Movement Desensitization and Reprocessing (EMDR), Exposure, Hypnosis, Modeling, Play Therapy, Psychodynamic Therapy, Rational Emotive Therapy, Relationship Counseling, Relaxation, and Teacher Psychoeducation.**

Strength of Evidence

Best Support

Of the 18 treatment families identified, four (4) demonstrated **Best Support**. These were **Cognitive Behavior Therapy, Exposure, Modeling, and Education. Cognitive Behavior Therapy** was successful in 26 studies, beating alternative treatments in 14 comparisons and no-treatment control conditions in 14 comparisons (*note: there can be more than one comparison within studies, since some studies have more than two groups*). **Exposure** was successful in 24 studies, beating alternative treatments in 14 comparisons and no-treatment control conditions in 17 comparisons. **Modeling** was successful in seven (7) studies, beating alternative treatments in two (2) comparisons and no-treatment control conditions in five (5) comparisons. **Education** was successful in two (2) studies, beating alternative treatments in two (2) comparisons and a no-treatment control condition in one (1) comparison. The vast majority of the evidence was in support of exposure and CBT for anxiety.

“The vast majority of the evidence was in favor of exposure and CBT for anxiety”

Good Support

Five of the 18 treatment families were found to have **Good Support**, two of which were variations of CBT. **CBT with Parents Included** was successful in two (2) studies, beating no-treatment control conditions in two (2) comparisons. **Relaxation** was successful in two (2) studies, beating an alternative treatment in one (1) comparison and no-treatment control conditions in two (2) comparisons. **CBT plus Medication** was successful in a single study, beating an alternative treatment. **Hypnosis** was also successful in one (1) study, beating an alternative treatment once. Finally, **Assertiveness Training**

Table 3. Treatment Families for Anxious or Avoidant Behavior Problems

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|-------------------------------------------|--------|------|-------|------------|--------|----------|---------------------------------------------------------------------------------------------------------|-------------------|----------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------|
| 1: Best Support | | | | | | | | | | | | | |
| CBT | 26 | 2004 | High | 95% | Both | 4 to 18 | Asian, Black or African-American, Caucasian, Hindu, Hispanic or Latino/a, Indonesian Dutch, Multiethnic | Pre-BA, MA, Ph.D. | Daily to Biweekly | 1 to 140 days | Family, Group Client, Individual Client, Multi-Family, Parent and Child, Parent Group, Parent Individual, Self-Administered | Clinic, Day Care, School | 2.34 |
| Exposure | 24 | 2001 | High | 97% | Both | 3 to 19 | Black or African-American, Caucasian, Hispanic or Latino/a, Multiethnic | Pre-BA, BA, MA | Daily to Weekly | 1 to 98 days | Group Client, Individual Client, Parent and Child, Parent Group | Clinic, Community, Day Care, Hospital, School | 1.57 |
| Modeling | 7 | 1984 | Mod | 100% | Both | 3 to 16 | Black or African-American, Caucasian, Multiethnic | Teacher, Ph.D. | Daily to Semiweekly | 1 to 180 days | Group Client, Individual Client | School, Dental Clinic | 1.72 |
| Education | 2 | 1986 | Mod | 100% | Both | * | Black or African-American, Caucasian | * | Daily to Semiweekly | 1 to 21 days | Group Client | School | 1.40 |
| 2: Good Support | | | | | | | | | | | | | |
| Cognitive Behavior Therapy with Parents | 2 | 2000 | Mod | 91% | Both | 7 to 14 | * | Ph.D. | Weekly | 12 weeks | Group Client, Multi-Family, Parent Group | Clinic | 1.65 |
| Relaxation | 2 | 1970 | Mod | 89% | Both | * | * | BA, | Daily to Semiweekly | 4 to 8 weeks | Group Client | School | * |
| Cognitive Behavior Therapy and Medication | 1 | 2004 | Mod | 89% | Both | 7 to 15 | Asian, Black or African-American, Caucasian, Hispanic or Latino/a | MD | Semiweekly to Weekly | 12 weeks | Individual Client | * | 4.2 |
| Hypnosis | 1 | 1994 | Mod | 100% | Both | 12 to 15 | * | * | Weekly | 2 weeks | Group Client | School | 2.12 |
| Assertiveness Training | 1 | 1987 | Mod | 79% | Both | * | * | * | Semiweekly | 2 weeks | Group Client | School | * |
| 4: Minimal Support | | | | | | | | | | | | | |
| Rational Emotive Therapy | 1 | 1976 | High | 100% | Both | * | Caucasian | * | Weekly | 5 weeks | Group Client | School | 2.12 |
| Psycho-dynamic | 1 | 1972 | Low | 100% | Both | 6 to 15 | Black or African-American, Caucasian | Ph.D. | Semiweekly | 8 weeks | Individual Client | Clinic | 1.89 |
| Biofeedback | 1 | 1996 | * | 96% | * | * | * | * | Semiweekly | 12 weeks | * | School | * |
| Play Therapy | 1 | 1970 | Mod | 100% | Both | * | * | Teacher | Weekly | 17 weeks | Individual Client | School | * |

Note. "Year" = year of most recent study; CBT = Cognitive Behavior Therapy; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

was successful in one (1) study against an alternative treatment.

Minimal Support

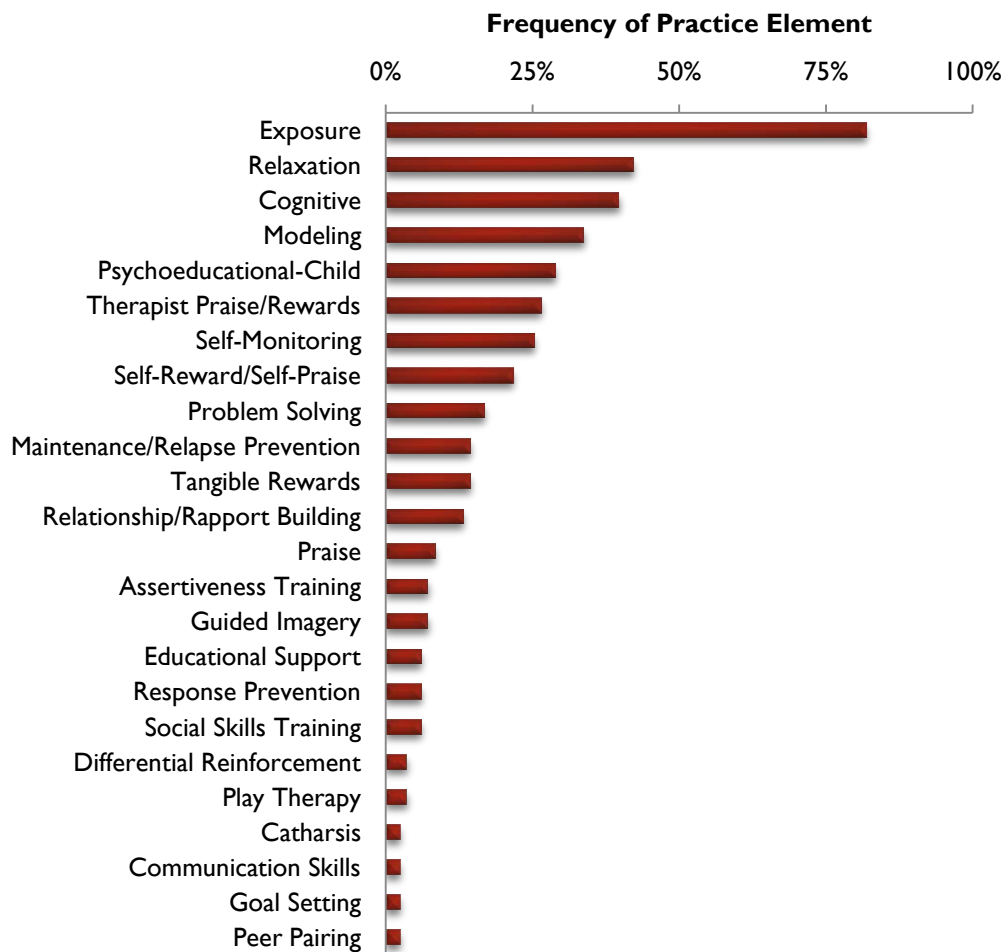
Four (4) treatments for anxiety were found to have **Minimal Support**. **Psychodynamic Therapy, Play Therapy, Biofeedback, and Rational Emotive Therapy** each beat a waitlist or no-treatment control, each in a single study. The evidence for these

four interventions is highly preliminary.

No Support

Several other treatments were tested in randomized trials and belonged to treatment families that were found to have **No Support** in those studies. These included: **Attention, Client Centered Therapy, Eye Movement Desensitization and Reprocessing (EMDR), Relationship**

Figure 2. Practice Element Profile for Anxious or Avoidant Behavior Problems (83 Study Groups)



Counseling, and Teacher Psychoeducation.

Quality and Relevance

Information related to the quality and relevance of the research for anxious or avoidant behavior problems is summarized in Table 3. All of the supported treatment families have been used successfully with boys and girls, are relatively short term, were delivered by therapists ranging from pre-bachelor level to doctoral level, and showed rather large effects. Of the Level I interventions, CBT showed the largest effects on average. Effect size estimates for CBT suggested that the average child score at posttest was better than 99% of the pretreatment scores.

“...CBT showed the largest effects on average.”

Studies that specified ethnicity covered a wide variety of groups, and effective treatments were available for children from ages 3 to 19. According to the literature, CBT and its variants appeared to be more appropriate than other treatments for the more complex anxious or avoidant behavioral problems (e.g., social phobia, separation anxiety disorder, generalized anxiety disorder, post-traumatic stress disorder, etc.). A single study showed that **CBT** for obsessive compulsive disorder was better than medication alone. That same study produced the largest effect size overall for any treatment family for anxiety: **CBT plus Medication**, a treatment with **Good Support**. Because this effect size was based on only a single study, it should be interpreted with caution. Overall, the largest effect size for a treatment without medication was for CBT and was based on 26 studies. With respect to how recent and potentially applicable the research is, only **Exposure** and **CBT** and its variants had studies within the last six years.

Practice Elements

The practice element profiles of all “winning” treatments (83 altogether) are summarized in Figure 2. The results show that exposure (82%) was the most common practice element across study groups. The next five most common practice elements were: relaxation (42%), cognitive (40%), modeling (32%), psychoeducational-child (29%), and therapist praise/rewards (27%).

“exposure...was the most common practice element across study groups”

The shape of the profile highlights the presence of exposure as a therapeutic strategy common to successful treatment demonstrations. Generally, most treatments appeared to be organized around using the other common elements to support the successful use of exposure.

Attention and Hyperactivity Behaviors

Interventions Identified

The interventions reviewed for attention and hyperactivity behaviors included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 67 interventions in this area were organized into the following 18 treatment families: **Behavior Therapy and Medication, Biofeedback, Client Centered Therapy, Contingency Management, Education, Parent Management Training, Parent Management Training and Problem Solving, Parent Management Training and Self-Verbalization, Parent Management Training and Social Skills, Physical Exercise, Relaxation, Relaxation and Physical Exercise, Self Control Training, Self Verbalization, Self Verbalization and Medication, Skill Development, Social Skills, and Social Skills and Medication.**

Strength of Evidence

Best Support

Results for inattention and hyperactivity problems appear in Table 4. Of the 18 treatment families identified, two (2) demonstrated **Best Support** for attention and hyperactivity problems. These were **Self-Verbalization** and **Behavior Therapy plus Medication**. **Self-Verbalization** was successful in four (4) studies, beating alternative treatments four (4) times, and beating a no-treatment control once. **Behavior Therapy plus Medication** was successful in two (2) studies, beating alternative treatments in both of those.

Good Support

Eight (8) different treatment approaches demonstrated **Good Support** for attention and hyperactivity problems. These were **Parent Management Training, Contingency Management, Physical Exercise, Biofeedback, Social Skills and Medication, Relaxation and Physical Exercise, Parent Management Training and Problem Solving, and Education**. **Parent Management Training** was successful in five (5) studies, beating an alternative treatment in one (1) comparison and beating a no-treatment condition in five (5) comparisons. **Contingency Management** was successful in three (3) studies, beating alternative treatments four (4) times, and beating a no-treatment control once. **Physical Exercise** was successful in three (3) studies, beating alternative treatments one (1) time, and beating a no-treatment control two (2) times. **Biofeedback** was successful in two (2) studies, beating alternative treatments both times. The combination of **Social Skills and Medication** was successful in one (1) study, in which it beat an alternative treatment. The combination of **Relaxation and Physical Exercise** was also beat an alternative treatment in one (1) study. The combination of **Parent Management Training and Problem Solving** was successful in one (1) study, beating an alternative treatment.

Finally, **Education** was successful in one study, also beating an alternative treatment once.

Minimal Support

Three approaches demonstrated **Minimal Support** for attention and hyperactivity problems. These were **Parent Management Training and Social Skills, Social Skills** alone, and **Relaxation**. Each beat a waitlist or no-treatment control in a single study. The evidence for these four treatment families (including particular combinations of treatments involving otherwise successful approaches, see below) is highly preliminary.

No Support

Four other treatment approaches were tested and were found to have **No Support** in those studies. These included: **Client Centered Therapy, Self-Control Training, Skill Development**, and the combination of **Parent Management Training and Self-Verbalization**.

The findings regarding **Parent Management Training and Self-Verbalization** may seem particularly counterintuitive, in that it is a combination of two existing evidence-based approaches and yet failed to achieve “evidence based” status. This treatment family failed to level on its own however, because in the one study in which it was tested, it was tested in comparison to two other strong treatment groups: a Parent Management Training group and a Self-Verbalization group. It in fact “tied” both of those other groups on the main outcome measure, but because the sample size per groups was quite small (average group size = 6), the treatment did not fulfill the criteria for leveling (which require an average group size of 30 or more in the event of a “tie”). Thus, it may be misleading or at the very least premature to characterize the combination of Parent Management Training and Self-Verbalization as ineffective—more research is needed here.

Table 4. Effective Interventions for Attention and Hyperactivity Behaviors

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|------------------------------------------------|--------|------|-------|------------|--------|---------|------------------------------------------------------------|-----------------|----------------------|----------------|-------------------------------------------------------------------------------|--------------------------|---------------|
| 1: Best Support | | | | | | | | | | | | | |
| Self Verbalization | 4 | 1982 | Mod | 100% | Both | 7 to 13 | Caucasian | * | Daily to Semiweekly | 2 to 14 days | Individual Client | Clinic, School | 0.48 |
| Behavior Therapy and Medication | 2 | 1999 | Mod | 86% | Male | 7 to 11 | Black or African-American, Caucasian, Hispanic or Latino/a | Teacher, MA, MD | Daily to Biweekly | 12 to 60 weeks | Group Client, Individual Client, Multi-Family, Parent and Child, Parent Group | Clinic, Community | 1.54 |
| 2: Good Support | | | | | | | | | | | | | |
| Parent Management Training | 5 | 2001 | High | 100% | Male | 2 to 5 | * | BA | Weekly | 6 to 12 weeks | Parent and Child, Parent Group | Clinic, Home | 1.80 |
| Contingency Management | 3 | 2000 | High | 100% | Male | 4 to 10 | Caucasian | Pre-BA, Teacher | Daily to Semiweekly | 10 weeks | Group Client | School | > 5.00 |
| Physical Exercise | 3 | 1995 | High | 97% | Male | 7 to 13 | * | MA | Semiweekly to Weekly | 3 to 4 weeks | Group Client, Individual Client, Parent Individual | Partial Hospital, School | 1.18 |
| Biofeedback | 2 | 1982 | Mod | 100% | Male | 7 to 12 | * | PhD | * | 12 weeks | Individual Client | School | 1.40 |
| Social Skills and Medication | 1 | 1984 | High | 100% | Male | 8 to 13 | * | Pre-BA, MA | Daily | 2 weeks | Group Client | School | * |
| Relaxation and Physical Exercise | 1 | 1984 | High | 100% | Male | * | * | MA | Weekly | 3 weeks | Group Client | * | 2.98 |
| Parent Management Training and Problem Solving | 1 | 1991 | Mod | 100% | Male | 7 to 10 | * | * | Semiweekly | | Family, Individual Client | Clinic, Home | 0.82 |
| Education | 1 | 2001 | Mod | 100% | Male | 6 to 12 | Caucasian | * | Daily | 3 to 5 weeks | Computer Administered | * | * |
| 4: Minimal Support | | | | | | | | | | | | | |
| Parent Management Training and Social Skills | 1 | 1997 | Mod | 100% | Both | 8 to 10 | Black or African-American, Caucasian | BA, PhD | Biweekly | 8 weeks | Group Client, Parent Group | Clinic | 2.60 |
| Social Skills | 1 | 1997 | Mod | 100% | Both | 8 to 10 | Black or African-American, Caucasian | BA, PhD | Weekly | 8 weeks | * | Clinic | 1.27 |
| Relaxation | 1 | 1977 | Mod | 100% | Male | * | * | * | | 3 weeks | Individual Client | School | * |

Note. "Year" = year of most recent study; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Quality and Relevance

Information related to the quality and relevance of the research for inattention or hyperactivity problems is summarized in Table 4. The majority of the supported interventions were tested on participants who were mostly male, and notably, no interventions were supported for youth older than age 13. Most were relatively short term, were delivered by therapists ranging from pre-bachelor level to medical doctor level, and almost all showed rather large effects. Of the treatment families with **Best Support, Medication plus Behavior Therapy** showed the largest effect size on average. Effect size estimates for this treatment family

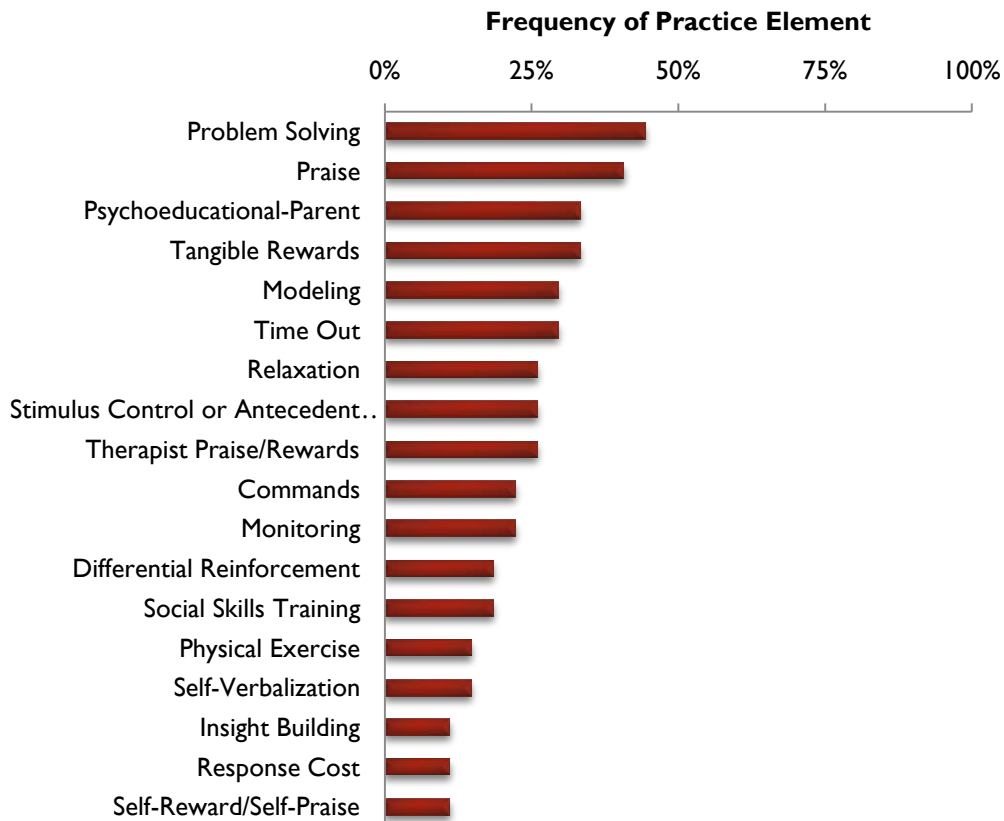
suggested that the average child score at posttest was better than 94% of the pretreatment scores.

Contingency Management showed a very large effect size, although this was based on only two studies (one of the 3 relevant studies did not report effect size), and one of those estimates was an extreme outlier (a highly unusual estimate).

“Of the treatment families with Best Support, Medication plus Behavior Therapy showed the largest effect size on average”

Information on ethnicity was unavailable for most

Figure 3. Practice Element Profile for Attention and Hyperactivity Behaviors (27 Study Groups)



studies, and in those studies that reported it, participants were mostly Caucasian. Some studies reported including African American youth, and only one study reported including Latino/a youth. As a whole, then, the treatment literature on inattention and hyperactivity is largely characterized by Caucasian boys under the age of 13.

Another issue worth noting is that different studies tended to target different types of outcomes. For example, programs such as **Self-Verbalization** typically targeted improvements on test-taking ability or attention capacity; whereas other interventions targeted parent-reported youth hyperactivity. Thus, comparison of effect sizes across treatment families needs to be performed with caution, as some protocols sought to modify more challenging behaviors than did others.

Practice Elements

The practice element profiles of all “winning” treatments (27 altogether) are summarized in Figure 3. The results show that problem solving (44%) was the most common practice element across study groups. The next five most common practice elements were: praise (41%), psychoeducational-parent (33%), tangible rewards (33%), modeling (30%), and time out (30%).

“Problem solving...was the most common practice element across study groups”

The flatter shape of the profile suggests that the successful treatments for this area are somewhat diverse. That is, some contain a handful of the noted strategies, and others contain a different set. No strategy showed up in the majority of approaches.

Generally, most treatments appeared to be organized into one of two types—one that involved the pairing of problem-solving, modeling, and self-verbalization, in which therapists modeled how to “think aloud” to

approach a problem, and one that was based on behavior management strategies of praise, rewards, time out, and parent psychoeducation.

Autism Spectrum Disorders

Interventions Identified

The interventions reviewed for autism spectrum disorders included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 21 interventions in this area were organized into the following three (3) treatment families: **Auditory Integration Training**, **Intensive Behavioral Treatment**, and **Intensive Communication Training**. One additional study (Bristol et al., 1993) tested a **Parent Psychoeducational** program targeting maternal depression, but did not report outcomes for any of the primary symptom clusters for autism, and hence was not subject to a strength of evidence analysis.

Strength of Evidence

Best Support

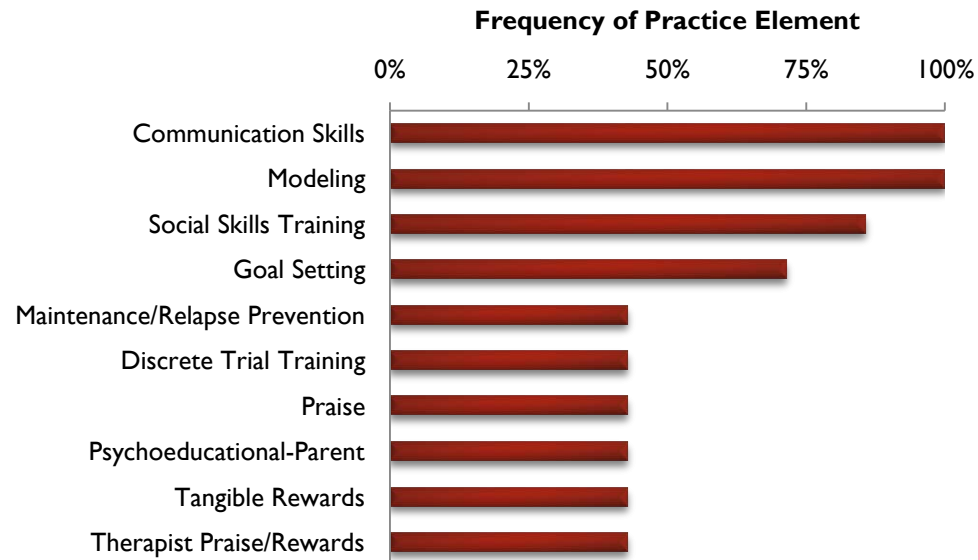
Results for autism spectrum disorders appear in Table 5. Two treatment families demonstrated **Best Support**. **Intensive Behavioral Treatment** was successful in three (3) studies, beating alternative treatments in two (2) of those, and beating a no-treatment control in one (1). Likewise, **Intensive Communication Training** was also successful in three (3) studies, beating alternative treatments in two (2) of those, and beating a no-treatment control in one (1) study.

Table 5. Effective Interventions for Autistic Spectrum Disorders

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|----------------------------------|--------|------|-------|------------|--------|---------|-------------------------------------------------------------------|---------------------|----------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------|
| I. Best Support | | | | | | | | | | | | | |
| Intensive Behavioral Treatment | 3 | 2006 | High | 100% | Male | 2 to 12 | Asian, Black or African-American, Caucasian, Hispanic or Latino/a | Pre-BA, MA, PhD, MD | 5 Weeks to 64 Months | Daily to Weekly | Group Client, Individual Client, Parent Group | Clinic, Community, Day Care, Home, School | 1.27 |
| Intensive Communication Training | 3 | 2007 | High | 93% | Male | 1 to 10 | Black or African-American, Caucasian | BA, MA, Teacher | 5 Months to 1 Year | Daily to Bi-monthly | Group Client, Individual Client, Individual Teacher Consultation, Parent and Child, Parent and Teacher Group Workshop, Parent Group, Parent Individual | Clinic, School | 0.96 |

Note. "Year" = year of most recent study; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Figure 3. Practice Element Profile for Autistic Spectrum Disorder (7 Study Groups)



No Support

Auditory Integration Training was assigned a level of “no support” as it did not report outcome data for effects at immediate post-treatment. Notably, it did report 3-month follow up data showing that Auditory Integration Training was superior to a control group in which children listened to music. However, because definitions for evidence levels require effects at immediate post-treatment, and no clear explanation was given for why measures were not taken at that time, this treatment approach could not be assigned a level higher than **No Support**.

Not Scored, but of Interest

The **Caregiver Psychoeducation** program described above, although not analyzed for its autism outcomes, did beat a no-treatment control group on a measure of maternal depression in a single study, and would have been assigned a level of **Minimal Support** for this finding if leveling were applied to domains other than the primary symptoms of the selected youth. Thus, although it does not appear in the table, it appears to be a promising approach for reducing maternal depression among mothers of youth with autism.

Quality and Relevance

Both **Intensive Behavioral Treatment** and **Intensive Communication Training** demonstrated large treatment effects. For example, 90% of post-treatment scores for children receiving **Intensive Behavioral Treatment** were better than the average score at pre-treatment. Similarly, 83% of post-treatment scores for children receiving **Intensive Communication Training** were better than the average pre-treatment score. These findings are all based on studies that are very recent.

As their names suggest, both of these treatment approaches are intensive. Several of the studies showed the treatments being administered daily, and

for **Intensive Behavioral Treatment**, in some cases the treatment lasted over five years.

...for Intensive Behavioral Treatment, in some cases the treatment lasted over five years

The treatments were delivered in a wide variety of settings and by a variety of therapist training levels, particularly true for **Intensive Communication Training**. The majority of children in these studies were male, and generally quite young (some starting as early as 12 months of age). No successful studies involved teenagers.

These results are quite promising in terms of effect size, although it should be noted that the outcome variables for these studies mainly involved reductions in the frequency of “autistic behaviors” or increases in social communication or other forms of social exchange (e.g., turn taking). None of these studies claimed that children were “autism free” following the intervention programs. Nevertheless, these findings represent an extraordinary improvement over the evidence base for interventions for autistic spectrum disorders in the previous Biennial Report.

“These findings represent an extraordinary improvement ...for autistic spectrum disorders”

Practice Elements

The practice element profiles of all “winning” treatments (7 altogether) are summarized in Figure 3. The results show that communication skills (100%) and modeling (100%) were the most common practice element across study groups. The next five most common practice elements were: social skills

training (86%), goal setting (71%), maintenance (43%), discrete trial training (43%), and praise (43%).

“Communication skills and modeling...were the most common practice element across study groups”

The shape of the profile suggests that all successful treatments for autistic spectrum disorders involve teaching communication skills and modeling of appropriate communication or other behaviors. Other strategies include training in non-verbal communication (social skills), teaching parents and teachers to praise desired behaviors, and the setting of goals paired with the intensive rehearsal and reinforcement of behaviors consistent with those goals (i.e., discrete trial training).

Depressive or Withdrawal Behaviors

Interventions Identified

The interventions reviewed for depressive or withdrawal behaviors included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 39 interventions in this area were organized into the following 15 treatment families: **Attention, Client Centered Therapy, Cognitive Behavior Therapy, Cognitive Behavior Therapy and Medication, Cognitive Behavior Therapy with Parents, Counselors Care, Counselors Care and Anger Management, Family Therapy, Interpersonal Therapy, Life Skills, Problem Solving, Relaxation, Self Control Training, Self Modeling, and Social Skills.**

Strength of Evidence

Best Support

Results for depression and withdrawal problems appear in Table 6. Of the treatment families identified, two demonstrated **Best Support**. These were **Cognitive Behavior Therapy** and **Cognitive Behavior Therapy plus Medication**. **Cognitive Behavior Therapy** was successful in twelve (12) studies, beating alternative treatments in four (4) tests and beating no-treatment control groups in eight (8) tests. **Cognitive Behavior Therapy plus Medication** was successful in two (2) studies, beating alternative treatments both times.

Good Support

Five (5) different treatment approaches demonstrated **Good Support** for depression. These were **Interpersonal Therapy, Relaxation, Cognitive Behavior Therapy with Parents, Client Centered Therapy, and Family Therapy**. **Interpersonal Therapy** was successful in two (2) studies, beating an alternative treatment in one (1) comparison and beating a no-treatment condition in another. **Relaxation** was successful in two (2) studies, beating a no-treatment control two (2) times. **Cognitive Behavior Therapy with Parents** was successful in two (2) studies, beating no-treatment control conditions both times, and also tying an evidence based treatment (**Cognitive Behavior Therapy**) in one (1) of those studies. **Client Centered Therapy** was successful in one (1) study, tying an evidence based treatment (**Cognitive Behavior Therapy**) one (1) time. **Family Therapy** was also successful in one (1) study, in which it beat an alternative treatment.

Table 6. Effective Interventions for Depressive and Withdrawn Behaviors

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|-----------------------------------------|--------|------|-------|------------|--------|----------|--------------------------------------------------------------------------------|-------------|----------------------|----------------------|--------------------------------------------------------------------|----------------|---------------|
| 1: Best Support | | | | | | | | | | | | | |
| CBT | 12 | 2004 | High | 93% | Both | 11 to 18 | Caucasian, Puerto Rican National | BA, MA, PhD | Semiweekly to Weekly | 4 to 16 weeks | Group Client, Individual Client, Self-Administered, Telephone Call | Clinic, School | 1.39 |
| CBT and Medication | 2 | 2005 | Mod | 90% | Both | 12 to 21 | Asian, Black or African-American, Caucasian, Hispanic or Latino/a, Multiethnic | MA, PhD, MD | Semiweekly to Weekly | 12 weeks to 6 months | Individual Client, Parent and Child, Parent Individual | Clinic | > 5.00 |
| 2: Good Support | | | | | | | | | | | | | |
| Interpersonal Therapy | 2 | 1999 | Mod | 86% | Both | 13 to 17 | Hispanic or Latino/a, Puerto Rican National | MA, PhD | Weekly | 12 weeks | Individual Client | Clinic | 1.55 |
| Relaxation | 2 | 1990 | Mod | 86% | Both | * | Caucasian | MA, PhD | Semiweekly | 5 to 8 weeks | Group Client | School | 1.48 |
| Cognitive Behavior Therapy with Parents | 2 | 1999 | Mod | 93% | Both | 14 to 18 | * | MA, PhD | Semiweekly | 8 weeks | Group Client, Parent Group | Clinic | 1.40 |
| Client Centered Therapy | 1 | 1997 | Mod | 94% | Female | 13 to 17 | Caucasian | MA | Weekly | 12 to 16 weeks | Individual Client | Clinic | 2.04 |
| Family Therapy | 1 | 2002 | Mod | 100% | Female | 13 to 17 | Black or African-American, Caucasian | MA, PhD | Weekly | 12 weeks | Family, Individual Client | * | 1.75 |
| 4: Minimal Support | | | | | | | | | | | | | |
| Self-Control Training | 1 | 1987 | Mod | 100% | Both | * | * | MA, PhD | Semiweekly | 5 weeks | Group Client | School | 2.47 |
| Self-Modeling | 1 | 1990 | Mod | 100% | Both | * | * | MA, PhD | Semiweekly | 6 to 8 weeks | Individual Client | School | 1.05 |

Note. "Year" = year of most recent study; CBT = Cognitive Behavior Therapy; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Minimal Support

Two (2) treatment families were found to have **Minimal Support. Self-Control Training** and **Self-Modeling** each had one (1) supportive study, in which each beat a no-treatment control group. The evidence for these treatments is still considered preliminary.

No Support

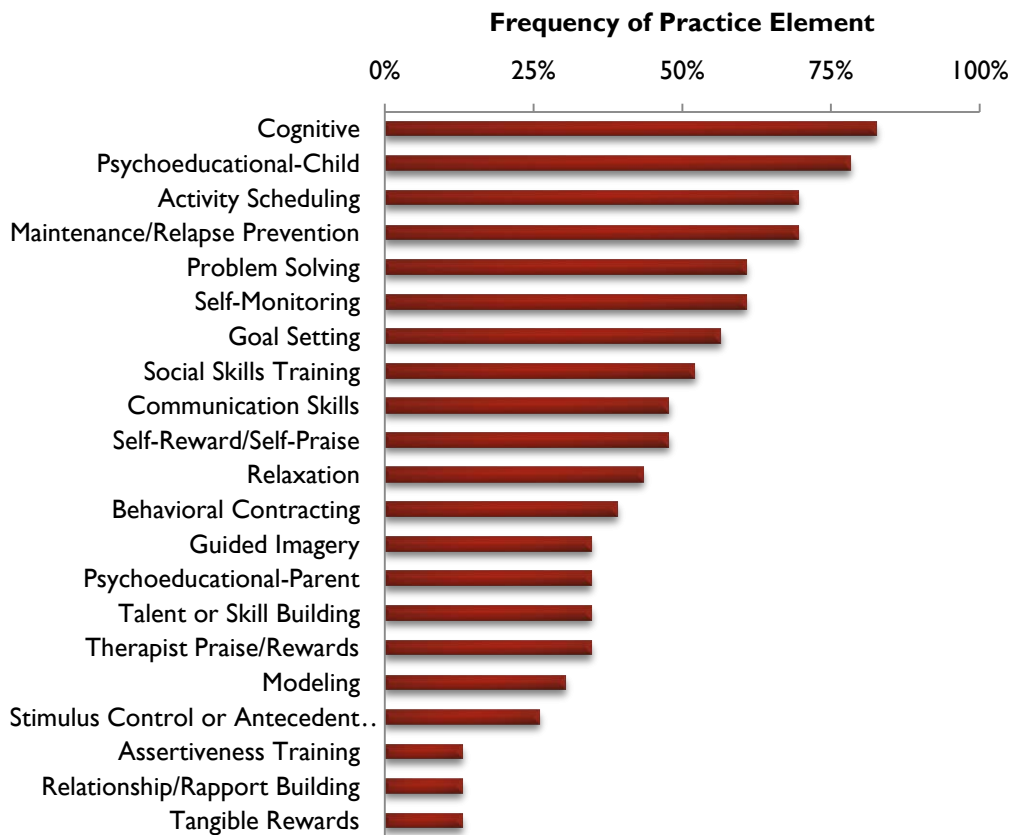
Finally, **No Support** was found for **Attention, Counselors Care, Counselors Care and Anger Management, Life Skills, Problem-Solving,** and

Social Skills.

Quality and Relevance

Information about the quality and relevance of treatment families for depression appears in Table 6. At the highest level, **Cognitive Behavior Therapy** (with or without medication) was delivered to both boys and girls from ages 11 to 21, with treatments mainly being delivered weekly over a brief period of time. Effects sizes were quite large, especially for **Cognitive Behavior Therapy and Medication** (although this estimate is based on a single study from 2005, so should be interpreted cautiously). For

Figure 4. Practice Element Profile for Depressive and Withdrawal Behaviors (23 Study Groups)



Cognitive Behavior Therapy, the average child score at post-test would be better than 92% of pretreatment scores. Adding medication, this figure improves to 99%. This literature is still quite current, with the most recent studies occurring in the past couple of years.

At the level of **Good Support** a variety of treatments were observed (see Table 6). Notably, these interventions appeared only to have support for adolescents. That limitation aside, the effect sizes were uniformly large, and treatments were brief in nature and could be administered by master's level clinicians. These studies are not as recent as those supporting **Cognitive Behavior Therapy**. For **Client Centered Therapy** and **Family Therapy**, the majority of study participants were girls.

At the level of **Minimal Support**, both treatments showed good effect sizes, but these studies are now fairly dated, and again only involved comparisons to waitlist control groups. Nevertheless, they appeared to be successful in a brief period of time and could be administered by master's level clinicians. Information about the ethnicity of participants in these studies is unknown.

Practice Elements

The practice element profiles of all "winning" treatments (23 altogether) are summarized in Figure 4. The results show that for depression, cognitive (83%) was the most common practice element across study groups. The next five most common practice elements were: psychoeducational-child (78%), activity scheduling (70%), maintenance (70%), problem solving (61%), and self-monitoring (61%). The thicker shape to the profile suggests that there are a large number of practices that are common among treatments for depression and lowered mood, with 16 different skills showing up in more than a third of the treatment families on average.

"For depression, cognitive was the most common practice element"

In general, most treatments involved training the youth to identify and correct thinking associated with lowered mood. Other strategies including teaching the youth basic information about moods and feelings, how to plan for and seek out rewarding experiences, how to solve problems in a structured manner, and how to keep track of the effects of events on mood and feelings. Most treatment approaches included a maintenance phase, in which skills were reviewed and rehearsed.

Delinquency and Disruptive Behavior

Interventions Identified

The interventions reviewed for delinquency and disruptive behavior included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 173 interventions in this area were organized into the following 34 treatment families: **Anger Control, Assertiveness Training, Attention, Catharsis, Client Centered Therapy, Cognitive Behavior Therapy, Collaborative Problem Solving, Communication Skills, Contingency Management, Education, Exposure, Family Empowerment, Family Systems Therapy, Functional Family Therapy, Group Therapy, Life Skills, Multidimensional Treatment Foster Care, Multisystemic Therapy, Outreach Counseling, Parent Management Training, Parent Management Training and Problem Solving, Peer Pairing, Physical Exercise, Problem Solving, Project CARE, Psychodynamic, Rational Emotive Therapy, Relaxation, Self Control Training, Self Verbalization, Skill Development, Social Skills, Stress Inoculation, and Transactional Analysis..**

Table 7. Effective Interventions for Delinquency and Disruptive Behavior (Including Oppositional and Conduct Disorders)

| Treatment Families | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|----------------------------|--------|------|-------|------------|--------|----------|-----------------------------------------------------------------------------------------------------|------------------------------|----------------------|------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------|
| 1: Best Support | | | | | | | | | | | | | |
| Parent Management Training | 26 | 2001 | High | 92% | Male | 2 to 15 | Australian, Caucasian, Other | Pre-BA, BA, Parent, MA, PhD | Daily to Weekly | 1 day to 6 months | Family, Group Client, Multi-Family, Parent and Child, Parent Group, Parent Individual, Self Administered | Clinic, Home, Hospital | 1.50 |
| Multisystemic Therapy | 9 | 2006 | High | 95% | Male | 10 to 17 | Asian, Black or African-American, Caucasian, Hispanic or Latino/a | MA, MD | Daily to Weekly | 5 weeks to 14.5 months | Family, Individual Client, Parent and Child, Parent Individual | Community, Home, Hospital, School | 0.74 |
| Contingency Management | 6 | 2000 | High | 100% | Male | 4 to 16 | Black or African-American, Caucasian | Pre-BA, BA, Teacher, MA, PhD | Daily to Weekly | 4 to 20 weeks | Group Client, Individual Client | Clinic, Corrections, Hospital, School | 1.34 |
| Social Skills | 6 | 2001 | High | 98% | Both | 7 to 19 | American Indian or Alaska Native, Asian, Black or African-American, Caucasian, Hispanic or Latino/a | MA | Daily to Weekly | 3 to 22 weeks | Group Client | Community Residential, Corrections, Day Treatment, School | 0.93 |
| Cognitive Behavior Therapy | 3 | 2004 | High | 99% | Both | 13 to 18 | American Indian or Alaska Native, Asian, Caucasian, Hispanic or Latino/a | MA, PhD | Semiweekly to Weekly | 8 to 12 weeks | Group Client | Corrections, School | 1.16 |
| Assertiveness Training | 2 | 1999 | High | 100% | Both | 13 to 18 | Black or African-American, Caucasian, Hispanic or Latino/a, Multiethnic | * | Semiweekly | 2 to 4 weeks | Group Client, Peer | Hospital, School | 0.84 |
| 2: Good Support | | | | | | | | | | | | | |
| Problem Solving | 7 | 2000 | High | 96% | Male | 5 to 17 | Black or African-American, Caucasian | BA, MA, PhD | Semiweekly to Weekly | 45 days to 20 weeks | Bibliotherapy, Group Client, Individual Client | Home, Hospital, School | 1.28 |
| Communication Skills | 3 | 1988 | Mod | 92% | Male | 6 to 16 | * | MA, PhD | Weekly | 4 to 7 weeks | Family, Multi-Family, Parent and Child, Parent Individual | Clinic | 1.89 |
| Relaxation | 2 | 1986 | Mod | 100% | Both | * | * | MA | Daily to Semiweekly | 5 to 11 weeks | Individual Client | Corrections, School | 1.55 |
| PMT and Problem Solving | 2 | 1992 | High | 80% | Male | 7 to 13 | Black or African-American, Caucasian | BA, MA | Weekly to Biweekly | 20 weeks to 8 months | Individual Client, Parent Individual | Clinic, Hospital | 1.54 |
| Client Centered Therapy | 2 | 1989 | High | 93% | Both | 2 to 13 | Black or African-American, Caucasian | MA, PhD | Weekly | 9 weeks | Individual Client, Parent and Child | Clinic, Hospital | 0.74 |

| Treatment Families | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|----------------------------------------|--------|------|-------|------------|--------|----------|----------------------------------------------------------------------------------------------|-----------------------|----------------------|---------------|-----------------------------------------|-----------------------|---------------|
| 2: Good Support (continued) | | | | | | | | | | | | | |
| Anger Control | 2 | 1993 | Mod | 84% | * | 12 to 15 | Black or African-American | MA, PhD | Semiweekly | 5 to 12 weeks | Group Client, Individual Client | School | 0.61 |
| Rational Emotive Therapy | 1 | 1978 | High | 100% | Both | * | Black or African-American, Hispanic or Latino/a | MA | Daily | 12 weeks | Group Client | School | 3.07 |
| Multidimensional Treatment Foster Care | 1 | 1998 | Mod | 100% | Male | 12 to 17 | American Indian or Alaska Native, Black or African-American, Caucasian, Hispanic or Latino/a | Foster Parent | Daily | * | Family, Individual Client, Parent Group | Foster Home | 0.89 |
| Functional Family Therapy | 1 | 1973 | High | 74% | Both | 13 to 16 | * | MA | * | 5 to 6 weeks | * | * | * |
| Transactional Analysis | 1 | 1975 | Mod | 97% | Male | 15 to 17 | Caucasian, Hispanic or Latino/a | MA | Semiweekly | 30 weeks | Group Client | Corrections | * |
| 3: Moderate Support | | | | | | | | | | | | | |
| Self Control Training | 1 | 1979 | Low | 100% | Both | 14 to 17 | Black or African-American, Caucasian, Hispanic or Latino/a, Puerto Rican National | PhD | Weekly to Semiweekly | 4 weeks | Group Client, Individual Client | Community Residential | 1.51 |
| Peer Pairing | 1 | 1982 | Mod | 100% | Both | 15 to 18 | * | Teacher | Semiweekly | 10 weeks | Group Client, Individual Client | School | * |
| Outreach Counseling | 1 | 1978 | Mod | 100% | Both | * | * | MA, Probation Officer | * | * | * | Community | * |
| 4: Minimal Support | | | | | | | | | | | | | |
| Stress Inoculation | 1 | 1981 | High | 100% | Male | * | * | MA | Semiweekly | 5 weeks | Individual Client | Corrections | 1.02 |
| Physical Exercise | 1 | 1995 | * | 91% | Male | 7 to 13 | * | * | Semiweekly | 4 weeks | Group Client | Partial Hospital | * |

Note. "Year" = year of most recent study; PMT = Parent Management Training; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Strength of Evidence

Best Support

Six (6) interventions demonstrated **Best Support**. These were **Parent Management Training, Multisystemic Therapy, Contingency Management, Social Skills, Cognitive Behavior Therapy, and Assertiveness Training**

Parent Management Training had by far the most substantial amount of supportive evidence, with 26 studies supporting this approach. It beat alternative treatments in nine (9) comparisons, and waitlist or no-treatment control groups in 18 comparisons. **Multisystemic Therapy** was successful in nine (9) studies, beating an alternative treatment in all nine (9) of them. **Contingency Management** was successful in six (6) studies, beating alternative treatments three (3) times, waitlist controls two (2) times, and tying an evidence based treatment (**Parent Management Training**) one (1) time. **Social Skills** training was also successful in six (6) studies, beating alternative treatments in four (4) comparisons and no-treatment conditions in four (4) comparisons. **Cognitive Behavior Therapy** demonstrated positive results in three (3) studies, beating an alternative treatment two (2) times and waitlist two (2) times. **Assertiveness Training** was successful in two (2) studies, beating an alternative treatment two (2) times, and beating a waitlist condition one (1) time.

“Parent Management Training had by far the most substantial amount of supportive evidence

The findings regarding **Multisystemic Therapy** are worthy of some additional discussion. There were at least 10 trials identified testing this approach. A rating of **Best Support** requires not only two or more demonstrations of beating an alternative treatment, but also that at least one demonstration is by an independent investigator team. Two (2) of those 10 studies were conducted independently (one in Norway, the other in the U.S.). In the first of those

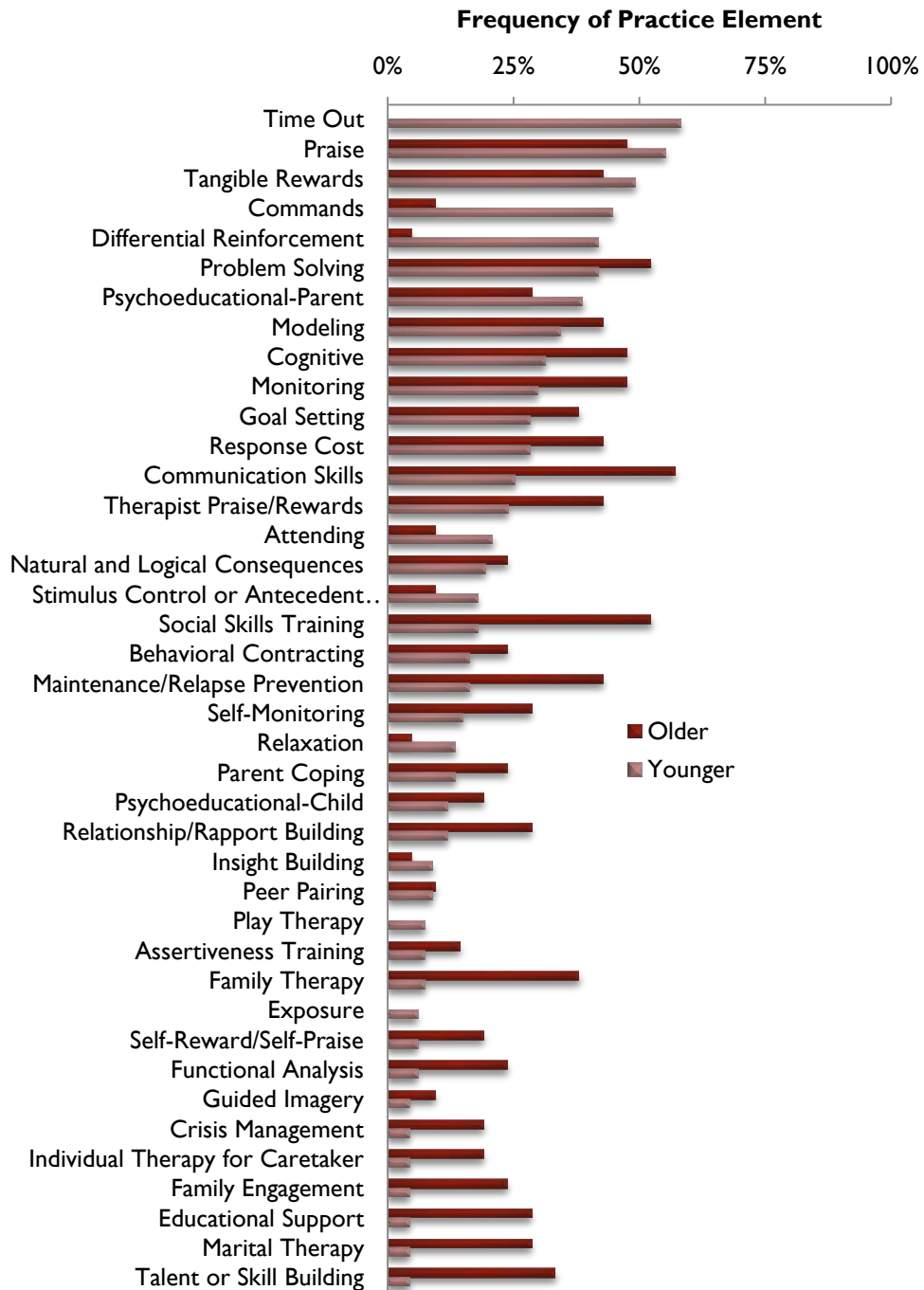
two (the Norway replication), **Multisystemic Therapy** was found not to beat the alternative treatment group on the primary outcome measure (hence only 9 successful trials are listed in Table 7).

In the second study (the U.S. replication), **Multisystemic Therapy** did beat the alternative treatment group; however the findings are not without some controversy. First, in that study, the treatment groups differed substantially prior to treatment, such that youth in the **Multisystemic Therapy** group scored on average more than 20 points lower on the Child and Adolescent Functional Assessment Scale (CAFAS), a measure of life functioning (lower scores imply better functioning). The primary outcome measure in this study (re-arrest rates) was taken only at post-test, so the findings may in fact be confounded by the pre-treatment differences between groups (e.g., the youth treated with **Multisystemic Therapy** may have been an “easier” sample, given that they were less impaired at pretreatment). Thus, although strict application of the criteria suggests a rating of **Best Support** for this approach, the evidence is on average more controversial than for other interventions awarded **Best Support** in this report. Contention regarding the quality of the evidence has been noted in at least one other independent review of **Multisystemic Therapy**.

Good Support

Ten (10) treatment approaches demonstrated **Good Support**. These were **Problem Solving, Communication Skills, PMT and Problem Solving, Client Centered Therapy, Anger Control, Relaxation, Functional Family Therapy, Multidimensional Treatment Foster Care, Rational Emotive Therapy, and Transactional Analysis**. There were seven (7) studies in which **Problem Solving** was successful.

**Figure 5. Practice Element Profile for Delinquency and Disruptive Behavior
(21 Study Groups for Older, 67 Study Groups for Younger)**



In three (3) of those, it beat waitlist, and in four (4) of those, it beat a no-treatment or waitlist control.

Communication Skills was successful in three (3) studies, beating a waitlist condition in all three of

those. The combination of **Parent Management Training and Problem Solving** was successful in two (2) studies, beating alternative treatments in both of them. **Client Centered Therapy** was also successful in two (2) studies, beating waitlist in one study, and tying another evidence-based treatment (**Problem Solving**) in one (1) other study.

Anger Control training was successful in two (2) studies, beating a no-treatment control condition in each. **Relaxation** was also successful in two (2) studies. In one (1) it beat an alternative treatment, and in another it beat a no-treatment control group. **Functional Family Therapy, Multidimensional Treatment Foster Care, and Rational Emotive Therapy** were each successful in one study. Each of these three treatment approaches beat an alternative treatment one (1) time when studied. **Transactional Analysis** was successful in one (1) study, in which it tied an evidence-based treatment (**Contingency Management**).

Moderate Support

Three (2) treatment approaches demonstrated **Moderate Support**. **Self-Control Training, Peer Pairing, and Outreach Counseling** were successful in one (1) study each. All three treatment approaches did not involve the use of a treatment manual, but managed to beat an alternative treatment.

Minimal Support

Two (2) treatments demonstrated **Minimal Support** for delinquency or disruptive behavior. **Stress Inoculation** beat a waitlist in one (1) study, and **Physical Exercise** also beat a no-treatment group in one (1) study.

No Support

Many of the treatments tested demonstrated **No Support**. These included: **Assertiveness Training, Attention, Catharsis, Collaborative Problem Solving, Education, Exposure, Family Empowerment, Family Systems Therapy, Group Therapy, Life Skills, Project CARE, Psychodynamic therapy, Self Verbalization, and Skill Development**.

Risks

Moreover, both **Group Therapy** and **Project CARE** treatment approaches demonstrated negative effects on outcomes, and are considered treatments with risks.

“Group Therapy and Project CARE...demonstrated negative effects on outcomes, and are considered treatments with risks”

Quality and Relevance

Information about the quality and relevance of treatment families for delinquency and disruptive behavior appears in Table 7. At the highest level of support, **Parent Management Training, Multisystemic Therapy, Contingency Management, Social Skills, Cognitive Behavior Therapy, and Assertiveness Training** were all rated as highly trainable. **Parent Management Training** and **Contingency Management** were most often successful with younger children; whereas **Multisystemic Therapy, Cognitive Behavior Therapy** and **Assertiveness Training** were effective among adolescents only. **Social Skills** training appeared to be successful across most school-aged children.

The treatments were fairly brief for the most part; however, one parent training program lasted as long as 6 months. The effect sizes across all the treatment programs at this level of support were quite good. The highest effect size for a treatment with **Best Support** was found for **Parent Management Training**, which showed that the average child score at post-test would be better than 93% of the pretreatment scores. The lowest effect size among the Level I treatments was for **Multisystemic Therapy**, which could in part be a reflection of the more challenging youth participants in those studies.

Interventions with **Best Support** were applicable across a diversity of ethnic groups, and some were delivered by therapists at the undergraduate level.

The most common treatment format for these treatment families (other than for **Parent Management Training** and **Multisystemic Therapy**) was a group format with youth. This suggests that these interventions may have particular benefits that overcame the possible risks associated with group formats for youth with these types of problems. A more generic group therapy approach has been shown in our review to have negative effects for youth with disruptive behavior.

Review of treatments for disruptive behavior demonstrated more interventions available with **Good Support** than for any other problem area. All in all, 10 treatment approaches were identified. Collectively, these were moderately to highly trainable, and most were designed for adolescents. Only **Problem Solving** (with and without **Parent Management Training**), **Communication Skills**, and **Client-Centered Therapy** appeared applicable to younger children. Most of the treatments were brief in nature; however some lasted up to 8 months. These interventions were tested primarily on Caucasian and African American youth; **Multidimensional Treatment Foster Care** showed the greatest range of ethnic diversity among the youth in those studies.

For treatment families with **Good Support** for disruptive behavior, effect sizes were large almost across the board. The largest effect size was observed for **Communication Skills**, which showed that the average child score at post-test would be better than 97% of the pretreatment scores. Effect sizes could not be determined for two of the different approaches due to the lack of available data. Qualifying studies of **Functional Family Therapy**, **Rational Emotive Therapy**, and **Transactional Analysis** were quite old—all being conducted approximately 30 or more years ago. Studies on **Communication Training** and **Relaxation** for these problems are approximately 20 years old or more.

Three treatment families with **Moderate Support** were each only tested in a single study, all of which were published prior to 1980. None of these approaches was rated high for trainability, given the

lack of treatment manuals. Self-control training, in particular, was only delivered by doctoral level providers, so seems particularly challenging in terms of training and dissemination. This was the only approach for which effect size could be calculated. Those treatments reporting age range were observed to be applicable only to adolescents. On the positive side, treatments that reported duration (**Self-Control Training**, **Peer Pairing**) were brief in nature.

Two interventions with **Minimal Support** were also brief, and were successfully delivered in non-clinic settings. The research on **Physical Exercise** is somewhat more recent, but all of these findings are older than 10 years.

Practice Elements

The practice element profiles of all “winning” treatments (21 for older adolescents, and 67 for children to younger teens) are summarized in Figure 5 (also see appendixes for separate figures). The results showed distinctly patterns depending on the age of study participants. In the figure, the lighter bars refer to the practice elements from and successful studies that included children from ages 2 to 15. The darker bars refer to practice elements from studies in which no youth was under the age of 16. Note that the profiles are sorted in order of frequency for the younger group, for which the volume of research was greater.

In studies of the younger group of youth with disruptive behavior, time out (58%) was the most common practice element. In that same younger group, the next five most common practice elements were: praise (55%), tangible rewards (49%), commands (45%), differential reinforcement (aka. “ignoring”; 42%), and problem solving (42%). For the most part, interventions were based on the use of parent strategies, including rewards (praise or tangibles), the alternate rewarding and ignoring of selected behaviors, effective use of commands and instructions, and psychoeducation about children’s behavior. The most common youth-directed strategy in this age group was the training of problem solving skills.

“[In] the younger group...with disruptive behavior, time out was the most common practice element”

In studies of the older group of youth with disruptive behavior, communication skills (57%) was the most common practice element. In that same younger group, the next five most common practice elements were: problem solving (52%), social skills training (52%), praise (48%), cognitive (48%), and parent monitoring (48%). These interventions directed at older adolescents were based relative more on the use of youth-directed strategies emphasizing communication, problem solving, and social interaction.

“[In] the older group...with disruptive behavior, communication skills was the most common practice element”

With respect to particular skills, the profiles looked rather different for different age groups. The largest discrepancies in favor of older youth were (in order) Social Skills Training (a 34% difference), Communication Skills (32% difference), Family Therapy (31% difference), Talent or Skill Building (29% difference), and Maintenance/Relapse Prevention (26% difference). The largest discrepancies in favor of children to younger teens were (in order) time out (a 58% difference), differential reinforcement (37% difference), commands (35% difference), attending (11% difference), and parent psychoeducation (10% difference). The number of strategies used in more than a third of treatments was considerable higher for the older group, with 14 different practice elements being identified versus only 8 for the younger group. This suggests that treatments for the older adolescents generally are more multifaceted in nature, whereas for children and younger teens, the treatments were more often rather focused.

Substance Use

Interventions Identified

The interventions reviewed for substance use included all those with controlled outcome research as identified through the search procedures outlined above. It should be noted that this area has been updated less recently in terms of coding efforts, so the depth of the literature in this area is more limited in the current report. Future reports will need to involve a more intensive search of controlled studies in this area, which should be a priority.

Descriptions of 16 interventions in this area were organized into the following 11 treatment families (see Table 8): **Attention, Client Centered Therapy, Cognitive Behavior Therapy, Contingency Management, Education, Family Systems Therapy, Family Therapy, Group Therapy, Project CARE, Purdue Brief Family Therapy, and a Twelve Step Program.**

Strength of Evidence

Good Support

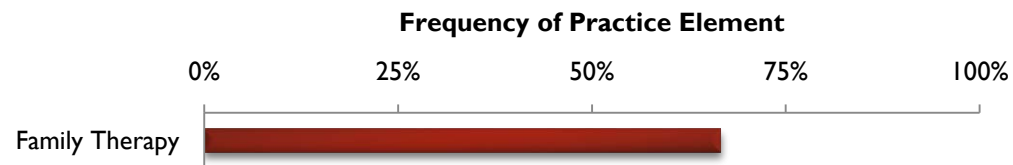
Of the treatment families identified, five (5) were found to have **Good Support. Family Therapy** was successful in two studies, both times beating an alternative treatment. **Cognitive Behavior Therapy** was successful in one (1) study, beating an alternative treatment. **Contingency Management** was also successful in one (1) study against an alternative treatment. **Family Systems Therapy**

Table 8. Effective Interventions for Substance Use

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|-----------------------------|--------|------|-------|------------|--------|----------|------------------------------------------------------------|-----------|------------|---------------|------------------|---------|---------------|
| 2: Good Support | | | | | | | | | | | | | |
| Family Therapy | 2 | 1989 | High | 100% | Both | 6 to 21 | Hispanic or Latino/a | MA, PhD | Weekly | 3 to 13 weeks | Family | * | * |
| Cognitive Behavior Therapy | 1 | 1998 | Mod | 62% | Both | 13 to 18 | Caucasian | MA, PhD | Weekly | 12 weeks | * | * | 1.09 |
| Contingency Management | 1 | 1994 | High | 100% | Male | 13 to 18 | Black or African-American, Caucasian, Hispanic or Latino/a | BA, MA | Semiweekly | 6 months | Parent and Child | Clinic | 0.58 |
| Family Systems Therapy | 1 | 1992 | High | 78% | * | 11 to 20 | Black or African-American, Caucasian, Hispanic or Latino/a | MA | Weekly | 7 to 15 weeks | Family | Clinic | * |
| Purdue Brief Family Therapy | 1 | 1990 | Mod | 100% | Male | 12 to 22 | * | * | * | 12 weeks | Family | * | * |

Note. "Year" = year of most recent study; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Figure 6. Practice Element Profile for Substance Use (6 Study Groups)



and **Purdue Brief Family Therapy** also each beat an alternative treatment in one (1) study.

No Support

No Support was found for **Client-Centered Therapy, Education, Group Therapy, Project CARE**, or the **Twelve-Step Program**.

Risk

As with delinquency and disruptive behavior, both **Group Therapy** and **Project CARE** treatment approaches demonstrated negative effects on outcomes, and are therefore considered treatments with risks.

Quality and Relevance

Of those studies identified, most were designed for adolescents. The largest effect size was for **Cognitive Behavior Therapy**, which unfortunately was also characterized by an especially high dropout rate. **Cognitive Behavior Therapy** was used with mostly adolescent boys and girls, and was delivered by Master’s and PhD level therapists. The effect size was high, with the average child at the end scoring better than 94% of the pre-test scores on a measure of self-reported drinking. Some concerns were raised about the validity of self-report as an outcome measure for CBT.

Contingency Management was used with adolescents of mixed ethnicity and involved 2 individual sessions per week for 6 months. Therapists were Master’s and BA level. The primary outcome variable was urinalysis, and the effect size was moderate, with the average participant at the end scoring better than 72% of the pre-test urinalysis scores.

Several types of family therapy were used successfully, with one type being used in both boys and girls as young as age 6. **Purdue Brief Family Therapy** was used with mostly male adolescents and young adults in an outpatient clinic. **Family Systems Therapy** was used with adolescents and young adults, with weekly individual sessions for a flexible period of 7 to 15 weeks. Like Purdue Brief Family Therapy, this intervention was rated as only

moderately trainable. Dropout rates were somewhat high. This intervention also used self-reported estimates of substance use problems as its primary outcome measure.

Based on this review of a limited number of studies, **Family Therapy** and **Contingency Management** remain the treatment families with the best supportive evidence. Again, future reports should seek to perform a more exhaustive search for other studies in this area.

Practice Elements

The practice element profiles of all “winning” treatments (6 altogether) are summarized in Figure 6. The results showed only one practice element appearing in more than half of the study groups: family therapy. Overall, this practice occurred in 67% of the treatment groups.

Traumatic Stress

Interventions Identified

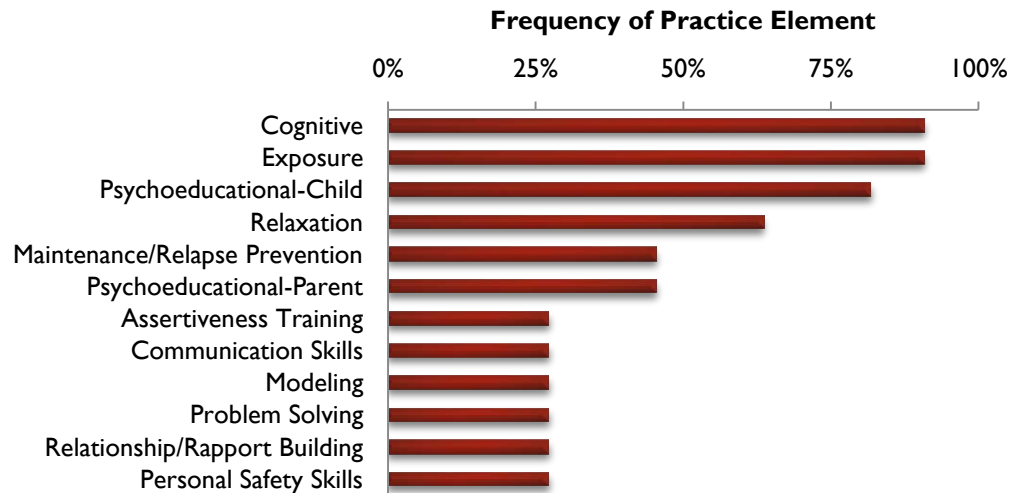
The treatment families reviewed for traumatic stress included all those with controlled outcome research as identified through the search procedures outlined above. Descriptions of 16 interventions in this area were organized into the following 7 treatment families: **Client Centered Therapy, Cognitive Behavior Therapy, Cognitive Behavior Therapy with Parents, Cognitive Behavior Therapy with Parents Only, Eye Movement Desensitization and Reprocessing (EMDR), Play Therapy**, and **Psychodrama** (see Table 9).

Table 9. Effective Interventions for Traumatic Stress

| Treatment Family | Trials | Year | Train | Compliance | Gender | Age | Ethnicity | Therapist | Frequency | Duration | Format | Setting | Effect Size** |
|-----------------------------------------|--------|------|-------|------------|--------|----------|-------------------------------------------------------------------------|--------------|----------------------|---------------|------------------------------------------------------------------------------------|-----------------------------|---------------|
| 1: Best Support | | | | | | | | | | | | | |
| Cognitive Behavior Therapy with Parents | 5 | 2004 | High | 95% | Both | 2 to 17 | Black or African-American, Caucasian, Hispanic or Latino/a, Multiethnic | MA, PhD | Semiweekly to Weekly | 8 to 20 weeks | Group Client, Individual Client, Parent and Child, Parent Group, Parent Individual | Clinic, School | 2.09 |
| 2: Good Support | | | | | | | | | | | | | |
| Cognitive Behavior Therapy | 4 | 2003 | High | 91% | Both | 5 to 18 | Black or African-American, Caucasian, Hispanic or Latino/a | MA, PhD | Weekly | 8 to 20 weeks | Group Client, Individual Client | Clinic, Corrections, School | 1.79 |
| 4: Minimal Support | | | | | | | | | | | | | |
| Psychodrama | 1 | 1999 | Mod | 92% | Female | 11 to 13 | * | MA | Weekly | 20 weeks | Group Client | School | 0.61 |
| Play Therapy | 1 | 2002 | Mod | 100% | Both | * | * | School Staff | Semiweekly | 4 weeks | Group Client | School | * |

Note. "Year" = year of most recent study; "Train" = Trainability; * - information could not be determined from the published reports; ** - mean.

Figure 7. Practice Element Profile for Traumatic Stress (11 Study Groups)



Strength of Evidence

Best Support

Of those treatments identified for traumatic stress, only **Cognitive Behavior Therapy with Parents** was found to have **Best Support**. This treatment approach was successful in five (5) studies, beating alternative treatments three (3) times and no-treatment control conditions two (2) times.

“...for traumatic stress, only Cognitive Behavior Therapy with Parents was found to have best support”

Good Support

Good Support was found for **Cognitive Behavior Therapy**. This treatment approach was successful in four (4) studies, beating an alternative treatment one (1) time and no-treatment control conditions three (3) times.

Minimal Support

Two treatment approaches were found to have **Minimal Support**. These were **Psychodrama** and **Play Therapy**, which each beat a no-treatment group, each in one (1) study.

No Support

No Support was found for the following treatment approaches: **Client Centered Therapy**, **Cognitive Behavior Therapy with Parents Only** (i.e., therapy that does not involve the child at all), and **EMDR**.

In summary, the great majority of the evidence for treatment of traumatic stress in youth supports the use of **Cognitive Behavior Therapy**, with even stronger evidence for inclusion of non-offending parents in the treatment program.

Quality and Relevance

Cognitive Behavior Therapy, whether it included parents or not was rated as highly trainable, had low dropout rates, could be administered by master’s

level clinicians, and lasted from 8 to 20 weeks. Formats for youth were both group and individual, and parent involvement could either be in group or individual parent format. Both approaches were tested successfully in clinic and school settings, with **Cognitive Behavior Therapy** alone also performing successfully in a correctional setting. Both approaches were successful with boys and girls from a variety of ethnic backgrounds, and published studies on these approaches were recent. On average, larger effects were noted when parents were included in the treatment program, such that the average post-treatment score would be higher than 98% of the pretreatment scores. For **Cognitive Behavior Therapy** without parent involvement, the average post-treatment score would be better than 96% of the pre-treatment scores.

For those studies with **Minimal Support** trainability was not rated as high. Only **Play Therapy** showed results with balanced percentage of boys and girls, but the age range and ethnic background of youth in the one study of **Play Therapy** are unknown. Both approaches were administered in school settings in group format, and the studies were within the past 10 years. Given the lack of detail about their applicability and the minimal amount of supportive evidence overall, **Psychodrama** and **Play Therapy**—although promising—are not recommended as a first choice intervention for traumatic stress.

Practice Elements

The practice element profiles of all “winning” treatments (11 altogether) are summarized in Figure 7. The results show that for traumatic stress, cognitive (91%) and exposure (91%) were the most common practice elements across study groups. The next five most common practice elements were: psychoeducational-child (82%), relaxation (64%), maintenance (45%), psychoeducational-parent (45%), and assertiveness training (27%). This profile is somewhat similar to anxiety; however, the high frequency of assertiveness training, and the occurrence of training in personal safety skills (each in more than a quarter of successful treatments) are notable differences from common practices for non-trauma based anxiety problems.

*“For traumatic stress,
cognitive...and
exposure...were the most
common practice elements”*

In general, most successful treatments in this area involved training the youth to identify and correct thinking associated with anxiety and to cope with avoidance and anxiety triggers through exposure, often in imaginal or narrative form. Other supportive strategies include teaching the youth how to manage personal safety, be assertive when necessary, and to solve problems that may be related to traumatic stress triggers.

Summary

This report summarizes the results of 832 study groups from 322 studies with over 25,435 youth participants, covering the areas of anxiety, attention problems, autistic spectrum disorders, depression and withdrawal, delinquency and disruptive behavior, substance use, and traumatic stress. Although there remain noted gaps in the review, this report is the largest such review of youth mental health treatments to date. It is recommended that the information herein be incorporated into efforts to further enhance clinical practice in the Hawaii child service system. Future reporting efforts should examine additional findings related to effective medications for youth, review more studies in those areas most lacking (e.g., substance use), as well as in areas previously examined in other reports using older review methodology (e.g., bipolar disorder, eating disorders, schizophrenia). Finally, as the literature develops and more sophisticated analytic methods become available, findings related to increasingly elaborated decision models for practice element profiles should be issued.

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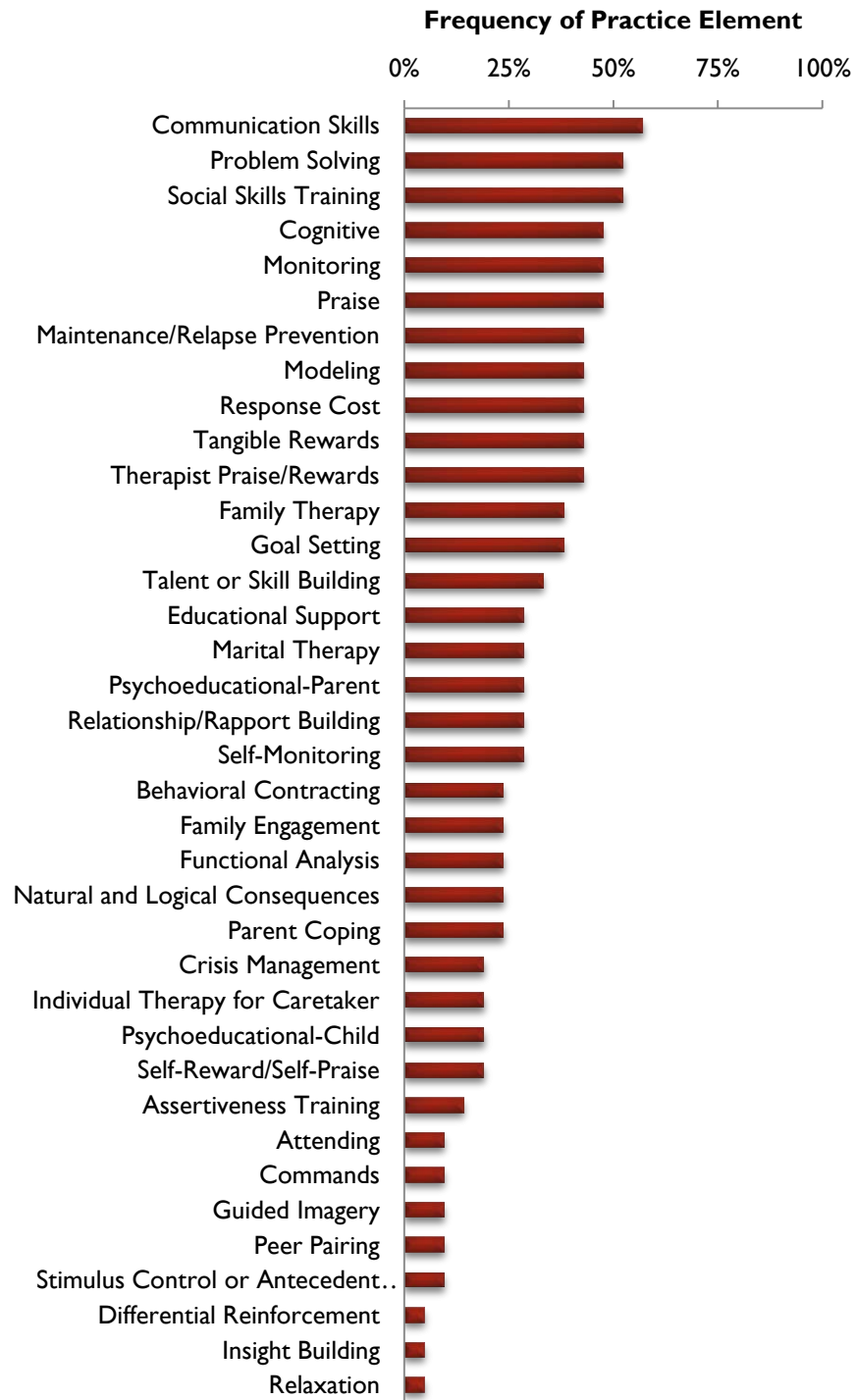
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Appendix A. Practice Element Profile for Delinquency and Disruptive Behavior in Older Adolescents (21 Study Groups)



Appendix B. Practice Element Profile for Delinquency and Disruptive Behavior in Children and Young Adolescents (67 Study Groups)

