

# Bridging the Gap Between Laboratory and Clinic in Child and Adolescent Psychotherapy

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Meta-analyses of laboratory outcome studies reveal beneficial effects of psychotherapy with children and adolescents. However, the research therapy in most of those lab studies differs from everyday clinic therapy in several ways, and the 9 studies of clinic therapy the authors have found show markedly poorer outcomes than research therapy studies. These findings suggest a need to bridge the long-standing gap between outcome researchers and clinicians. Three kinds of bridging research are proposed and illustrated: (a) enriching the research data base on treatment effects by practitioners in clinical settings—including private practice and health maintenance organizations, (b) identifying features of research therapy that account for positive outcomes and applying those features to clinical practice, and (c) exporting lab-tested treatments to clinics and assessing their effects with referred youths. If these bridging strategies were widely adopted, despite the numerous obstacles described herein, real progress might be made toward more effective treatment in clinical practice.

The gulf that divides clinical practice and clinical research is now accepted as a fact of life by many in the mental health professions and in academia. For years, practicing clinicians have maintained that psychotherapy research is of little value to them (see Elliott, 1983; Kupfersmid, 1988; Luborsky, 1972; Orlinsky & Howard, 1978; Parloff, 1980; Strupp, 1989). When clinical psychologists are asked to rank the usefulness to their practice of various sources of information, research articles and books typically fall near the bottom of the scale (see L. Cohen, 1979; Cohen, Sargent, & Sechrest, 1986; Morrow-Bradley & Elliot, 1986). An experienced psychotherapist, S. D. Raw recently noted,

Over more than 22 years of clinical practice, I've become increasingly disaffected about the value of psychotherapy outcome research for the practice of psychotherapy . . . I suspect that outcome research tells us something; I'm just not sure what. (1993, pp. 75–76)

The problem is apparently not confined to long-time practitioners. A recent series of articles in "The Scientist-Practitioner"

section of *The Behavior Therapist* (see Suinn, 1993) has focused on the fact that so many new graduates of our scientist-practitioner PhD programs drift away from journal reading and research values when they enter clinical practice. Clearly, diverse observers from diverse perspectives perceive a marked separation between what goes on in the clinical research laboratory and what goes on in the practicing clinician's office, and many question the relevance of research to the work of the practitioner.

In this article, we address the gap between clinical practice and the research laboratory. We focus on the issue as it relates specifically to interventions for children and adolescents (herein referred to as "children"); although we refer frequently to "clinics" and much of the evidence we cite is from research in community clinics, the issues raised may be relevant to the work of clinicians in other settings, including private practice offices and health maintenance organizations (HMOs; discussed later). These possibilities warrant research in the future.

In what follows, we suggest (a) how the evidence on therapy outcomes reveals a need to bridge the gap between lab and clinic, (b) what kinds of bridging research should be on the agenda at this point, and (c) what obstacles may be confronted along the way.

## Can Outcome Research Help Clinicians?

Perhaps the most important initial question to consider is whether clinicians might actually profit from the findings of outcome research. We suspect that the answer is yes. To explain why, we describe the overall picture of evidence on child psychotherapy outcomes.

## Laboratory Evidence on Child Psychotherapy Effects

Experimental evidence on child and adolescent psychotherapy effects is perhaps best summarized in the form of meta-analytic

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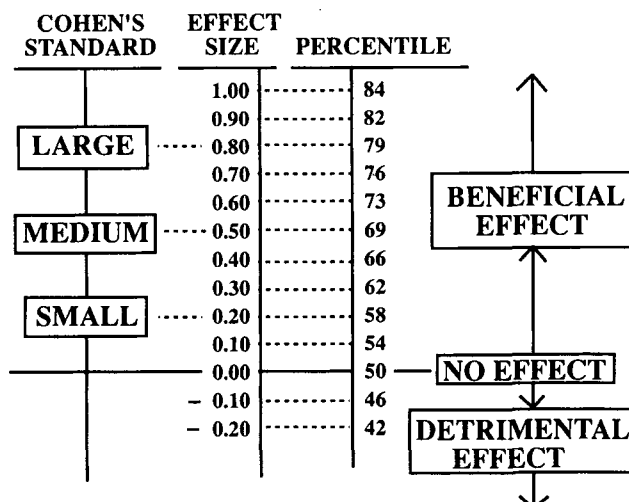


Figure 1. An aid to interpreting effect size (ES) statistics. Each ES value can be thought of as reflecting a corresponding percentile value (i.e., the percentile standing of the average treated child, after treatment, averaging across outcome measures, relative to the untreated group).

reviews (see Mann, 1990; Smith, Glass, & Miller, 1980; see also critiques of meta-analysis, e.g., by Wilson, 1985).<sup>1</sup> The unit of analysis in the meta-analyses we will consider here is the effect size (ES) statistic, an index of the magnitude and direction of therapy effects. For the studies we consider here, ES is the posttreatment score of a treated group on some outcome measure minus the corresponding score of an untreated or minimally treated control group, with the difference divided by the standard deviation of the outcome measure. In most meta-analyses, a mean ES is computed for each study (or each treatment group) by averaging across the various outcome measures. Figure 1 provides a guide to interpreting the ES values we discuss here (note that the range of possible ES values is much broader than that shown in Figure 1). As Figure 1 indicates, ES values may be positive, indicating beneficial treatment effects, or negative, indicating detrimental treatment effects. Each ES can be thought of as corresponding to a percentile standing of the average treated child on the outcome measure (or measures) if that child were placed in the control group after treatment; for example, an ES of 0.50 would indicate that the average treated child scored better after treatment than 69% of the control group. Finally, note that Cohen (1992) considers an ES of 0.20 to indicate a small effect, 0.50 a medium effect, and 0.80 a large effect.

### Broad-Based Meta-Analyses of Child Psychotherapy Research

Four known broad-based child therapy meta-analyses focus on a variety of treated problems and types of intervention.<sup>2</sup> Casey and Berman (1985) surveyed outcome studies published between 1952 and 1983 and focused on children aged 12 and younger. Mean ES was 0.71 for the studies that included treatment-control comparisons; the average treated child scored better after treatment than 76% of control-group children, averaging across outcome measures. Weisz, Weiss, Alicke, and Klotz

(1987) reviewed outcome studies published between 1952 and 1983 and including children aged 4–18. The mean ES was 0.79; after treatment, the average treated child was at the 79th percentile of control group peers. Kazdin, Bass, Ayers, and Rodgers (1990) surveyed studies published between 1970 and 1988 including youngsters aged 4 to 18. For studies that compared treatment groups and no-treatment control groups, the mean ES was 0.88, indicating that the average treated child was better off after treatment than 81% of the no-treatment youngsters. For studies in the Kazdin et al. (1990) collection that involved treatment groups vs. active control groups, the mean ES was 0.77, indicating that after treatment the average treated child was functioning better than 78% of the control group. Finally, a recent meta-analysis by Weisz, Weiss, Han, Granger, and Morton (1995), included studies published between 1967 and 1993, and involved children aged 2 to 18. The mean ES was 0.71, indicating that, after treatment, the average treated child was functioning better than 76% of control group children.<sup>3</sup> For more detailed descriptions of the procedures and findings of the various meta-analyses, see Weisz & Weiss, 1993.

The evidence from these four broad-based meta-analyses shows rather consistent positive treatment effects; ES values ranged from 0.71 to 0.84 (estimated overall mean for Kazdin et al., 1990), near Cohen's (1988) threshold of 0.80 for a large effect. Figure 2 summarizes findings from the four child meta-analyses and compares them to findings from two often-cited meta-analyses—Smith and Glass's (1977) analysis of predominantly adult psychotherapy outcome studies, and Shapiro and Shapiro's (1982) analysis of exclusively adult psychotherapy outcome studies. As Figure 2 suggests, mean effects found in child meta-analyses fall roughly within the range of the mean effects found in these two adult meta-analyses.

### Limitations of the Evidence: Research Therapy Versus Clinic Therapy

The meta-analyses cited earlier point to positive effects of child psychotherapy. However, as noted elsewhere (e.g., Weisz

<sup>1</sup> For a more detailed account of studies and meta-analyses reviewed here, see the book *Effects of Psychotherapy With Children and Adolescents* (Weisz & Weiss, 1993).

<sup>2</sup> Six more narrowly focused meta-analyses add to the body of available information on child psychotherapy effects. Baer and Nietzel (1991) reviewed outcome studies involving cognitive and behavioral treatment of child impulsivity. Durlak, Fuhrman, and Lampman (1991) surveyed outcome studies involving cognitive-behavioral therapy for children, across an array of treated problems. Dush, Hirt, and Schroeder (1989) reviewed child outcome studies involving use of the cognitive-behavioral technique of self-statement modification. Hazelrigg, Cooper, and Borduin (1987) surveyed studies of the outcome of family therapy. Prout and DeMartino (1986) reviewed studies of school-based psychotherapy. Russell, Greenwald, and Shirk (1991) explored the impact of child psychotherapy (of various types) on children's language proficiency. All six meta-analyses showed positive psychotherapy effects overall.

<sup>3</sup> The three earliest broad-band meta-analyses each involved traditional analyses without correction for heterogeneity of variance. Weisz, Weiss, et al. (in press) used both traditional analyses and the weighted least squares (WLS) method recommended by Hedges and Olkin (1985) to control for heterogeneity; traditional unweighted least squares (ULS) methods were found to generate higher mean ES than the WLS method (means, 0.71 and 0.54, respectively).

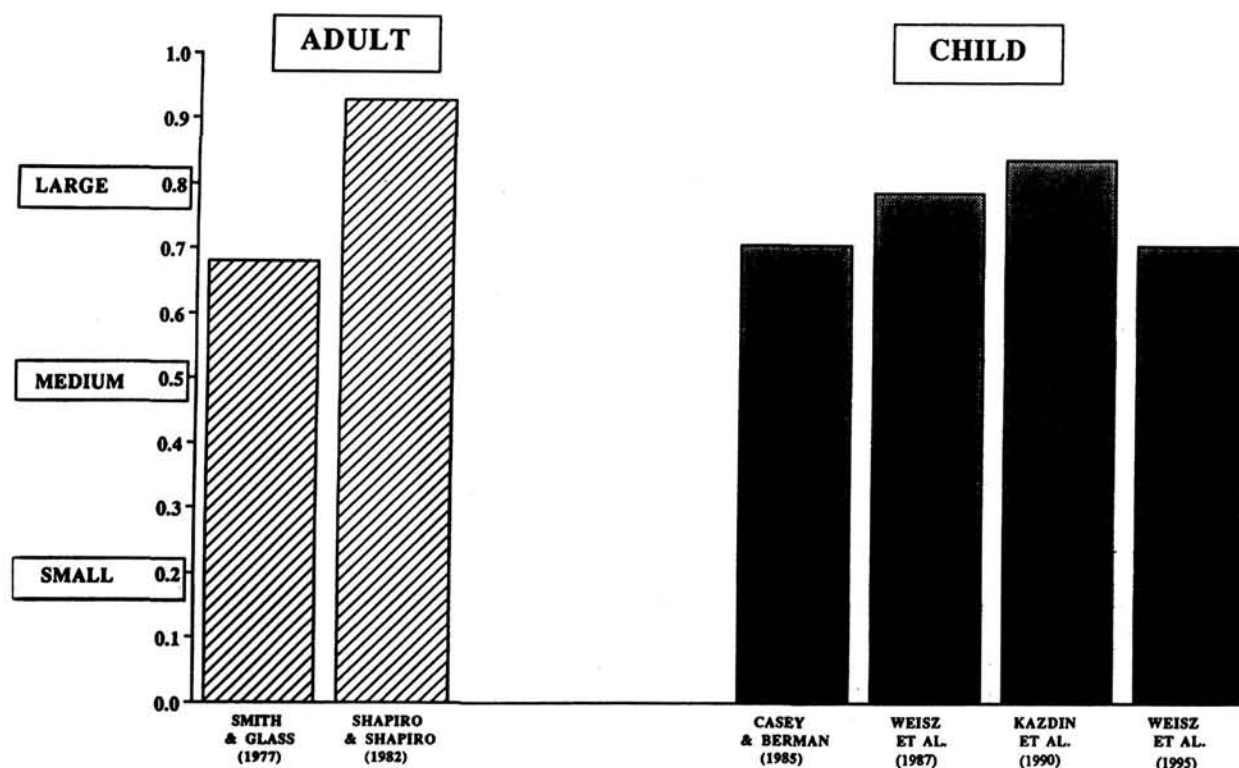


Figure 2. Mean effect sizes found in the predominantly adult meta-analysis by Smith and Glass (1977), in the exclusively adult meta-analysis by Shapiro and Shapiro (1982), and in four broad-based meta-analyses of psychotherapy outcome studies with children and adolescents.

& Weiss, 1993; Weisz, Weiss, & Donenberg, 1992), the 300-plus studies included in the child meta-analyses constitute only part of the evidence needed on child psychotherapy outcome. Most of the studies included in the meta-analyses (particularly the recent and behavioral studies) appear to have involved children, interventions, or treatment conditions that are not very representative of conventional clinical practice. In many of these studies, (a) youngsters were recruited for treatment and were not actual clinic cases; (b) samples were selected for homogeneity, with therapy addressing one or two focal problems (e.g., a specific phobia); (c) therapists received concentrated pretherapy training in the specific intervention techniques they would use; or (d) the therapy involved primary or exclusive adherence to those specific techniques. In addition, (e) therapy was often highly structured, frequently guided by a manual or monitored for its adherence to a treatment plan.

These features of the experimental studies tend to coalesce around a genre that we refer to here as *research therapy*, a genre that differs in a number of ways from conventional *clinic therapy*. Table 1 summarizes some of the most common differences between the two genres. Certainly no single feature listed in Table 1 under Research Therapy is present in all laboratory outcome studies, nor is any single feature listed under Clinic Therapy present in all clinic-based treatment. However, differences between therapy in clinics and therapy in outcome studies are common enough that one can certainly understand how clinicians might question the relevance of most outcome research to

their own clinical work. Beyond this issue, an important question arises as to whether the positive outcomes that have been demonstrated in the research therapy studies, and summarized in the aforementioned meta-analyses, are representative of the outcomes achieved through actual clinical practice with children.

#### *Evidence on the Effects of Clinic Therapy*

To address this question, we carried out a search for outcome studies focused on what might fairly be called clinic therapy. Because a lack of commonly used key words hampered a computer-based search, we hand-searched 23 journals known to publish treatment outcome studies; we searched the 2 decades from 1972 through 1991, adding studies identified through reference trails and other sources (e.g., review articles). We aimed for studies that involved (a) treatment of clinic-referred (not recruited or "analog") youngsters, (b) treatment in service-oriented clinics or clinical agencies, not in research settings (e.g., not a university lab or a school), (c) therapy conducted by practicing clinicians (as opposed to, e.g., research assistants), and (d) therapy conducted as a part of the regular service-related program of the clinic, not primarily for research. We required that the studies involve direct comparison between youngsters who received treatment and a control group who received none or a placebo condition. This ruled out, for example, treatment in hospital and residential settings where control groups had

Table 1  
*Some Modal Characteristics of Research Therapy and Clinic Therapy*

Research therapy	Clinic therapy
Recruited patients—clients (less severe, study volunteers)	Clinic-referred patients—clients (more severe, some coerced)
Homogeneous groups	Heterogenous groups
Narrow problem focus	Broad, multiproblem focus
Treatment in lab or school settings	Treatment in clinics or hospitals
Treated by researchers—assistants	Treated by clinicians
Small therapist caseloads	Large therapist caseloads
Special pretherapy preparation	Little pretherapy preparation
Short duration, fixed number of sessions	Longer duration, fewer session limits
Single, focused treatment method	Multimethod, eclectic
Behavioral interventions	Nonbehavioral interventions
Preplanned, highly structured (treatment manual, close monitoring of therapist adherence)	Flexible, adjustable (no treatment manual, less monitoring of therapist behavior)

some intervention, although we discuss such studies later in this article. Also excluded were studies involving only parent treatment or teacher training and studies focused on children being treated for medical conditions.

The search taught us an important lesson: Clinic studies that meet the aforementioned criteria are very rare. We found only nine studies that seemed to fit, and most of these had been published years ago. The studies all compared treatment and control groups, but by means of several different methodologies. Two studies (DeFries, Jenkins, & Williams, 1964; Smyrniotis & Kirkby, 1993) involved random assignment of children to treatment and no-treatment groups; five studies compared treated children to clinic dropouts (Ashcraft, 1971; Jacob, Magnussen, & Kemler, 1972; Lehrman, Sirluck, Black, & Glick, 1949; Levitt, Beiser, & Robertson, 1959; Weisz & Weiss, 1989); one study compared treated children to children who were seen for evaluation only (Witmer & Keller, 1942); and one study compared treated children to demographically and clinically matched children from the general population (Shepherd, Oppenheim, & Mitchell, 1966). (For a discussion of problems and issues in structuring treatment-control comparisons for clinic studies, see Weisz & Weiss, 1989, 1993.)

To summarize findings of these nine studies for comparison with the meta-analytic evidence, we computed, for each of the nine studies, an ES or ES estimate (for reports that did not include the statistics needed for standard ES calculation, we used estimation procedures described by Smith et al., 1980, and Glass, McGaw, & Smith, 1981). For studies reporting results with more than one outcome measure or more than one point of outcome assessment (e.g., 1-year and 2-year follow-ups), we computed separate ES values for each measure or each assessment point and then computed the mean of these values to generate a single ES for each treatment-control group comparison in each study. As reflected in Figure 3, the ES values ranged from  $-0.40$  to  $0.29$ , with the mean ES of the nine clinic studies ( $0.01$ ) well below the mean ES of the four broad-band meta-analyses discussed earlier ( $0.77$ ). The evidence thus far suggests that the outcomes of clinic therapy may be less positive than the outcomes of research therapy.

### Implications (and Limitations) of the Clinic Findings

If the findings of these clinic studies are taken at face value, they suggest that, for clinic-referred children treated by practicing clinicians in clinic settings, the impact of psychotherapy may not be as positive as the impact of research therapy in the experimental outcome studies. This, in turn, might suggest that experimental outcome research has a good deal to offer the practicing clinician—most importantly, an array of interventions that have been shown to produce positive effects. On the other hand, the nine clinic studies we found represent a small base of information, much of it quite dated. Clearly, more outcome research on clinic therapy—research that meets the best standards of methodological rigor and reflects therapy as currently practiced in clinics—is needed. This brings us to the first element of what we believe would be a useful research agenda linking lab and clinic.

#### *I. Enriching the Data Base on Outcomes of Traditional Clinic Therapy*

The meager payoff generated by our search for clinic-based outcome studies reveals how thin the base of published information is on outcomes for children who receive traditional therapy in practice settings. This is particularly surprising given the scientist-practitioner values our discipline has formally espoused. Those values would seem to support ongoing efforts by clinics and by individual practitioners to collect information on the youngsters they treat, before and after treatment. Such information could help link the practice and research communities, to the benefit of both, by facilitating comparison of changes in youths treated in lab research versus clinical practice.

The comparisons of randomly assigned treatment and control groups seen in laboratory research are difficult to carry out in practice settings, in part because of the ethical and public concerns that arise; but such designs, particularly if they involve waiting-list or alternate treatment control groups, may be feasible in some clinics. In cases in which no random assignment is possible, single-case research designs and the use of multiple baseline procedures may be quite informative (see Kazdin,

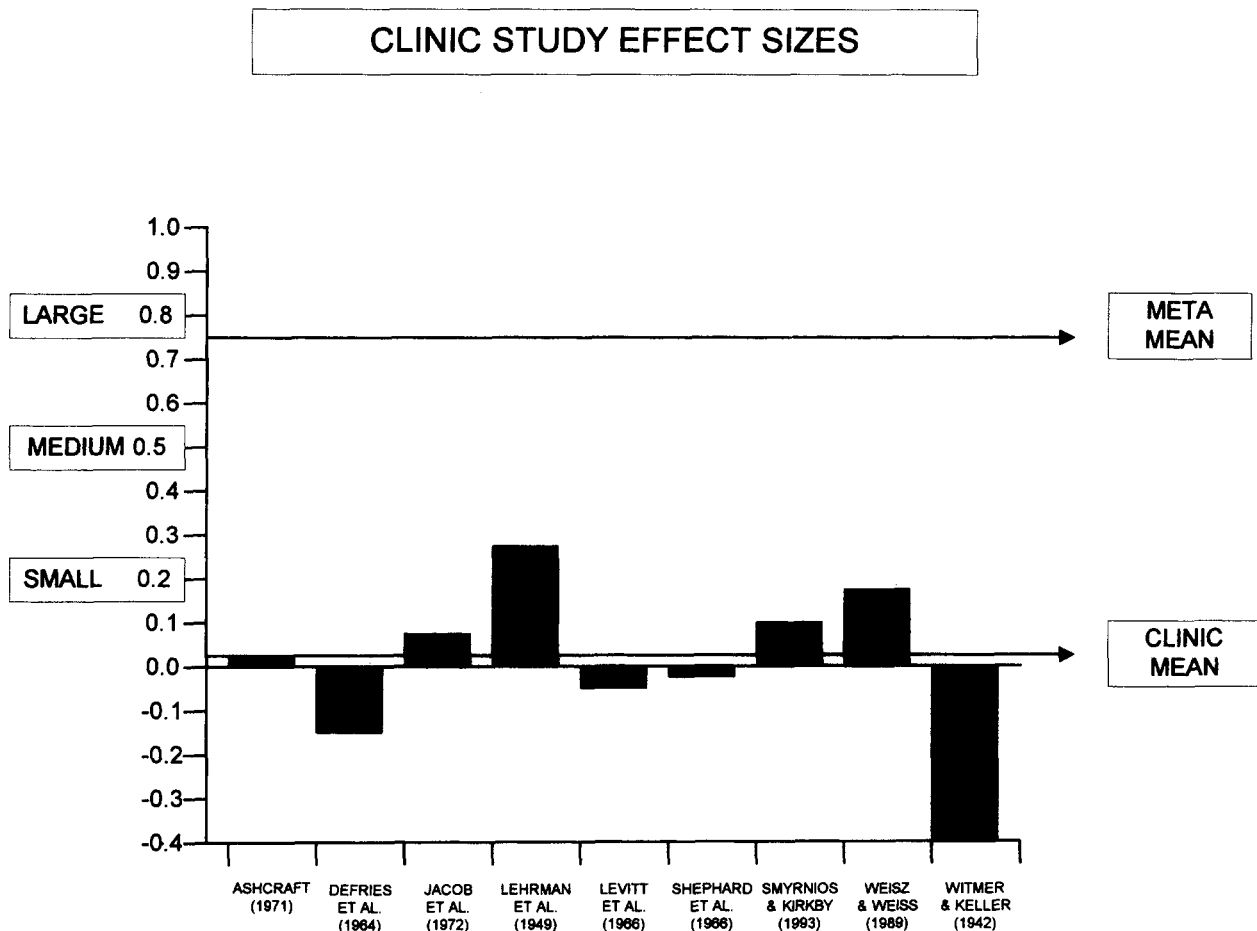


Figure 3. Estimated effect sizes for nine studies of clinic-based psychotherapy with children and adolescents.

1992, 1994). In settings in which even these approaches are not considered workable, useful analytic strategies have been developed for application to pre- and posttreatment data from clinics in which no aspect of intake or treatment has been altered for research purposes (for details plus a discussion of advantages and limitations, see Weisz & Weiss [1989; 1993, especially pp. 70–89] and Weisz et al. [1992]); although such strategies require thorough testing of alternative interpretations, they can provide useful information bearing on the effects of conventional clinical practice with referred youths. Because data collection and analysis for such research can be complex, time consuming, and expensive, work of this sort may require an active partnership between clinicians and researchers—collaboration that might prove informative for both groups.

An alternative approach to enriching our data base is to test the impact of traditionally clinic-based treatments under increasingly controlled conditions. Such an approach, in principle, offers opportunities to separate effects of traditional treatments themselves from effects of the conditions under which they are most often carried out in clinics. One example of this approach is the Vanderbilt School-Based Counseling Program (Catron & Weiss, 1994), in which licensed mental health prac-

titioners use their own preferred methods of therapy but treat children identified through a research protocol, under monitored conditions, in schools rather than clinics.

Beyond the rather broad-based approaches noted earlier, there could be real informational value in addressing within-clinic empirical questions—for instance, testing whether current methods are associated with more positive change in some groups of youths than in others (as defined, e.g., by age, gender, or treated problems)—assessing whether children treated by certain therapists or with certain treatment models have better outcomes than others, and identifying factors that predict outcome. Such within-clinic analyses could be compared with counterparts in the laboratory research literature, and these comparisons could help in discovering the extent to which patterns found in controlled research are representative of patterns seen in clinical settings.

Another important objective for research is to answer a question that remains virtually unaddressed, to our knowledge: What are the effects of child psychotherapy in such common treatment configurations as individual and group private practice and HMOs? Certainly, evidence on the child outcomes associated with these forms of practice is needed if scientists and

practitioners are to know how outcomes across the range of today's clinic therapies compare with the outcomes achieved through laboratory interventions. Generating such information seems a particularly important enterprise, given certain apparent similarities between community clinic-based therapy and private practice-HMO-based therapy. Although the latter may be associated with a more affluent clientele and thus with families who have access to more resources, it would not be surprising to find that both clinic-based practice and private-HMO-based practice tend to involve features seen in the right-hand column of Table 1, features such as (a) clients disturbed enough to have been referred for treatment (i.e., not recruited), (b) rather heterogeneous groups of clients, (c) rather broad, multi-problem focus, (d) treatment in clinical settings (e.g., not in schools), (e) treatment provided by clinicians (i.e., not by trained research assistants), (f) rather large therapist caseloads, (g) relatively modest pretherapy preparation for individual cases, (h) relatively multimethod, eclectic therapist orientations, (i) most often nonbehavioral treatment methods, and (j) relatively flexible, nonmanualized procedures.

Although it is by no means certain, it is possible that further research on child outcomes after therapy in various practice settings would reveal therapy effects more modest than those found in laboratory studies. Such an outcome might be disappointing, but it would not need to be seen as entirely discouraging. Certainly it is very good news that the numerous research therapy studies summarized in four meta-analyses indicate that under the right conditions child therapy can have substantial positive effects. If therapy effects in clinical practice prove to be modest, perhaps those effects can be improved by drawing lessons from the success of research therapy. To identify the appropriate lessons, however, researchers need to identify those features of research therapy that are most responsible for positive treatment effects. This brings us to a second element of the proposed research agenda.

## *II. Identifying Research Therapy Practices That Influence Outcome*

This second approach involves the identification of factors that may account for the superior effects of research therapy, assuming, that the findings presented earlier hold up in future research, and research therapy continues to show more positive effects than clinic therapy. Under this assumption, identifying specific lab-clinic differences that actually make a difference in treatment outcome may inform efforts toward lab-clinic collaboration in at least two ways.<sup>4</sup> First, some of the factors associated with beneficial effects of research therapy may point toward useful changes in clinic treatment procedures; assessing whether such changes lead to improved outcomes of clinic treatment might then be made a part of the research agenda. Second, other factors that account for beneficial effects of research therapy may represent inherent differences between what is possible in the lab and what is possible in real-life clinical practice; identification of such factors may help researchers and clinicians learn what changes are needed in lab-based interventions to make them responsive to clinical realities.

To illustrate how investigators may use data from research therapy to probe for factors of both types, we offer here a series

of tests using data from a recent meta-analysis of child and adolescent outcome studies (Weisz, Weiss, et al., 1995). The tests focus on eight hypotheses, eight possible reasons why research therapy may be more effective than clinic therapy. The eight hypotheses were derived primarily from salient differences between research therapy (and its data base) and clinic therapy (and its data base). To test the hypotheses, we carried out a series of analyses using a relevant subset of studies from the Weisz, Weiss, et al. (1995) meta-analysis. Of the 150 outcome studies included in the meta-analysis, we excluded 47 that involved either mediated treatment (e.g., treatment limited to parent or teacher training) or treatment in which patients were a captive audience (e.g., inpatients in psychiatric hospitals or inmates in detention or correctional facilities). This left a total of 103 studies, involving 163 treatment-control comparisons.<sup>5</sup> The 103 studies encompassed a range of interventions (behavioral, including cognitive-behavioral; client centered; insight oriented), and of treated problems (internalizing, externalizing, other).

As in most meta-analytic data sets, there was confounding among variables, and this made a clear test of any single hypothesis difficult to achieve. We addressed this problem to some degree by complementing the individual tests with a simultaneous elimination analysis designed to control for confounding among factors found to be significantly related to ES (discussed later). However, given this and other limitations of the tests presented here, it may be best to view them as having three primary kinds of value: (a) They identify eight potential hypotheses as to why research therapy may be more effective than clinic therapy, hypotheses that warrant examination in future research, (b) they illustrate ways that tests of such hypotheses may be structured and combined, and (c) they provide an initial wave of evidence bearing on the validity of the hypotheses.

One other point should be made concerning the tests. Most analyses of group differences involving meta-analytic data sets have used the unweighted least squares (ULS) approach initially used by Smith et al. (1980) in their landmark psychotherapy meta-analysis. Strictly speaking, this approach is only valid if several assumptions are met, one of which is homogeneity of variance. Given the diversity of the studies in psychotherapy meta-analyses and the broad range of sample sizes involved, it

<sup>4</sup> One possible contributor to the lab-vs.-lab-clinic difference in treatment effects is a difference in methodological quality between lab and clinic studies to date. In a meta-analysis devoted entirely to methodological factors, Weiss and Weisz (1990) found that the methodological rigor of child outcome studies was positively related to effect size. If lab and clinic studies do differ in quality, that difference might well contribute to differences in mean effects. For the most precise comparisons of lab and clinic treatment effects, lab and clinic studies of comparable methodological rigor are needed, hence the need for increased attention to careful outcome assessment in clinical practice settings.

<sup>5</sup> A preliminary report of some of these analyses, based on a smaller sample of 64 studies, appears in Weisz, Donenberg, Han, and Kauneckis (1995). By the time the present article was finalized, a larger pool of outcome studies had been identified for the meta-analysis (Weisz, Weiss, et al., 1995). This larger pool afforded more reliable tests of the hypotheses than those reported previously in Weisz, Donenberg, et al. (1995). In addition, only the present analyses involve the use of a WLS approach, described in the text.

is quite unlikely that the homogeneity assumption is satisfied in most meta-analytic data sets (for discussion, see Hedges & Olkin, 1985; Weisz, Weiss, et al., 1995). To address this problem in the present analyses, we tested group differences first with ULS, and then with an approach generally viewed as more valid for data of this type (i.e., a weighted least squares [WLS] general linear models approach described by Hedges & Olkin [1985; see also Hedges, 1994]), with individual effect sizes weighted by the inverse of their variance.<sup>6</sup> For efficiency of presentation, let us simply note here that the ULS analyses yielded no significant support for any of the eight hypotheses (the closest near miss was a marginal trend,  $p < .10$ , toward larger effects for behavioral than nonbehavioral treatments). In what follows, we report the results of hypothesis tests using the WLS method, for which the significance of group differences is assessed through chi-square tests. Throughout the calculations, we consistently collapsed across outcome measures and treatment groups, up to the level of analysis. For example, we collapsed across treatment groups except when we tested the effects of behavioral versus nonbehavioral therapies and different treatment groups within a study differed on that variable.

*Possibilities not supported by the tests.* Of the eight hypotheses, five were not supported in our WLS tests. Here we describe these hypotheses and how the tests were structured.<sup>7</sup>

1. Recent studies—better methods: *Most of the clinic studies available in the literature were published years ago, when therapy methods and assessment technology were relatively primitive; the research therapy studies have better outcomes because they are more recent and thus reflect better methodology.* To address this hypothesis, we computed the correlation between year of publication and ES in our sample of 103 studies. The negligible correlation of .05 ( $p > .40$ ) was similar to that found in previous meta-analyses in the child-adolescent area (−.05 in Casey & Berman, 1985; .08 in Weisz et al., 1987). Thus, Hypothesis 1 was not supported by available correlational data. However, Weisz, Weiss, et al. (1995), in their recently completed meta-analysis of 150 outcome studies, found that, although there was no overall main effect of publication year, the year did interact significantly with child age and with child gender. There was some evidence that more recent studies showed larger ES than older studies with samples that included primarily adolescents and in samples that involved female majorities. Therefore, although overall tests of Hypothesis 1 were not supportive here, the hypothesis may be valid for some subgroups of treated youths. Further investigation certainly seems warranted. Finally, publication conventions change over time, and there may be a trend toward more publication, in recent years, of treatment studies showing minimal effects. Such a trend would work against detection of true improvements in therapy effects over the years, at least in analyses that rely on published studies as the data base.

2. Relative effectiveness of researcher-therapists and professional clinicians: *Clinicians are less effective than research therapists.* Therapists in lab studies are often the investigators, graduate students, or research assistants, trained in the specific treatment methods that will be used in their particular study. Are these “researcher-therapists” more effective than professional clinicians? To address this question, we coded the 103 studies for whether the therapists were clinicians (e.g., clinic

employees, psychiatric social workers, marriage and family counselors, school counselors), researchers (e.g., university faculty, study authors, graduate students, trained undergraduates), both types (i.e., one or more therapists from both categories), or not reported. Two raters, independently coding ten studies involving 22 treatment-control comparisons, obtained a kappa of 0.86 for these judgments. When we compared the mean ES for groups treated by clinicians with the mean ES for groups treated by researchers, the difference was negligible,  $p > .50$ .

3. Pretherapy preparation (prep): *Research therapy is more effective because the therapists have special training, just before the intervention, in the methods that will be used.* As a third possibility, we tested the notion that research therapy is more effective because research therapists, more often than clinic therapists, are prepared for their work through pretreatment training in the method of intervention that will be used. We classified the studies into three categories: (a) Prep (explicitly stated or implied that such pretreatment training was provided), (b) no prep (explicitly stated or implied that there was no such training), or (c) no information given. On these judgments, the two raters achieved a kappa of 1.00. When we compared mean ES for studies in Category a with the mean ES for Category b, we found no evidence that outcomes differed as a function of whether therapists had pretreatment training,  $p > .80$ .

4. Breadth of problem focus: *Research therapy is more effective because it tends to involve a focus on one type of child or one type of child problem, whereas clinic therapy tends to be more diffuse, focusing on multiple child problems.* It is part of the mandate in many clinics that every youngster who has legitimate mental health needs must be seen if clinic resources permit. Thus, unlike research programs, clinics typically cannot limit their focus to treatment of one class of problems, for example, depression, or the anxiety disorders. Perhaps the freedom of research programs to focus on single problems, or homogeneous groups, enhances their measured effectiveness. To investigate this possibility, we used the target problem coding conducted for the Weisz, Weiss, et al. (1995) meta-analysis, from which the present 103 studies were drawn. Tier 2 of that coding system classifies treated problems at a moderate level of specificity (e.g., depression, aggression) and four coders for the meta-analysis achieved a mean kappa of 0.79 in making these judgements. For the test of Hypothesis 4, we compared mean ES from studies involving a clear problem focus (i.e., codes of delinquency, noncompliance, self-control [hyperactivity-impulsivity], aggression, phobias-anxiety, social withdrawal-iso-

<sup>6</sup> To facilitate comparisons involving previous meta-analyses, most of which used only unweighted means, we consistently report unweighted mean ES values in Figures 2, 3, and 4.

<sup>7</sup> In preliminary analyses reported by Weisz, Donenberg, et al. (1995), 10 hypotheses were examined. Two of the 10 were excluded from the present series of analyses. In the Weisz, Donenberg, et al. article, unlike the present article, we considered whether effect size was related to (a) the degree to which a specific, focused therapy approach was used, as distinguished from multiple or diffuse methods, and to (b) duration of therapy. For the present analyses, we dropped the former because the nature of our coding system for specificity made it difficult to interpret findings unambiguously; we dropped the latter because optimum length of treatment seems to depend heavily on the type and severity of treated problem, and too little information was available to permit proper control of such variables.



lation, depression, somatic problems [headaches], or cognitive skills deficits) to mean ES for studies having a vague or diffuse problem focus (i.e., multiple externalizing problems, multiple internalizing problems, or multiple other problems). The two groups showed a negligible difference ( $p > .80$ ) in mean ES.

5. Structure: *Research therapy is more effective because it is more highly structured than clinic therapy.* Compared with clinic therapy, research therapy seems more highly structured, with prearranged procedures used in a particular order, frequently guided by a treatment manual and quite often monitored for fidelity. Such structure may reduce flexibility, but it could also enhance effectiveness by maximizing consistency in the implementation of the planned intervention. To explore this possibility, we classified studies into the following categories: (a) structured (i.e., treatment manual, monitoring of therapist consistency, treatment outline or detailed description, or audiovisual materials used to administer therapy), (b) unstructured (none of the aforementioned; e.g., "discussion groups"), and (c) not stated (inter-rater kappa for the two judges, 1.00). When we compared structured therapy studies with unstructured studies, we found no significant difference in mean ES,  $p = .12$ .

*Possibilities supported by the tests.* Three of the eight possibilities we examined were supported.

6. Relative treatability of research versus clinic cases: *Clinic cases are more seriously disturbed, come from more dysfunctional families, or for some other reason, are more difficult to treat successfully than youngsters recruited for research therapy.* Because so many of the youngsters treated in lab studies are analog cases, recruited through screening in schools or through advertisements, and not likely to have ever been referred to a clinic, it seems likely that research therapy cases are less severely disturbed than clinic therapy cases, on average. If treatment effects are more positive with less disturbed youngsters, then this difference in clientele may account for some of the lab-clinic difference in overall mean ES. To address the issue, we again relied on coding done as a part of the recent meta-analysis (Weisz, Weiss, et al., 1995) from which our present 103 studies were drawn. Our meta-analysis raters achieved a mean kappa of 0.89 for their judgments as to whether treated samples in the various studies were clinical (i.e., the children were clinic referred or would have received treatment regardless of the study) or analog (i.e., the children were recruited for the study and would not have received treatment had it not been for the study) versus not stated. Our comparison revealed that analog samples showed larger ES means than clinical samples (ES means, 0.50 vs. 0.29),  $\chi^2(1, N = 100) = 6.20, p < .05$ .

7. Conditions in clinic settings versus lab settings: *Lab settings are generally more conducive to therapeutic gain than are clinic settings.* Community clinics may not have the facilities or resources to match those of many lab researchers, who work to make their setting and conditions so appealing that children and parents will be motivated to attend sessions faithfully. It is possible that differences between the two settings have the effect of enhancing therapy effects in the lab or undermining therapy effects in clinics. To explore this possibility, we coded studies into the following categories: (a) research setting (e.g., university lab, primary or secondary school), (b) clinic setting (e.g., outpatient clinic), and (c) not stated [kappa for the two raters, 0.78]. Comparison of clinic and research settings revealed a

higher mean ES for the latter (ES means, 0.50 vs. 0.16),  $\chi^2(1, N = 79) = 6.88, p < 0.01$ , and thus support for the hypothesis.

8. Behavioral versus nonbehavioral methods: *Research therapy studies have better outcomes because they are more likely than clinic studies to involve behavioral treatment methods.* Kazdin, Bass, et al. (1990), in their analysis of characteristics of therapy research, reported that the majority of treatment outcome research involves behavior modification (50% of all studies surveyed) and cognitive-behavioral interventions (22%), with relatively little attention given to psychodynamic (1%), family (4%), or eclectic (4%) interventions. By contrast, Kazdin, Siegel, and Bass's (1990) survey of child clinicians indicated that a majority viewed psychodynamic (59% of respondents), family (57%), and eclectic (73%) interventions as useful most or all of the time. Consistent with this pattern, behavioral interventions were not well represented in the aforementioned nine clinic studies reviewed, but were very well represented in each of the four broad-based meta-analyses described earlier. If behavioral interventions were more effective with young people than nonbehavioral, such an effect might help account for the apparent superiority of research therapy over clinic therapy.

To address this issue, we relied on coding done for the meta-analysis by Weisz, Weiss, et al. (1995) that was the source of the 103 studies used here. The meta-analysis raters showed a mean kappa of 0.83 in classifying treatments into the categories behavioral, nonbehavioral, and other. In support of the hypothesis, behavioral treatments produced larger mean ES than nonbehavioral (ES means, 0.50 vs. 0.25),  $\chi^2(1, N = 103) = 7.64, p < .01$ . This finding is consistent with reports in the three meta-analyses in which behavioral and nonbehavioral treatments have been compared (i.e., Casey & Berman, 1985; Weisz et al., 1987; Weisz, Weiss, et al., in press). In all three, the initial analyses showed higher mean ES for behavioral than nonbehavioral interventions (but see Casey & Berman, 1985, for further tests, and see Weiss & Weisz, 1995, regarding proper interpretation of such findings). If behavioral methods truly generate more positive effects than nonbehavioral methods, the fact that behavioral methods are so commonly used in research therapy, and so infrequently used in clinic therapy, may help explain the superior outcomes of research therapy.

### *Assessing the Independent Contribution of the Three Significant Factors*

The three factors that showed significant relations with ES were correlated with one another. Consequently, we sought to assess the effect of each factor independently of the other two. This was accomplished by means of a standard regression model with the three factors as independent variables and ES as the dependent variable. With this simultaneous elimination procedure, the effect of lab versus clinic setting was reduced to nonsignificance, (adjusted ES means, 0.30 vs. 0.27),  $\chi^2(1, N = 78) = 0.35, p > .55$ . The relation between ES and the analog versus clinical case variable remained significant (adjusted means, 0.44 vs. 0.13),  $\chi^2(1, N = 78) = 4.68, p < .05$ ; and the relation between ES and behavioral versus nonbehavioral treatments also remained significant (adjusted means, 0.42 vs. 0.14),  $\chi^2(1, N = 78) = 7.22, p < .01$ . What these findings



suggest is that the apparent effect of clinical setting was an artifact of that variable's confounding with the analog-clinic case variable or the behavioral-nonbehavioral variable, but that the effects of these latter two variables on ES did not result from such confounding.

### *Using Findings to Inform Lab-Clinic Collaboration*

As noted earlier, identifying lab-clinic differences that are significantly related to treatment effects may inform lab-clinic cooperation in at least two ways. The findings of these present tests illustrate both. First, some factors associated with positive effects of research therapy may help point toward beneficial changes in clinic treatment procedures. The finding that behavioral treatments yield larger effects than nonbehavioral suggests a change in clinic practice that might yield real benefits. Other factors linked to beneficial effects of research therapy may reflect relatively unchangeable aspects of clinic-based treatment and may, thus, point toward changes needed in lab-based therapies to help them accommodate to clinic realities. Our finding that analog cases showed bigger treatment gains than clinic-referred youths suggests that the success of lab studies may rest partly on the relatively low levels of disturbance in their recruited samples. In fact, after youth recruitment, laboratory researchers frequently apply additional exclusionary criteria to their pool of recruits (e.g., disallowing major comorbid diagnoses), in an effort to select the very best candidates for their particular treatment, and this raises further questions about the generalizability of the effects obtained. If lab research findings are to be optimally useful to practitioners, the lab treatments may need to be modified to make them applicable to a broader range of youths than they currently accommodate. To summarize, optimum lab-clinic collaboration is apt to involve changes not only in clinic procedures but also in the ways laboratory interventions are conducted.

### *Comparing the Clinic Studies to Inpatient and Residential Add-On Studies*

Although we did find that mean ES was higher for analog than clinic samples, there were small-to-medium-range (J. Cohen, 1992) treatment effects with clinic samples (see also Weisz et al., 1987; Weisz, Weiss, et al., 1995). Another indication that structured interventions can be effective with clinic-referred groups in clinical settings comes from an examination of 10 studies that came to light in our search for clinic studies (discussed earlier) but that did not quite fit the clinic study category. In these 10 studies, which fall into what might be called an "add-on" genre, specific treatment interventions were added to the standard program of various inpatient or residential facilities (excluding juvenile correctional centers). Treatment groups were compared with control groups of youths in the same facility who did not receive the special treatment program.

We calculated an ES (or estimate, following Smith et al. [1980] and Glass et al. [1981]) for each treatment-control comparison (i.e., the focused intervention vs. the standard institutional program) in each of the studies. Across the 10 studies (with one ES per study), the mean ES was 0.76; after treatment,

the average youngster receiving one of the special interventions was at the 78th percentile of the control group, averaging across measures of adjustment. As Figure 4 shows, this mean ES value was very similar to the ES mean of the four broad-based child meta-analyses reported earlier; and, of course, this add-on mean ES was markedly higher than the clinic study mean ES,  $p < .01$ .

In interpreting the mean effect shown in Figure 4, it is important to note that inpatient and residential settings offer certain advantages over outpatient settings as test sites; for example, inpatient youngsters are a captive audience for the treatment, and the controlled settings help to minimize the influence of such treatment-undermining influences as family disorganization and deviant peer groups. Nonetheless, the difference between the mean ES for clinic studies and add-on studies may be instructive, given other dimensions along which the add-on studies resemble and differ from the clinic studies. Important areas of resemblance are that both types of studies (a) involve samples not of recruited children but of youngsters disturbed enough that they had been referred for treatment (in fact, some of these inpatient-residential samples seem likely to have been more disturbed than the [outpatient] clinic study samples), (b) took place in clinical settings, and (c) primarily involved therapy conducted by practicing clinicians. However, most of the add-on studies, unlike most clinic studies, involved behavioral interventions. Taken together, the studies illustrate that intervention may be made effective with significantly disturbed, clinic-referred youngsters, treated in clinical settings. The question of whether this may be done successfully in nonresidential settings, however, brings us to a third proposal for research linking lab and clinic.

### *III. Exporting Treatments From Labs to Clinical Practice Sites*

A third potentially valuable research strategy involves exporting well-developed research therapy programs from the laboratories where they have been created and tested to the proving ground of service-oriented clinics. This seems likely to set in motion a productive cycle of outcome assessment, refinements in the procedures to fit clinic conditions, further outcome assessment, and so forth. A number of the studies shown in Figure 4 involved efforts to test structured treatment programs in inpatient settings and with considerable success. Other articles in this special section illustrate that the exporting of lab procedures to outpatient clinic and community settings is also underway, albeit in different ways for different treatment programs.

The research literature includes a number of useful examples. Some studies in the literature involve implementation of research therapy programs with clinic-referred youths in clinic settings. Examples include Fehlings, Roberts, Humphries, and Dawe's (1991) study of cognitive-behavioral treatment of outpatient children with attention deficit-hyperactivity disorder (ADHD); Seymour, Brock, During, and Poole's (1989) study of operant intervention for sleep disruptions in outpatient children; and McKenna and Gaffney's (1982) study of social skills training for a heterogeneous group of outpatient youths.

Other studies involve implementation of research therapy

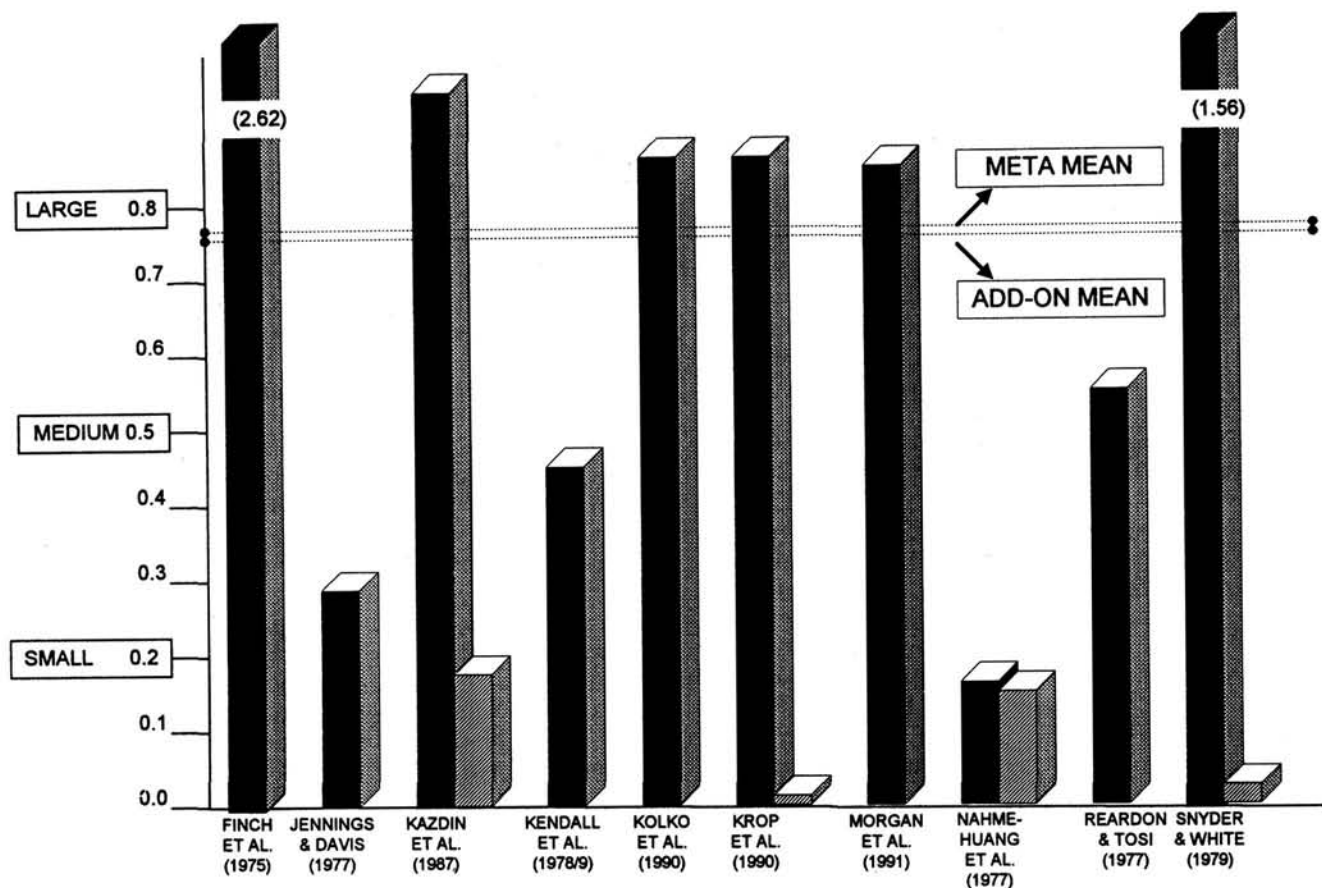


Figure 4. Estimated effect sizes for 10 "add-on" studies of child and adolescent psychotherapy in hospital and residential settings.

programs with clinic-referred youngsters, or youths who clearly warrant referral, but with the treatment provided in university-based clinics or otherwise outside conventional service-oriented clinics; examples include Kendall's (1994) cognitive-behavioral treatment program for children with anxiety disorders, Lovaas and his colleagues' operant conditioning program for autistic children (Lovaas, 1987; McEachin, Smith, & Lovaas, 1993), and Lewinsohn, Clarke, Hops, and Andrews' (1990) cognitive-behavioral intervention for depressed adolescents (see also Clarke et al., 1992).

A slightly different but highly relevant genre of research is the effort by several investigators (e.g., Lee & Haynes, 1976; Stewart, Vockell, & Ray, 1986) to bring structured interventions directly to juvenile offenders in the community (i.e., not necessarily through clinics). Strong positive effects of such an effort, focused on the family and social system, have been demonstrated by Henggeler and his colleagues (Henggeler, Melton, & Smith, 1992).

Thus, several teams of investigators have begun to show that beneficial treatment effects can be sustained when well-developed interventions are taken out of the security of the lab and tested with seriously disturbed youths in clinic and community settings. Ultimately, the success of these efforts may be the most

persuasive argument for the value of research to clinical practitioners.

### Obstacles to Lab-Clinic Collaboration

Thus far, we have discussed three broad strategies for linking research and clinical practice. Each of the strategies may be useful, but none is apt to be simple. Each strategy may require reconsideration—and, ultimately, restructuring—of how children are treated in many clinics; and it would be naive to think that such changes would be painless. Several particularly formidable obstacles can be anticipated, some philosophical-attitudinal and some quite practical. We offer a few examples of each.

1. *Belief that frank scrutiny of therapy outcomes is harmful to the discipline.* Perhaps the most sweeping attitudinal obstacle to the kinds of change we are considering here is the belief that frank discussion of the evidence on treatment outcomes may harm our discipline. Some believe, for example, that presenting findings that are not uniformly favorable may undermine our image in the public eye. We suggest, by contrast, that public confidence may ultimately be strengthened by a recognition that this is a self-monitoring, self-correcting discipline, that findings (both positive and negative) are reported openly, and

that science is used to improve practice. By its very nature, scientific evidence on outcomes cannot all be good news. However, it must not be forgotten that much of the news from the current information base is positive: Meta-analyses of over 300 outcome studies indicate that the most carefully tested interventions for children and adolescents have generally beneficial effects; moreover, a number of efforts to implement lab-tested interventions with disturbed children in clinic and community settings have produced positive outcomes. On the other hand, some evidence does raise a concern that the rather strong positive effects shown with lab-tested interventions may not be replicated in everyday clinic practice. If the concern proves to be well founded, surely all who share an interest in the well being of children and families would want it to be addressed.

2. *Belief that psychotherapy is art, not science.* Another potential obstacle to the kinds of lab-clinic collaboration proposed here is the view that psychotherapy is an art and that the practice of this art should not be shaped according to research findings. Of course, some researchers may reply that this view is precisely the problem with psychotherapy (i.e., that its practitioners have failed to incorporate scientific evidence, and to their own detriment). The tension between these two viewpoints defines much of the gap between clinic and lab that is the focus of this article. In principle, it should be possible to identify a middle ground between the two perspectives (e.g., to appreciate elements of art in psychotherapy without declaring treatment immune to tests of efficacy or concluding that scientific findings are irrelevant). Ultimately, for the consuming public, what may matter most is a basic empirical question: Are there reliable differences in outcome between treatments that have been developed and tested through research and those that have not?

3. *Belief that current clinical practice works well, but in ways that outcome research cannot measure.* Some therapists sincerely believe that their interventions are effective but in ways not measurable by means of current research methods. This belief can take a number of forms, but one example is the view that effects of some forms of psychotherapy are so complex, subtle, and private as to defy objective assessment. Therapies aimed, for instance, at promoting insight, self-awareness, or enhanced identity, might be subject to this claim. The argument can be made unaddressable if proponents label as inadequate any outcome measure researchers may propose. On the other hand, much could be accomplished if proponents and researchers could work together to identify mutually acceptable measures of treatment outcome. Such a partnership may be increasingly critical. With changes in the health care system, third-party payers and the public alike are apt to require evidence of the benefits for which they are asked to pay. Everyone will be served best if that evidence takes a form that is judged fair and appropriate by both researchers and clinicians.

4. *Belief that outcome research, with its narrow focus and manualized treatments, is not relevant to the complex cases seen in clinics.* Many research therapy outcome studies have imposed a rather pristine simplicity and linearity on the treatment process (e.g., by focusing treatment on one or two focal problems such as aggression and by detailing steps of treatment in a manual). It does seem likely that applying lab-tested methods to complex clinic cases will reveal limitations and necessitate

adjustments in those methods; researchers may learn a great deal from this process about how to make their lab-developed interventions more responsive to the conditions of seriously disturbed children in clinics. On the other hand, although it is true that real clinic cases can be quite complex, it must also be noted that a number of successful research therapy studies involved treatment of real clinic cases. The evidence reviewed earlier suggests that the use of focused behavioral techniques is associated with particularly positive treatment effects. In some cases, aiming for specific behavioral changes may be more effective than trying to encompass all the complexity of a very troubled child at once.

5. *Devotion to conceptually appealing, personal theoretical orientations.* For many years, in many of our training programs, clinical training has encouraged trainees to develop a specific, coherent theoretical orientation. Articulating this orientation often becomes part of written qualifying exams, internship and job interviews, and oral examinations for state licensure. As clinicians, the assessments, treatments, and supervision of trainees are all expected to reflect our theoretical orientation; in these and other ways, that theoretical orientation may become so central to the professional and personal identity of clinicians that the idea of giving it up borders on the unthinkable. Unfortunately, it seems inevitable that the theoretical orientations held by some clinicians will not fare well under empirical scrutiny, and the therapies derived from these orientations will not be shown to be effective. The therapists for whom this is true will face a difficult choice: Persist in the preferred orientation and its methods despite a lack of supporting evidence, or learn new ways of construing and intervening with clinical problems. The latter choice will not be easy; in some cases it will mean refashioning or even replacing hard-won, familiar, and conceptually appealing ways of thinking and intervening. Those clinicians who are willing to take this difficult step in response to the evidence will deserve the respect of their peers and the gratitude of their clients.

6. *Reluctance of third-party payers to fund restructuring efforts.* We turn now to more practical concerns, beginning with one of the most practical of all. Assuming that therapists and clinic administrators were inclined to reorient clinic procedures in response to empirical evidence, who would pay for the process? Third-party payers seem more inclined to pay for services than for the kinds of time-consuming restructuring and training that could be required to link mental health care to its scientific base. On the other hand, as noted earlier, clinicians face the growing possibility that third-party payments will be linked to evidence of efficacy in the future. To the extent that this is true, clinics and clinicians whose work has been made responsive to the evidence of outcome research may find that their position as providers has been strengthened. Clinic administrators may find that it makes good sense to promote needed changes through such mechanisms as seminars, in-service workshops, and continuing education credits.

7. *Undersupply of clinicians from training programs who are well-versed in the use of empirically supported methods.* Of course, seminars and workshops can only go so far to instill expertise in empirically supported interventions. Such mechanisms are no substitute for an ample supply of clinicians trained to carry out such interventions from the day they begin work.

Currently, the supply of such clinicians appears to be very limited. Despite the discipline's commitment to the scientist-practitioner model, clinical training programs and accredited internships have not, for the most part, limited their training to, or even focused their training on, those forms of therapy that have scientific support; nor have trainees generally been taught to use the empirical literature in selecting treatments. As a result, relatively few graduates from clinical psychology programs are currently in a position to lead clinics into a world of empirically supported interventions. This state of affairs could be changed but only through substantial modifications in the orientation and policies of most of the graduate training and internship programs. Adjustments in these programs, however, may help to create a new generation of scientifically trained clinicians poised to guide clinics of the 21st century in the use of interventions that have been shown to work.

8. *Difficulty of finding and learning proven interventions for the diverse array of problems seen in clinics.* Even therapists fully committed to using only empirically supported treatments could face a daunting challenge. Such therapists could be overwhelmed by the task of finding such treatments for the diverse children who enter a typical community clinic or HMO program in a single month. Beyond mere identification of such treatments lie the tasks of obtaining the treatment manuals and gaining sufficient training and supervision to be truly proficient in and effective with the manualized method. It seems to us that this very real problem can only be addressed effectively through changes at the lab and clinic ends of the process. Researchers who develop and test treatment programs need to find ways to make these programs accessible to therapists outside the lab, and clinics may need to move away from the notion of the "generalist clinician" and away from assigning cases on a "who's up next?" basis. Indeed, it may never have been very realistic to assume that a well-trained clinician should be able to treat the full range of youngsters who come through the clinic door. In the future, clinics may be increasingly organized into specialty subclinics, each with its team of clinicians trained to do a few things particularly well and to train and supervise others in the same specialized skills.

9. *Lack of proven treatments for some problems.* The clinician who seeks to use only empirically supported treatments will soon find that for some of the problems seen in clinics there is no tested and proven treatment. This state of affairs would not necessarily mean that children with these problems should be denied treatment; but it may call for truth in advertising. It may be only fair, for example, for family members to know whether the treatment proposed for their child has been tested and shown to be effective (and with what groups, under what conditions) or is an experimental approach designed for their child in the absence of an empirically based treatment. In the latter case, when families agree to proceed, the experience can contribute data on how children change when exposed to the experimental treatment, and these data may contribute to an ongoing lab-clinic collaboration in treatment development.

#### Summary and Conclusion: Bidirectional Benefits of Lab-Clinic Collaboration

To summarize, we reviewed evidence suggesting that the beneficial effects of child psychotherapy seen in experimental stud-

ies may not be well replicated in clinic practice. To address this situation, we proposed three kinds of research at the lab-clinic interface, designed to promote enhanced treatment effects with referred children in clinical practice. Then, we outlined some problems likely to be confronted in efforts to link research findings and clinic practice, offering a perspective on each of the problems. Overall, we have stressed the importance of frankly examining all available evidence, both favorable and unfavorable, in efforts to strengthen the impact of child interventions. The discipline grows as researchers and clinicians learn where improvement is needed and inculcate new skills in response to new evidence.

One other point should be stressed: The benefits of lab-clinic collaboration seem likely to flow in both directions. The evidence reviewed here suggests that the application of research therapy procedures and findings may help to enhance the effects of clinical practice with referred children. Conversely, attempts to bring some of the more pristine laboratory procedures into clinics may prompt significant adjustments in those procedures; in the process, changes needed to make lab-tested therapies effective in clinical practice may be identified. Clinical researchers may have a great deal to learn from practicing clinicians, just as clinicians may learn useful new approaches from the research community. If the obstacles to researcher-clinician collaboration can be overcome, both groups may profit, and to the ultimate benefit of the children and families who seek help.

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