Evidence-Based Practice: Promoting Evidence-Based Interventions in School Psychology

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For the past few years, we have worked on the development of various agendas associated with the Task Force on Evidence-Based Interventions in School Psychology (hereinafter the Task Force). The Task Force was formed to identify, review, and code studies of psychological and educational interventions for behavioral, emotional, and academic problems and disorders for school-aged children and their families (see Kratochwill & Stoiber, 2002; Gutkin, 2002). A primary mission of the Task Force has been to improve the quality of research training, extend knowledge of evaluation criteria for evidence-based interventions (EBIs), and report this information to the profession of school psychology. A fundamental focus of the present paper and the ultimate goal of the Task Force is to promote the use of EBIs in psychology and education and specifically the field of school psychology. The agenda is critical for our profession inasmuch as schools are the largest provider of child mental health services (Burns et al., 1995), and for many children, the school is the only environment in which they receive mental health interventions (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001, 2003).

The EBI movement has gained tremendous momentum in the past few years with developments in psychology, medicine (e.g., psychiatry), education, and prevention science (e.g., Hoagwood et al., 2001; Kratochwill & Stoiber, 2002; Power, 2003). The Task Force has adopted a professional agenda that progresses through a sequence of activities: organization of research domains, identification of research studies, review of studies, evaluation and analysis to develop a research synthesis, and a summation of findings that involves interpretation, presentation, and dissemination of information on EBIs (Kratochwill, 2002). The final step and ultimate goal, which involves the promotion of EBIs in practice, presents a series of challenges to the Task Force and to other professional groups and organizations involved in the EBI movement (e.g., Division 12 and 53 of the American Psychological Association (APA); the National Reading Panel, 2000; and the U.S. Department of Education–supported What Works Clearinghouse). One of the most serious of these challenges is the transportability of EBIs to practice (Chorpita, 2003; Schoenwald & Hoagwood, 2001). That the transportability of EBIs to practice is a challenge should come as no surprise in view of the struggles and challenges posed by scientific-practitioner models of training and practice for more than four decades. Moreover, there has been a long-standing concern over the adoption of “innovations” (Rogers, 1995), with the problems of disseminating and adopting...
innovative psychosocial interventions discussed at length by Backer, Liberman, and Kuehnel (1986). Nevertheless, the challenge to improve our services to children and schools continues, and at the nexus of this challenge is the adoption of research-based (or evidence-based) practices in diagnosis, assessment, and intervention.

The purpose of this paper is to present some of the issues relating to the adoption of EBIs in practice and, specifically, the multiple roles practitioners, researchers, and trainers can play in a collaborative partnership of integrating EBIs in each other’s practice. We advance the argument that an intervention should carry the evidence-based designation when information about its contextual application in actual practice is specified and when it has demonstrated efficacy under the conditions of implementation and evaluation in practice. Within a research-to-practice agenda, this strategy is called the EBI reciprocal influence process and is central to the development of EBIs (Kratochwill, 2002). This framework clearly extends the developmental agenda of designation of an intervention as an EBI from its experimental research foundations to its application in practice settings. Within this framework, we can also demonstrate the central role of practitioners in the research process, a role that extends well beyond that of the traditional, passive “consumer” of research findings.

The Integration of EBIs in Practice

Challenges of Integrating EBIs in Practice

Among the various discussions that have occurred relevant to the integration of research findings in practice is the recurring debate about the scientist-practitioner model of graduate education in psychology. The scientist-practitioner model, perhaps the first evidence-based practice framework, has been promoted in graduate training programs in clinical, counseling, and school psychology. However, despite the merits of this model and its benefits to scientific psychology (see Hayes, Barlow, & Nelson-Gray, 1999), many of its proposed applications have not been particularly successful in practice. Nevertheless, we can learn from the problems historically associated with the scientist-practitioner model.

As policy and economic issues have entered into the dialogue, the EBI movement has attracted a renewed interest among researchers and practitioners in the dissemination and use of research-based interventions in practice (Deegear & Lawson, 2003). Yet, EBI use (or nonuse) in practice has raised a new set of challenges for researchers and practitioners; for example, the use of manual-based treatments or procedures may run counter to the philosophical or theoretical beliefs of trainers and practitioners (see

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2 The scientist-practitioner model entails at least three dimensions: (a) the involvement of practitioners in research agendas; (b) practitioner use of research-based procedures and techniques in practice; and (c) practitioner evaluation of interventions in practice through research and program evaluation (e.g., use of single-participant or time-series designs to evaluate treatments).
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Kratochwill & Stoiber, 2002, for discussion of some of these issues). Unfortunately, the problems surrounding the adoption and implementation of EBIs in practice settings are often argued to be the sole responsibility of practitioners, whereas such problems must be a shared responsibility of researchers, trainers, and practitioners. Sharing this responsibility means (a) working in concert to evaluate the feasibility and effectiveness of EBIs that are integrated into practice and training settings and (b) valuing practitioners’ experience with the EBIs and their contribution to the scientific knowledge base related to EBI practices.

The challenges in EBI adoption go to the core of traditional problems surrounding the scientist-practitioner model and the hiatus between research and practice. For our purposes, it is sufficient to highlight four issues relating to the adoption and sustainability of EBIs in practice settings (Backer et al., 1986; Deegear & Lawson, 2003; Kratochwill & Stoiber, 2002; Schoenwald & Hoagwood, 2001):

1. There has been a rapid proliferation of groups involved in reviewing the literature with the intent of establishing an evidence base for their work. At last count, we identified over 10 groups involved in sometimes independent efforts to review prevention and intervention programs, often using their own criteria for coding studies (see “Collaborating With Other Professional Groups,” below, for more on this issue). Although there is clear overlap in some of the coding criteria, the diversity of efforts has created challenges for consumers.

2. The integration of EBIs into practice settings is not always well tailored to the daily demands of practitioners’ lives. In educational settings, psychologists face administrative and practical barriers that are not always present in research settings. Thus, even when psychologists are aware of the empirical evidence supporting a technique or procedure, they may not infuse this evidence into practice because doing so would require more work than time permits or more resources than are available.

3. Some psychologists may be more influenced by clinical judgment than by research supporting EBIs when designing, implementing, and evaluating their own interventions (Wilson, 1996a, 1996b). Howard, McMillen, and Pollio (2003) noted that “evidence-based practice represents a paradigmatic break with authority-based and idiosyncratic practice methods that have historically characterized social service micro-, mezzo-, and macro-practice interventions” (p. 239). A related issue is that many psychologists (trainers and practitioners) endorse the “equivalence of therapies” hypothesis, or the belief that doing something is better than doing nothing (see DuPaul, Eckert, & McGoey, 1997; Nathan & Gorman, 2002).

4. Many psychologists (trainers and practitioners) do not have the training to implement EBIs in their school practice (Shernoff, Kratochwill, & Stoiber, in press). When we add teachers to the list of individuals who will need to implement interventions in

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3 Our primary focus here is on the integration of EBIs in school psychology practice in educational settings. Graduate training programs are yet another setting in which concerns can be raised about integration of EBIs (see Shernoff et al., in press).
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schools, the complexity of the EBI adoption process increases further. Developing competencies in EBIs—among ourselves and among our mediators for interventions (e.g., parents and teachers)—is one of our most serious challenges.

Several perspectives have emerged in response to these concerns about intervention practices and the hiatus between research and practice. Among these responses, consensus seems to exist about the fact that we need to move in directions that will yield functional and meaningful scientific information for psychological and educational practice (i.e., evidence-based practice). A number of authors have defined evidence-based practice. For example, Hoagwood and Johnson (2003) defined the term as follows:

The term “evidence-based practice” (EBP) refers to a body of scientific knowledge, defined usually by reference to research methods or designs, about a range of service practices (e.g., referral, assessment, case management, therapies, or support services) . . . . The knowledge base is usually generated through application of particular inclusions criteria (e.g., type of design, types of outcome assessments) and it generally describes the impact of particular service practices on child, adolescent, or family outcomes. “Evidence-based practice” or EBP is a shorthand term denoting the quality, robustness, or validity of scientific evidence as it is brought to bear on these issues. (p. 5)

Cournoyer and Powers (in press) offer the following definition:

Evidence-based practice . . . dictates that professional judgments and behavior should be guided by two distinct but interdependent principles. First, whenever possible, practice should be grounded on prior findings that demonstrate empirically that certain actions performed with a particular type of client or client system are likely to produce predictable, beneficial, and effective results . . . . Secondly, every client system, over time, should be individually evaluated to determine the extent to which the predicted results have been attained as a direct consequence of the practitioner’s actions.

Assumptions About Integrating EBIs in Practice

In the next section, we propose and examine several strategies to promote EBIs in our profession. Below, we outline five assumptions that guide this effort:

1. Need for shared responsibility. The development of interventions that are effective in practice needs to be a responsibility shared by researchers, trainers, and practitioners. This shared responsibility could take a number of forms—for example, the active involvement of practitioners on EBI task forces, participation in practice-research networks, and the evaluation of EBIs in school practice contexts.

2. Need for evidence-based practice guidelines to support implementation. Realizing that the generalization from research to practice settings is not a straightforward process (Kazdin, Kratochwill, & VandenBos, 1986; Kratochwill & Stoiber, 2000a, 2002; Weisz, 2000), we assume that the implementation of EBIs in practice may require the development and use of evidence-based practice guidelines (Drotar & Lemanek, 2001; Soldz & McCullough, 2000). For example, we recommend that
practitioners use manuals and other procedural guidelines to facilitate the implementation of interventions in practice settings, provided that these guides permit flexibility and local adaptation. Such practice guidelines can help operationalize evidence-based practice in our profession.

3. **Need for enhanced practice guidelines to ensure efficacy.** We assume that offering practitioners a menu of interventions designated as “evidence-based” will be insufficient to promote the application of the interventions in practice. In addition to the practice guidelines (e.g., manual, assessment tools) that accompany an EBI, enhanced practice guidelines may be necessary to ensure effective use of the interventions (Beutler, 2000). Such guidelines would illuminate the particular problem or issue within the context of the theoretical mechanisms of change for which the intervention is designed (Kazdin, 2000).

4. **Need for professional development.** To promote evidence-based practices, the Task Force, working in conjunction with our professional organizations, must facilitate professional development for both graduate students in training programs and practitioners. The database of EBIs created by the Task Force (and the similar efforts of other groups) will guide training programs and professional organizations in teaching practitioners, graduate students, university trainers, and other interested individuals to adapt effective interventions for, and disseminate them to, specific practice settings (Kratochwill & Stoiber, 2002).

5. **Need for scientist-practitioner training model.** To strengthen the connection between research and practice, we must promote a scientist-practitioner model for graduate training and professional work, especially as it relates to the evaluation of intervention outcomes (Frederickson, 2002; Hayes et al., 1999; Howard et al., 2003; Soldz & McCullough, 2000). Outcome evaluation will be recommended when practitioners implement interventions under typical practice conditions.

**Specific Strategies to Guide the Use of EBIs in Practice**

Guided by the assumptions discussed above, we advance the following five priority strategies for promoting evidence-based practice:

1. Developing a practice-research network in school psychology
2. Promoting an expanded methodology for evidence-based practices that takes into account EBIs in practice contexts
3. Establishing guidelines that school psychology practitioners can use in implementing and evaluating EBIs in practice
4. Creating professional development opportunities for practitioners, researchers, and trainers
5. Forging a partnership with other professional groups involved in the EBI agenda
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Alternative strategies could be offered (e.g., Backer et al., 1986; Kazdin et al., 1986). Our priority list is designed to move the EBI adoption agenda forward within the existing school context. The underlying purpose of the strategies is to establish a link between research and practice that will help us better understand the effectiveness of interventions.

**Developing a Practice-Research Network**

**Strategy.** Hayes et al. (1999) define a *practice-research network* as a group of practitioners engaged in the evaluation of clinical replication outcome research. The practice-research network is one strategy to facilitate involving practitioners in the research process and, most important, learning about the contextual variables that may affect the implementation of an intervention (Keith, 2000; Kratochwill & Stoiber, 2000b, 2002). In a practice-research network, practitioners are part of a research team and provide information to this team on a wide range of variables (e.g., evaluation procedures, intervention components, intervention integrity, cost of services, limitations to effective implementation, and adjustments needed for successful implementation). Practitioners thus help build the evidence base related to implementing EBIs in real-world settings. The network can be placed online to facilitate data collection and management.

Practice-research networks have been established by the American Psychiatric Association and the APA Practice Directorate (see Hayes et al., 1999, pp. 259–260, for discussion of these efforts). Another example of such an effort is the Hawaii Empirical Basis to Services Task Force, in which child and adolescent mental health services were designated as evidence-based and then provided in community settings (see Chorpita et al., 2002). Of particular importance in this work is capturing intervention programs and strategies generated by psychologists in school practice (see Chorpita, 2003).

**Recommended activities.** The purpose of the practice-research network in school psychology may parallel that of networks in other fields. The network could engage school-based practitioners in implementing and evaluating EBIs identified by the Task Force and other groups. To accomplish the goal of developing a practice-research network in school psychology, the Task Force has engaged (or will engage) in several activities:

First, the Task Force has invited school psychology practitioners to join the Task Force to organize the testing of EBIs in practice settings. In particular, the Task Force has formed a Committee on Evidence-Based Practice, co-chaired by Susan Forman and Sandra Thompson.⁴

Second, the Task Force will spearhead efforts to evaluate EBIs in practice settings, which will likely require the following activities:

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⁴ The current composition of the Evidence-Based Practice Committee is Susan Forman (co-chair), Thomas Kratochwill, Richard Nagel, Bonnie Nastasi, Elisa Shernoff, Diane Smallwood, and Sandra Thompson (co-chair).
• **Local, state, regional, and possibly federal funding.** Although the Task Force cannot provide needed funds, it can act as a clearinghouse for funding information. In addition, Task Force members can develop relationships with various funding agencies to facilitate the process of securing funds.

• **Training.** The evaluation of EBIs in practice will entail competency-based training in EBIs and the development of a evaluation framework. Training will also involve some of the components described in the next section, along with application of protocols for testing interventions in schools and other applied settings.

• **Assessment.** The evaluation of EBIs will further require the assessment of attitudes toward the adoption of evidence-based practices. The Evidence-Based Practice Attitude Scale (EBPAs; Aarons, in press) might be adapted to the Task Force’s work in schools.

• **Coding interventions.** Coding interventions on qualitative practice criteria can provide a foundation for an expanded contextual knowledge base on EBIs. This activity is designed to strengthen the connection between practice and research and create more contextual information on interventions to inform practitioners’ decisions about the adoption and use of EBIs.

**Promoting Research on the Efficacy and Effectiveness of EBIs**

*Strategy.* The EBI research literature distinguishes the concepts of effectiveness and efficacy (American Psychological Association, 2002; Chambless et al., 1998; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Nathan & Gorman, 2002). Efficacy is the standard for evaluating interventions in controlled research, whereas effectiveness is the standard for evaluating interventions in a practice context. Efficacy studies are generally conducted in laboratories or clinical research facilities (although setting is not necessarily the primary defining characteristic) and use well-designed and precise methodology (usually randomized controlled trials). Effectiveness studies, on the other hand, focus on the generalizability of the intervention to practice contexts.

Both efficacy and effectiveness studies are sorely needed by the school psychology profession and should be promoted as part of our research agenda. To help conceptualize the research options that can be pursued, we can consider the framework advanced by Chorpita (2003). Chorpita grouped research designed to advance evidence-based practice into the following four types:

• **Type I: Efficacy studies.** As noted above, efficacy studies evaluate interventions in a controlled research context.

• **Type II: Transportability studies.** Transportability studies examine not only the degree to which intervention effects generalize from research to practice settings, but also the feasibility of implementing and the acceptability of EBIs in practice settings (Schoenwald & Hoagwood, 2001). In applied settings, practitioners are faced with administrative, logistical, and ethical issues (to name just a few) that may not be part
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of the efficacy research agenda (Backer et al., 1986; Kazdin et al., 1986). Thus, transportability studies allow evaluation of the various contextual issues—such as training requirements, characteristics of the treatment provider, training resources, acceptability of treatments, cost and time efficiency, and administrative supports—that facilitate or constrain the effective transport of EBIs into practice settings (e.g., Hoagwood et al., 2001).

- **Type III: Dissemination studies.** Dissemination studies use intervention agents that are part of the system of services—in our case, the school. In this type of research, an intervention protocol would be deployed in the school and carried out by, for example, school psychologists serving either as direct intervention agents or as mediators working with consultees such as teachers or parents (see Kratochwill & Pittman, 2002, for an overview of mediator options). Because Type III research still involves a formal research protocol, researcher control and supervision may have an impact on the intervention and its ultimate effectiveness.

- **Type IV: System evaluation studies.** To establish independence from the “investigator effect” present in dissemination studies, another type of research—system evaluation studies—can be undertaken. Chorpita (2003) characterized this research as involving “the final inference to be made: whether the practice elements can lead to positive outcomes where a system stands entirely on its own” (p. 46).

Together, practitioners and researchers play a key role in facilitating these four types of research and in using the results to expand the knowledge base related to the successful integration of EBIs in real-world settings.

**Recommended activities.** A first effort of the Task Force is to (a) endorse the use of the four types of studies in our field and (b) take such research into account when coding intervention research using the Task Force coding criteria. As we grow in understanding what each type of research can contribute, it is likely that a marriage of these approaches will evolve (see Fonagy et al., 2002; Weston & Morrison, 2002). For example, Type I efficacy studies can help answer the question “Is the intervention effective?” in tightly controlled research trials, and Type II early-stage effectiveness studies can evaluate the degree to which the intervention effects generalize to the real world. Type II transportability research develops the knowledge base regarding “How the intervention works in the real world and who can and who will conduct the intervention, under what conditions, and to what effect” (Schoenwald & Hoagwood, 2001). Thus, transportability research takes into account the contextual variables (e.g., human, organizational, and fiscal) that are critical to understanding why an intervention worked in a particular setting, with the ultimate goal of improving educational services and individual outcomes. Type III dissemination research will require an investment in collaboration with school professionals as the intervention agents and will likely engage us in practice-research networks. Type IV system evaluation research will be much more difficult to conduct but will likely yield the most important information on interventions.

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5 Type IV research bears similarity to the clinical replication case study proposed by Kazdin et al. (1986), in which the usual features of research are relaxed in practice.
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(vis-à-vis what school psychologists find when implementing interventions in practice). Type IV research is perhaps most likely to occur following implementation of an effective intervention or program carried out in Type II or III studies. Traditionally, the sustainability of an intervention is investigated upon the withdrawal of investigator support, such as staff funding and research activities (e.g., materials, supervision). Thus, a logical extension of research could be to follow up on a Type II or Type III study with complete system adoption of the intervention program.

It will become increasingly important for our journal editors to consider these four types of studies for publication in our professional journals. It will also be important for researchers to articulate clearly the rationale for the particular focus of their studies. In this context, a variety of methodologies may be appropriate, depending on the type of study and development of scientific knowledge in the area. For example, Type I studies will typically involve traditional quantitative methodologies, whereas Type IV studies could involve formal qualitative case studies. As a profession, school psychology is in an excellent position to advance knowledge of effective interventions using this new conceptual framework.

Establishing Guidelines for Implementation and Evaluation of EBIs by Practitioners

Strategy. Guidelines for implementation of an intervention can help operationalize evidence-based practice. These guidelines can be enriched with information from practitioners. Hayes et al. (1999) presented guidelines practitioners can use when they “consume” intervention research, and others (e.g., Chorpita, 2003; Schoenwald & Hoagwood, 2001) have described some dimensions along which the conditions of research and practice can be compared. A hybrid of these guidelines can be considered by those implementing an intervention, with information related to the research process codified with respect to the adoption feasibility, generalizability, and sustainability of the EBI (see Table 1). The questionnaire in Table 1 represents a hybrid of these guidelines; those implementing an EBI can use the questionnaire to evaluate the intervention with respect to its adoption feasibility, generalizability, and sustainability. Specifically, Table 1 offers practitioners participating in practice-research networks and transportability and dissemination studies a mechanism for providing feedback regarding the extended research application of an EBI on several dimensions. These data can then be added to the knowledge base of available information on an EBI and considered an enhanced guideline for practice.

Recommended activities. As suggested by Table 1, lack of training, low acceptability, clash of theoretical paradigms, high costs, and administrative barriers are just a few of the factors that may inhibit the effective integration of an EBI into a school or other applied setting. Even strategies designed to promote the use of EBIs in practice can raise concerns. To illustrate, the use of EBI manuals in practice raises concerns over adherence to the process and content of interventions, whether as part of psychotherapy in clinics and hospitals (Beutler, 2000), or as part of interventions in educational settings (Kratochwill & Stoiber, 2000c). Enhanced guidelines would be designed specifically to educate trainers, graduate students, and practicing school psychologists in strategies that
promote the use of EBIs while at the same time addressing concerns over the perceived inflexibility of manuals and practice guidelines associated with EBIs.\textsuperscript{6}

The following suggestions address some of the major concerns associated with the use of guidelines in the implementation of EBIs (Kratochwill & Stoiber, 2002; see also Caspar, 2001):

1. \textit{Focus on understanding basic principles of change.} A major assumption of the guidelines strategy is that all interventions involve some common features that can be generalized beyond the particular implementation. For example, Nation et al. (2003) took a “review-of-reviews” approach to identify general principles of effective prevention programs. Similarly, constructs designed to account for “therapist variance” may seek to identify common, generalizable procedures and techniques in psychotherapy (e.g., relationship, empathy) (Wampold, 2001). Thus, basic principles of and strategies for achieving behavior change must be taught and integrated into practice guidelines when recommending the use of EBIs. For example, transtheoretical analysis, which focuses on change independent of any particular theoretical model, might be applied to a variety of treatment approaches (e.g., Prochaska, 1984; Prochaska, DiClemente, & Norcross, 1992). Variations on this approach have been applied to various service delivery models implemented as part of systemic school reform (Roach & Kratochwill, in press).

2. \textit{Focus on understanding indications and contraindications of EBIs.} When an intervention is identified as evidence-based, guidelines for when the intervention is and is not likely to be effective are desirable for practitioners and trainers. Most EBIs are derived from literature reviews that involve the use of meta-analysis. As meta-analytic techniques have been applied, their advantages and limitations have been identified (see Fonagy et al., 2002; Kazdin, 2000; Lipsey & Wilson, 2001; Shadish, Cook, & Campbell, 2002). For example, the prevailing lack of emphasis on replication research and the bias against publishing negative results stand as important limitations of any method of summarizing an existing body of research (Fonagy et al., 2002; Kratochwill, Stoiber, & Gutkin, 2001). Such limitations notwithstanding, meta-analysis can help identify the conditions under which a particular intervention may be questionable or even contraindicated in practice. For example, meta-analytic studies of therapist training could help guide decision making related to the feasibility of implementing an EBI that requires the training of parents and/or teachers as treatment agents. As a Task Force, we are also committed to

\textsuperscript{6} We realize that there are controversies regarding the use of practice guidelines and manuals (see Kratochwill & Stoiber, 2000a, for an overview and further discussion), especially in light of the argument that the variance associated with effective treatments resides in the therapist and not the treatment manual (Wampold, 2001). There is some evidence that practicing psychotherapists consider manuals helpful, use them often, and report minimal concerns about their use, despite their known limitations (Najavits, Weiss, Shaw, & Dierberger, 2000). The Task Force is in the process of examining manual use in school psychology training and practice (Kumke & Kratochwill, 2003), as well as school psychologist perceptions of the major practice guidelines (White & Kratochwill, 2003), and will know more about the benefits and limitations of such manuals and guidelines when this research is completed.
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providing data on factors such as intervention context (e.g., setting variables, applications with minority populations, etc.).

3. **Focus on understanding the variability in intervention implementation.** Traditionally, concerns about the variability in intervention implementation have focused primarily on the skill of the psychologist. However, as noted above, intervention agents are diverse, potentially including not only the school psychologist, but also parents, teachers, counselors, administrators, and students’ peers (Kratochwill & Pittman, 2002). EBI outcomes are likely to be ineffective when these various consultants and consultees receive minimal training in the intervention techniques and do not implement them with integrity.

4. **Focus on teaching the basic principles of careful EBI selection.** Those responsible for selecting an intervention must have the knowledge and understanding to carefully match the target problem to an available EBI. Selection of an appropriate EBI requires an understanding of (a) the core psychological processes involved in various problems and disorders (Walker & Shinn, 2002), as well as pertinent risk and protective factors, and (b) the theoretical framework guiding the intervention (see Hughes, 1999, 2000; Kazdin, 2000; Nock, 2003). The procedures for evaluating the intervention should also be matched to the features of the problem that are likely to change as a function of the intervention.

5. **Focus on evaluation of EBIs in practice.** In keeping with one dimension of the scientist-practitioner model, we advocate evaluation of interventions in their practice context. No matter how much evidence is amassed for a particular EBI in Type I, II, and III research, effective generalization of the intervention requires that it be evaluated under conditions of actual practice (Frederickson, 2002; Howard et al., 2003). In some cases, an evaluation protocol is constructed during the development of the EBI and may even be represented in the manual or practice guidelines. Protocols for evaluating interventions in school and clinical settings have been developed and are recommended to facilitate the evaluation of EBIs. As an illustration, a protocol called *Outcomes: Planning, Monitoring, Evaluating* (*Outcomes: PME*; Stoiber & Kratochwill, 2002) can guide the selection of problems, design and implementation of interventions, and evaluation of outcomes. Developed around a goal attainment and progress-monitoring framework, *Outcomes: PME* offers an example of a protocol for training and practice in intervention planning and monitoring. It can be useful to practitioners and researchers in conceptualizing and conducting outcome assessment in conjunction with intervention implementation.

**Creating Professional Development Opportunities**

**Strategy.** Embracing the EBI movement requires a commitment to continuing professional knowledge and skill development and self-evaluation in the long term. Such a commitment can be daunting in the context of the extraordinary growth in our knowledge base in psychology and education (Adair & Vohra, 2003). Nonetheless, both the APA and the National Association of School Psychologists (NASP) emphasize professional development in their professional code of ethics. In the realm of EBIs

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specifically, and evidence-based practice generally, “best practices” require professional development in the skills and understanding necessary to (a) properly match EBIs to a specific problem in a specific set of circumstances and (b) implement or supervise the implementation of the selected intervention. Going beyond best practices, such professional development can be incorporated into assessment protocols and intervention manuals. Embracing such an agenda is adopting evidence-based practices.

**Recommended activities.** Providing professional development to practitioners, researchers, and trainers in the identification, review, and dissemination of EBIs is a key part of the Task Force agenda. A large body of evidence shows that few practitioners, even those who have graduated from scientist-practitioner programs, undertake research or use it to inform their practice (Nathan, 2000; Reschly & Wilson, 1995). Moreover, recent surveys have found that most graduate training programs in psychology and related internship sites do not teach EBIs to future clinical and school psychologists (see Crits-Christoph, Chambless, Frank, & Brody, 1995; Shernoff et al., in press). For example, one recent survey found that (a) school psychology training directors and graduate students reported limited EBI training, (b) exposure to EBIs occurred more frequently in coursework than in practical experiences (although EBIs were rated as a critical aspect of graduate training in school psychology), and (c) a greater percentage of directors (41%) were familiar with EBIs than recent graduates (31%) or current students (26%) (Shernoff et al., in press). A survey of internship training directors also found limited EBI training (Hayes et al., 2002).

As noted previously (e.g., Kratochwill & Stoiber, 2002), the ultimate goal of the Task Force is to disseminate findings that will be of use to the EBI movement. In line with this goal, the Task Force plans to offer educational and training opportunities to a number of constituencies. First, we hope to offer continuing education opportunities to individuals whose primary work is in the practice of psychology in schools. Professional development opportunities related to EBIs could occur through presentations at state, regional, and national conferences and through dissemination of key information through professional organizations (e.g., the APA, NASP, and American Educational Research Association). Second, we hope to offer similar opportunities to researchers and scholars and will target similar professional and scientific groups (e.g., the Society for the Study of School Psychology) for disseminating information related to EBIs.

Third, we hope to influence both faculty trainers and graduate students in our school psychology graduate education programs. To have a far-reaching impact, the knowledge base on EBIs must be integrated into coursework in graduate training programs so that school psychology graduate students entering the workforce are trained in interventions that are effective. We are aware of some school psychology programs that have begun to offer coursework on EBIs; other programs have formulated EBIs as an area of concentration (Shernoff et al., in press). Dissemination efforts in graduate training programs would focus on use of the *Procedural and Coding Manual* in research courses and experiences. We have shared the *Procedural and Coding Manual* with training program directors to facilitate the integration of this knowledge base into graduate training.
Dissemination of the results of the EBI review efforts will begin through publications in journals and posting of reviews on the Task Force Web site. The next step is for practitioners and trainers to use this information in their respective practices.

Graduate programs may at least two training models for teaching EBIs. The first is competency-based training that would require students to master specific EBIs (this approach is similar that used by some programs to teach cognitive assessment measures). Competency-based training has been outlined in agendas for both consultation training (Kratochwill, Sheridan, Rotto, & Salmon, 1992) and supervision (Kratochwill, Lepage, & McGivern, 1997) and can be extended to the EBI agenda. A second model for integrating content on EBIs into graduate training would be for universities to encourage cross-disciplinary courses (e.g., offered jointly by departments of school, counseling, and clinical psychology) or interdisciplinary concentration courses on EBIs. Although this model could also be used with practitioners, it would require coordination of training institutes at state and national meetings.

Collaborating With Other Professional Groups

**Strategy.** Interest in EBIs and evidence-based practice has intensified over the past decade (Deegear & Lawson, 2003; Kazdin & Weisz, 2003), and a number of professional groups have embraced the EBI agenda with the intent of improving psychological and educational practice. For example, the profession of clinical psychology embraced this effort and in the mid-1990s formed a task force that was at the forefront of the movement (Weisz & Hawley, 2001). The field of school psychology likewise formed a task force on EBIs in 1999. In education, the National Reading Panel (2000) reported evidence-based strategies in reading, and in 2002 the U.S. Department of Education funded a major project called the What Works Clearinghouse (see http://www.w-w-c.org). More recently, the Society of Clinical Child and Adolescent Psychology (APA Division 53) formed a task force to address the dissemination of EBIs in mental health practice (Atkins, 2003). When we add groups representing prevention and diverse groups in psychology and education, there are over 10 major efforts under way. Despite the similar agendas of these groups, their efforts have been somewhat independent, and options for collaboration sometimes uncertain. Yet, collaboration among these groups may have several advantages for each group and the EBI movement as a whole.

**Recommended activities.** Fostering collaboration among our professional groups may take considerable energy. It is clear that collaboration has not occurred on its own, but several activities might promote this agenda. First, a forum for dialogue should be created to give each group the opportunity to share its vision. The format of the forum would likely be some type of meeting with scheduled follow-up on the agenda crafted to sustain ongoing contact. Funding from private foundations to establish national conferences seems advisable. On a positive note, members of the school psychology and APA Division 53 task forces on EBIs met with other scholars in the EBI and prevention communities in Chicago in September 2003. Called the Catalysis Conference, the meeting fostered new dialogue that might lay the basis for future collaborative writing and research.
Second, because each group involved in the EBI movement has established its own criteria for determining empirical support or designating an intervention as an EBI, research comparing the various methods seems advisable. The basic question is whether the different coding systems are yielding similar results. Within clinical psychology, different coding systems generally do lead to the same conclusions about whether an intervention qualifies as evidence-based (see Chambless & Ollendick, 2001), but the coding systems are often hybrids of earlier systems. Coding across different professional groups may yield quite a different picture. The issue is an important one: For example, the decision of the newly formed What Works Clearinghouse to review academic interventions prompted our Task Force to defer to its review efforts in the academic domain to avoid duplication of efforts (Shapiro & Berninger, personal communication, October 2003).

Summary and Conclusions

In this paper, we have provided an overview of some underlying assumptions of the Task Force on Evidence-Based Interventions in School Psychology. The assumptions guide some specific strategies that have been embraced to move forward the agenda of integrating EBIs in practice (in graduate training and school practice), thereby promoting evidence-based practices. We have argued that the development of EBIs is the shared scientific and professional agenda of researchers, trainers, and practitioners in the school psychology profession, and we have presented examples of how partnerships between these constituencies can be crafted. Ultimately, the sustainability of the EBI movement will depend on collaboration between individuals with a vested interest in its agenda. School psychology can be a leader in this effort.
References


Promoting EBIs in School Psychology


Promoting EBIs in School Psychology


Promoting EBIs in School Psychology


<table>
<thead>
<tr>
<th>Dimension considered in practice</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>1. Does your client appear similar to those described in the EBI (demographics)?</td>
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<tr>
<td>Referral problem(s)</td>
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<td>Recruitment</td>
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<td>Family context</td>
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<td>Source of referral (parent, teacher, judge)</td>
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<td>Age/grade</td>
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<td>Gender</td>
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<td>Ethnicity/race/cultural identification</td>
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<tr>
<td>Dropout specification</td>
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<tr>
<td>2. Are you able to replicate the intervention based on a description provided in the intervention manual or procedures?</td>
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<tr>
<td>Focus of the intervention is specific</td>
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<tr>
<td>Similarity of intervention to prevailing practice for specific problem</td>
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<tr>
<td>Intervention model is complex</td>
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<tr>
<td>Intervention model is clear</td>
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<tr>
<td>3. Are the conditions of implementation of the EBI similar to those of your setting?</td>
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<tr>
<td>Length of sessions</td>
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<td>Frequency of sessions</td>
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<td>Physical location of sessions</td>
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<td>Source of payment for service</td>
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<tr>
<td>4. Are there specific contextual factors in your setting that could account for success or failure of the EBI?</td>
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<td>Structure of organization</td>
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<td>Policies affecting personnel (comp time, district policies)</td>
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<td>Organizational culture/climate</td>
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<td>Size</td>
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<td>Mission</td>
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<tr>
<td>Mandates (federal/state law)</td>
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<tr>
<td>5. Was the training you received similar to that described in the EBI?</td>
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<tr>
<td>Specialized training</td>
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<td>Monitoring adherence</td>
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<td>Direct supervision</td>
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<tr>
<td>Prior experience with the intervention</td>
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Table 1 (continued)

*Dimensions to Consider in Using Evidence-Based Interventions in School Psychology Practice*

<table>
<thead>
<tr>
<th>Dimension considered in practice</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>6. Is there consistency between your theoretical approach and the theoretical paradigm represented in the EBI?</td>
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<tr>
<td>7. Are the measures you used to assess outcome identical to those used to establish the EBI?</td>
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<tr>
<td>8. Were all the measures recommended in the EBI used to evaluate the intervention?</td>
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<td>9. Was ongoing evaluation (repeated assessment) of student progress conducted?</td>
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<tr>
<td>10. Have new outcome measures been added to the intervention evaluation?</td>
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<tr>
<td>11. Can individual characteristics of students be identified that are related to intervention outcomes?</td>
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<tr>
<td>12. When group intervention data are reported, is the percentage of individuals showing the effect reported?</td>
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<tr>
<td>13. When individual data are reported, have the data been replicated with your student(s)?</td>
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<tr>
<td>14. Have the EBI positive effects reported in research been replicated with your student(s) (effect size data)?</td>
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<tr>
<td>15. Have you replicated the EBI more than once?</td>
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<tr>
<td>16. Have others in your school setting replicated the EBI?</td>
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<td>17. Would you rate the effects as strong as the original EBI effects?</td>
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<td>18. Would you rate the effects as clinically meaningful?</td>
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<tr>
<td>19. Did you or your staff find the EBI acceptable for use in your school?</td>
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<tr>
<td>20. Was the EBI cost-efficient for implementation in your school?</td>
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<tr>
<td>21. Do you plan to adopt the EBI for future implementation in your setting?</td>
<td>Yes</td>
<td>No</td>
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