

Understanding the Common Elements of Evidence-Based Practice: Misconceptions and Clinical Examples

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Science has fostered renewed optimism in mental health practice over the last decade through advances in the development of treatment supported by research (Kazdin and Weisz, 2003; Task Force on Promotion and Dissemination of Psychological Procedures, 1995; Wilson, 1995). The challenge that continues to confront both the scientific and applied domains of psychology and psychiatry is the widespread promotion and implementation of empirically supported treatments in general, and in children's mental health in particular (Barlow, 2000; Chorpita et al., 2002; Schoenwald and Hoagwood, 2001; Weisz et al., 1995).

With more than 500 documented treatments available for children and adolescents (Kazdin, 2000), how do practicing clinicians begin to identify the appropriate evidence-based interventions for their clients? On the one hand, it would appear that practitioners could consult the literature to learn more about efficacious interventions for particular problem areas. On the other hand, the increasing proliferation of guidelines, lists, and definitions that has followed has been rather complex (e.g., Chorpita et al., 2002; Lonigan et al., 1998; Schinke et al., 2002; Weisz, 2003), and in some ways has paradoxically increased the

complexity of identifying "best candidate" interventions for treating children's disorders.

Contributing to the complexity of identifying evidence-based interventions is ambiguity surrounding the meaning of the term "evidence-based." Traditionally, albeit a recent tradition, the term has denoted specific treatment protocols with a particular degree and type of empirical support (e.g., Chambless and Hollon, 1998). Thus, the "manualization" of interventions (e.g., *Coping Cat*, Kendall, 1990; *Defiant Children*, Barkley, 1997) has lent itself to a method of defining evidence-based treatments. At this manual level of analysis, practitioners may choose from a variety of specific treatment programs that have demonstrated their efficacy in research trials. However, evidence-based, manualized treatments often have overlapping strategies, and it is difficult for practitioners to determine the relative appropriateness of one given treatment manual over another for particular clients and situations (Kazdin et al., 1990).

COMMON ELEMENTS

Chorpita et al. (2005a) recently introduced a model designed to address some of these issues by employing a new level of analysis. The authors proposed a distillation and matching model (DMM) that describes how evidence-based treatment operations can be conceptualized at a lower order level of analysis than simply by their manuals. Also referred to as the "common elements" approach, this model demonstrates the feasibility of coding and identifying the specific techniques and procedures (e.g., relaxation, exposure, time out) that make up evidence-based protocols for specific problem areas, thereby producing sample aggregate profiles of these procedures. It was

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shown that evidence-based treatments share the majority of their techniques or “practice elements” in common with each other (e.g., time out is used in Barkley’s *Defiant Children* and Kazdin’s *Parent Management Training* manuals), thus suggesting the notion of “distillation.” That is, a large number of evidence-based protocols can be distilled to a smaller number of common elements.

The “matching” part of the model suggests that following distillation, one can then select those practice elements that apply to particular client characteristics as reported in the literature. For example, the practice elements matching “depression” as a client characteristic would be an average of all elements from protocols tested successfully in clinical trials for depression. More detailed combinations are also possible; for example, the criteria “depression in girls between the ages of 10 and 12” would yield a unique profile of practice elements from the literature including children with those characteristics. Figure 1 shows an example of the relative frequency of practice elements for coded evidence-based protocols for depression.

The development of this level of analysis arose to a large extent out of attempts to promote the use of evidence-based interventions by practitioners within Hawaii’s Department of Health Child and Adolescent Mental Health Division (CAMHD). Some potential

barriers to dissemination of evidence-based interventions are listed below, and are followed by brief descriptions of how the DMM attempts to address them.

Potential Barriers to Dissemination

Manuals. Clinicians do not appear to have a favorable attitude toward treatment manuals (e.g., Addis and Krasnow, 2000). Using the practice elements approach, practitioners are encouraged to incorporate elements of manualized treatments into their treatment plan. Entire manuals can be followed if these appear relevant or if selected component practices of these manuals can be assembled in the context of a particular treatment plan.

Compatibility. New practices are more easily implemented when they are compatible with the existing organizational infrastructure (Rogers, 1995). Large systems rarely have the ability to support service contracting, outcome and fidelity monitoring systems, and billing and claims procedures that are compatible with more than just a few different treatment protocols. The practice elements approach encourages a standardized approach to contracting, financing, and monitoring a diverse array of services in a large system. CAMHD’s example of having all services (manualized or not) monitored for component practice elements relative to those in the evidence base demonstrates the feasibility of this approach on a large scale.

Complexity. The complexity of new practices can impede their dissemination (Rogers, 1995). Attempts to create “evidence-based” practitioners can involve training them in more than a dozen different treatment protocols, which are not often compatible and consistent in terms of day-to-day management (e.g., varied forms and checklists, manual structures). The practice elements approach attempts to create evidence-based practitioners by training them in the component elements common to the most effective treatment protocols, and these components can then be implemented as needed.

Universal Application. Evidence-based treatment protocols are not available for all child disorders (Schiffman et al., 2006) and hence represent a policy problem for large systems seeking to adopt them universally (Chorpita et al., 2002). The practice elements approach is designed to encourage clinicians to “borrow” strategies and techniques from the best

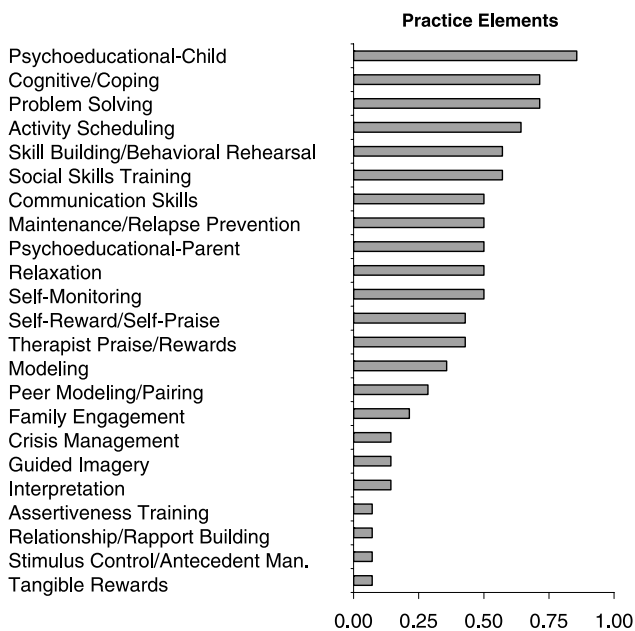


Fig. 1 Relative frequency of practice elements from coded evidence-based protocols for childhood depression. man = management.

known treatments, using their judgment and clinical theory to adapt the strategies to fit new contexts and problems for which there is an insufficient evidence base.

Unavailability. Many evidence-based treatment protocols are not easily obtained (Chorpita et al., 2005a). For example, in the CAMHD ongoing review of evidence-based protocols, the vast majority (>80%) of protocols tested successfully in randomized trials do not have obtainable descriptions (e.g., manuals, videos) other than what is described in the journal article itself (often no more than a paragraph). Training clinicians in the best descriptions available and then implementing them according to the collective child treatment literature obviates the need for practice development and training programs to maintain a library of hundreds of independent treatment protocols.

Replacement Paradigm. Training in evidence-based treatments often represents a “replacement paradigm” for adult learning. That is, regardless of their baseline skill level and use of evidence-based procedures, practitioners are taught to substitute (rather than complement) their existing clinical strategies by following a specific protocol and putting aside their existing approach. Thus, a clinician using cognitive-behavioral therapy who may only need to adjust the treatment slightly or add a new technique may be expected to participate in the same training as someone who has never heard of cognitive-behavioral therapy. A practice elements approach allows for the examination of potentially missing or superfluous elements in a treatment plan, and then calibrates training and supervision only as needed.

Clinical Applications

For nearly 4 years a version of this practice elements approach has been in use in CAMHD. In addition to implementing specific protocols in the tradition of specific manuals (e.g., Multidimensional Treatment Foster Care, Multisystemic Therapy), CAMHD has fully implemented monitoring of statewide child services at the practice element level, and has developed guidelines and policy centered around coded practice element profiles specific to different child disorders (Daleiden and Chorpita, 2005; Daleiden et al., 2006). Other variations on this approach are being tested as part of two independent projects examining large-scale implementation of evidence based practices (Integrated

Psychotherapy Consortium, 2005a, b, c and d; and the Research Network on Youth Mental Health, 2003). Specific clinical applications of the DMM follow.

Selecting the Best Manual for a Population or Specialty Clinic. Consider the situation we faced at the Center for Cognitive Behavior Therapy at the University of Hawaii in selecting just one of many manuals for treating youth with depression. DMM addresses the “crowded cell problem” by averaging across interventions that have equivalent evidence for addressing a particular target. In our situation DMM identified elements such as cognitive/coping, child psychoeducation, problem solving, and activity scheduling among the most frequent elements used in efficacious interventions for depression. We selected Primary and Secondary Control Enhancement Training (PASCET; Weisz et al., 1999) because it represented well the average practice element profile for depression, thereby providing our clinicians with a single manual that could treat depression across a variety of individual characteristics (e.g., age, gender, comorbid problem areas). Moreover, in our clinic PASCET could be used either in its entirety as specified by the authors, or, for clients with comorbid anxiety, particular practice elements from PASCET could be used in conjunction with practice elements for anxiety (e.g., exposure) to provide individualized treatment.

Serving a Client for Whom No Evidence-Based Protocol Exists. Sometimes no evidence-based protocol exists specifically for the client with certain demographics and target problems, as was the case when a 7-year-old boy with depression was referred to our clinic. DMM handles the “empty cell problem” by collapsing across characteristics (e.g., age, gender) when such factors are not associated with distinct practice profiles in the literature. In this case DMM identified interventions with the closest match to our client’s characteristics based on outcome research for depression across all ages (through adolescence). Specifically, we introduced the practice elements of child psychoeducation and relaxation that are common in many manuals concerning depression. However, because of the child’s young age, we did not deliver cognitive protocols. Instead, we found that working with parents in the delivery of rewards for successful activity scheduling was an important treatment component. As in this illustration the practice elements approach is designed to encourage clinicians to borrow strategies and techniques

from the best known treatments, using their judgment and clinical theory to adapt the strategies to fit new contexts and problems for which there is an insufficient evidence base. In this way DMM is flexible as well as dynamic in response to the evolving treatment outcome literature.

Training an Entire System With Limited Resources. In Hawaii CAMHD serves many populations (e.g., child, adolescent) with many target problems (e.g., anxiety, disruptive behavior) in many contexts (e.g., school, outpatient, inpatient). DMM reduced training demands on the CAMHD system by reducing a large number of manuals to a smaller number of elements, and then to an even smaller number of elements that have the highest frequencies in evidence-based protocols. CAMHD practitioners were then trained in the practice elements common to the most efficacious treatment protocols, thereby providing them with treatment strategies that they could incorporate into their existing clinical repertoire and apply to a variety of client populations.

Using Modular Delivery Based on Practice Components. For practitioners, DMM exemplifies how a modular approach to treatment preserves the benefits of manualization while allowing flexibility based on clinical judgment, and Project Liberty Enhanced Services is instructive in this regard. In this project treatment developers (Integrated Psychotherapy Consortium, 2005a, b, c and d) designed four manuals for children 6 to 18 years old specifically based on aggregate practice elements profiles for particular problem areas (i.e., anxiety, depression, conduct problems, and traumatic experiences). Each of the four manuals is composed of core practice elements (e.g., exposure for anxiety) and optional elements (e.g., social skills for anxiety) that can be introduced on an individual basis. In this way DMM can inform modular manuals that promote practitioners' use of clinical judgment to individualize interventions for children within the context of evidence-based treatment.

Misconceptions About Common Elements

Treatment approaches claiming to emanate from scientific principles are based on many assumptions. In the traditional context of treatment manuals, such assumptions have been raised and discussed in detail elsewhere (e.g., Westen et al., 2004). The common elements approach is no different in that regard, and it

is best to state these assumptions explicitly and address potential misconceptions.

Protocols Are Just the Sum of the Parts, and Deconstructing Them Into Specific Procedures Should Not Compromise Outcomes. The common elements approach has the potential to suggest that the other aspects of evidence-based protocols, like sequence, pace, theory, and style, do not matter. As implemented, however (e.g., Daleiden et al., 2006), the approach makes no assumption about the primacy of treatment elements over other protocol features. For example, decisions about how to implement cognitive-behavioral therapy procedures with a Socratic style at a certain pace and in a certain order are given equal consideration within the training model.

The Model Dictates Highly Flexible Delivery of Interventions That Perhaps Should Not Be Flexible. We have suggested elsewhere (Chorpita et al., 2005a) that the common elements approach is not designed as a substitute for implementation of manualized treatments. Although the model can allow for flexibility, it does not dictate flexibility. A practitioner may, for example, use a practice element profile to guide selection of a particular treatment manual from among several choices, and then implement the manual exactly as specified. In fact, in the current implementations of this model, practitioners are typically encouraged not to mix and match elements (Chorpita et al., 2005b), unless there is highly compelling evidence to support such a varied treatment plan (i.e., to challenge the default approach; see for example, Meehl, 1957).

DMM Identifies "Evidence-Based" Components, the Evidence of Which Can Be Considered in Isolation. It is possible to think that because particular procedures in evidence-based approaches occur with great frequency (e.g., psychoeducation) that they may be necessary or even sufficient for clinical change. However, no assumptions can be made about the necessity of a given practice element in a treatment plan (claims of that nature represent the logical fallacy of "denying the antecedent," e.g., if A then B, therefore if not A then not B). It has been shown, however, that most practice elements are not necessary—there being almost no instances in which 100% of successful approaches for a given problem have a single element in common—and there are just a few demonstrations of practice element sufficiency in the literature (e.g., exposure for phobias, relaxation for depression).

The Model Identifies What Works for Whom Under Which Conditions. Although the matching feature of the model allows for users to select the literature that most pertains to the child or contextual features at hand (e.g., 10-year-old child, outpatient clinic), the literature does not organize itself in such a way as to answer such questions. Rather, the model only allows for the identification of studies matching those characteristics. The literature does not systematically apply all protocols to all child characteristics and contexts; thus, the observation that treatment X works for African American boys with posttraumatic stress disorder may just be coincidence. Other treatments that have not been tested may also work in that context, and likewise, treatment X may work for other children in other contexts. Thus, the model only yields a “best guess” from the collective child treatment literature at any given time.

The Model Shows Us Definitively for Whom the Practices Have Worked. The quality of the inference in the title is also limited by the literature. For example, a profile of recommended practice elements for 3-year-olds with disruptive behavior draws from all studies that successfully treated samples including 3-year-olds with that target problem. However, just because a successful study included 3-year-olds in the sample does not mean that it was the 3-year-olds who got better. Perhaps it was the other children in the sample who got better, thereby bringing up the group average. When such interactions are detected and reported in the literature, they can be incorporated into the model. More often that not, however, the vast majority of potential moderators cannot and have not been examined in the child treatment literature (Kazdin, 2005).

In essence, then, what the common elements approach really attempts to do is to guide clinical decision making by providing a dynamic snapshot of the entire treatment literature at a given point in time, and by encouraging a new level of analysis for treatment monitoring and implementation that can potentially increase compatibility and utility in certain contexts. This is intended to translate into improved decision making both in selecting and implementing treatments.

CONCLUSIONS

Through the identification of common practice elements across evidence-based manuals and the subsequent development of practice element profiles

based on client characteristics, the DMM (Chorpita et al., 2005a) provides a means by which practicing clinicians can identify evidence-based treatments. The DMM addresses many potential barriers to dissemination that have hindered the widespread use of evidence-based treatments by practitioners by encouraging the individualization of treatments based on the strengths and needs of the client. At the same time, the DMM does not advocate a deconstructionist approach to manuals, whereby clinicians can provide treatment in a piecemeal fashion; rather, to the extent that the treatment outcome literature allows, DMM is intended to provide initial guidance to practitioners who want to know what works for whom and under which conditions.

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Unwanted and Wanted Exposure to Online Pornography in a National Sample of Youth Internet Users Janis Wolak, JD, Kimberly Mitchell, PhD, David Finkelhor, PhD

Objective: The goal was to assess the extent of unwanted and wanted exposure to online pornography among youth Internet users and associated risk factors. *Methods:* A telephone survey of a nationally representative sample of 1500 youth Internet users aged 10 to 17 years was conducted between March and June 2005. *Results:* Forty-two percent of youth Internet users had been exposed to online pornography in the past year. Of those, 66% reported only unwanted exposure. Multinomial logistic regression analysis was used to compare youth with unwanted exposure only or any wanted exposure with those with no exposure. Unwanted exposure was related to only 1 Internet activity, namely, using file-sharing programs to download images. Filtering and blocking software reduced the risk of unwanted exposure, as did attending an Internet safety presentation by law enforcement personnel. Unwanted exposure rates were higher for teens, youth who reported being harassed or sexually solicited online or interpersonally victimized offline, and youth who scored in the borderline or clinically significant range on the Child Behavior Checklist subscale for depression. Wanted exposure rates were higher for teens, boys, and youth who used file-sharing programs to download images, talked online to unknown persons about sex, used the Internet at friends' homes, or scored in the borderline or clinically significant range on the Child Behavior Checklist subscale for rule-breaking. Depression also could be a risk factor for some youth. Youth who used filtering and blocking software had lower odds of wanted exposure. *Conclusions:* More research concerning the potential impact of Internet pornography on youth is warranted, given the high rate of exposure, the fact that much exposure is unwanted, and the fact that youth with certain vulnerabilities, such as depression, interpersonal victimization, and delinquent tendencies, have more exposure. **Pediatrics** 2007;119:247–257.