The Idiographic Application of Nomothetic, Empirically Based Treatments

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Empirically supported treatments are nomothetically based and often operate by affecting causal variables for a behavior problem. Clients can have multiple behavior problems that are complexly interrelated, and different configurations of causal factors can affect the same behavior problem across clients. Empirically based treatments vary in the degree to which their causal mechanisms are congruent with the idiographic networks of causal relations extant across clients. Consequently, the applicability of an empirically supported, nomothetically based treatment to a client is a function of the degree of congruence between the causal relations relevant to the client's behavior problem and the causal relations targeted by the treatment.

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Addis, Wade, and Hatgis (this issue) suggested that several factors hinder the adoption of empirically supported treatments by therapists:[1] (a) the expected negative effects on the client-therapist relationship; (b) questions about the adaptability of the treatments to the individual differences among, and emotions of, clients; (c) concerns about the therapist's competence to implement the treatments and that their application will decrease job satisfaction; (d) the belief that the treatments are not incrementally effective and that their widespread use will render the therapy process too technical and decrease client satisfaction; (e) concerns that treatment innovations will be stifled; and (f) concerns about the time required to learn and implement the treatment protocols and that they may not be congruent with the mandates of managed care.

In this commentary, we focus on the adaptability of empirically supported treatments to individual differences among clients. We suggest that the applicability of an

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empirically supported treatment varies across clients and is a function of the degree to which the causal factors addressed by a treatment program are congruent with the causal factors operating for a client. We propose that (a) empirically supported treatments often operate by modifying causal variables for a behavior problem; (b) empirically supported treatments that are nomothetically based-inferences about effectiveness are drawn from mean changes for heterogeneous groups of participants; (c) clients can have multiple, causally interrelated behavior problems; (d) the same behavior problem can result from different permutations of causal factors; (e) permutations of causal factors for the same behavior problem can differ across clients; and, most important, (f) *empirically supported treatments differ in the degree to which they address the causal factors extant for an individual client and, therefore, in their expected magnitude of effects across clients.*

TREATMENTS OFTEN FOCUS ON THE MODIFICATION OF CAUSAL VARIABLES FOR BEHAVIOR PROBLEMS

Treatments can affect behavior problems through multiple causal mechanisms. For example, they can operate by applying discriminative reinforcement to strengthen constructive alternatives to problem behaviors or by establishing an optimistic belief about the future. One mechanism of treatment effects is the modification of variables hypothesized to cause a behavior problem (variables that set the occasion for, trigger, maintain, or increase the magnitude or frequency of behavior problems; Haynes, 1992). For example, treatment programs for chronic pain often attempt to change a patient's pain-related thoughts because these thoughts are presumed to affect the intensity and duration of pain episodes.

EMPIRICALLY SUPPORTED TREATMENT STRATEGIES ARE NOMOTHETICALLY BASED

Empirically supported treatments are nomothetic in two ways: (a) they are often rationally based on causal models of behavior problems that are derived from research on groups of persons with similar behavior problems, and (b) inferences about their effectiveness are based on aggregated data from heterogeneous groups of persons with similar behavior problems.

It is difficult to estimate the applicability of nomothetically based treatments to the idiographic context of clinical treatment because the client variables that moderate treatment effectiveness have not been well identified (Garfield, 1996). Between-client differences in
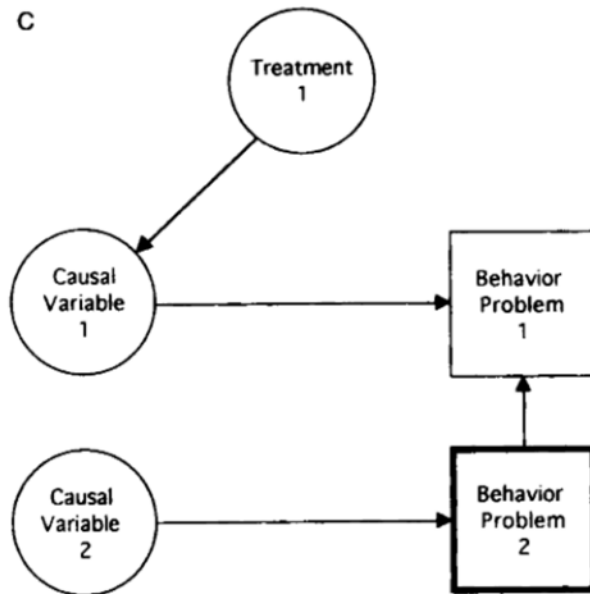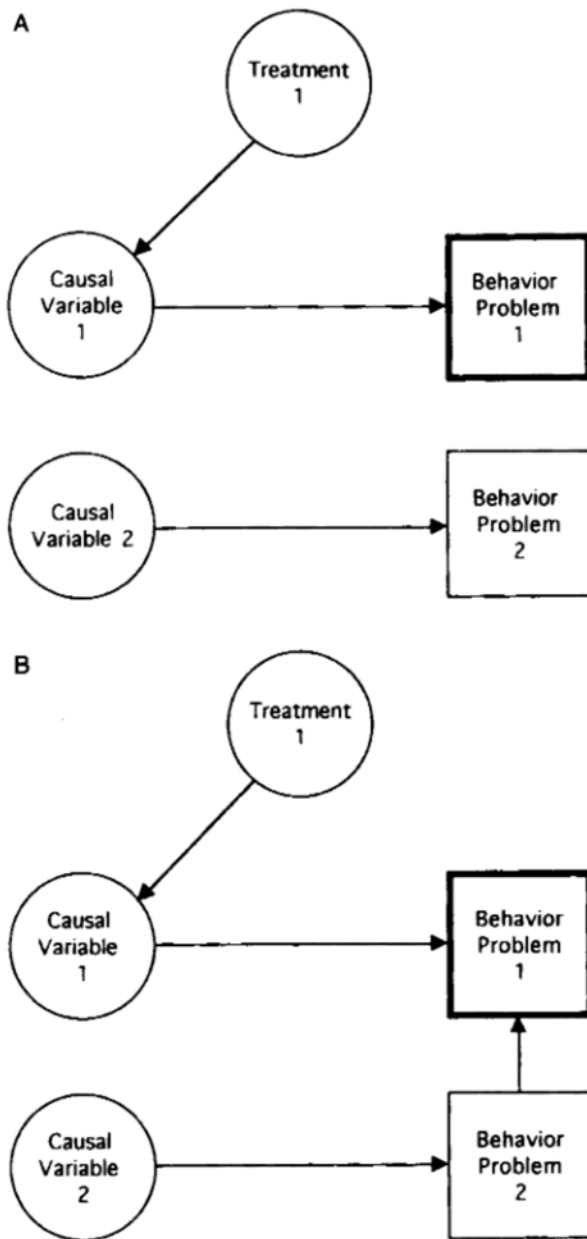
A

B

C

Figure 1. Three permutations of behavior problems and causal variables for a client. In A, the effects of treatment 1 on behavior problem 1 are not affected by a client's second behavior problem because behavior problem 2 has no causal relation with behavior problem I. In B, the effects of treatment 1 on behavior problem 1 are diminished, relative to the case illustrated in A, because treatment 1 affects a small proportion of the variance of behavior problem 1 (all other parameters remaining constant). In C, the effects of treatment 1 on causal variable 1 remain constant, but because behavior problem 2 is more important, the overall magnitude of effect of the treatment is less than for a treatment that could equally modify causal variable 2.

responses to empirically supported treatments have most often been associated with individual difference dimensions of ethnicity, age, sex, and other demographic factors and with comorbidity. Significant covariation between these dimensions and the outcome of a particular treatment is consistent with the main tenet of this commentary—that empirically supported treatments differ in effectiveness across clients because they differ in the degree to which they address each client's network of idiosyncratic causal factors.

CLIENTS HAVE MULTIPLE AND IDIOSYNCRATIC NETWORKS OF BEHAVIOR PROBLEMS

Several studies have found that a high proportion of clients have multiple behavior problems (Beck & Zebb, 1994). Additionally, there can be important differences between clients in the functional relations among their multiple behavior problems and in the relative importance of each problem. For example, a client who experiences panic episodes may also experience social anxiety, excessive alcohol intake, and sleep disruption. Because treatments often focus on causal variables, the treatment most likely to be associated with the greatest magnitude of effect for the client's quality of life may depend on the relative importance of each problem (see discussions of comorbidity in Brown & Barlow, 1992) and on the functional relations among these problems (Haynes, 1992).

Figure 1 illustrates that the degree to which comorbidity affects treatment outcome is a partial function of the relative importance of, and functional relations among,

multiple behavior problems. As illustrated, comorbid behavior problems affect treatment outcome to the degree that variance in the targeted behavior problem is affected by untreated behavior problems, the functional relations between behavior problems, and the relative importance of behavior problems.

MULTIPLE AND IDIOSYNCRATIC CAUSALITY

Many research studies (see reviews in Haynes & O'Brien, 1999; Sutker & Adams, 1993) have found that a behavior problem can result from different permutations of multiple causal variables. For example, McConaghy (1998) noted that male sexual dysfunctions can result from conditioned fear reactions, hormonal dysfunctions, worry, vascular impairment, environmental contexts, fatigue, and relationship distress.

Causal relations relevant to a particular behavior problem can differ across clients. For example, individual differences in causal relations for self-injurious behavior by persons with developmental disabilities have been reliably documented. Several articles in a special issue on the functional analysis of self-injurious behaviors (*Journal of Applied Behavior Analysis,* 1994, Vol. 27, No. 1) showed that self-injurious behavior was maintained by one or more of four classes of response contingencies (positive social reinforcement, negative social reinforcement, escape from aversive tasks or demands, and self-reinforcement) and that clients differed in which permutation of these contingencies was the most important.

TREATMENT APPLICABILITY: THE DEGREE OF CONGRUENCE BETWEEN THE CAUSAL VARIABLES ADDRESSED BY A TREATMENT AND THE CAUSAL FUNCTIONS RELEVANT FOR A CLIENT

In the preceding sections we suggested that (a) treatments often operate by affecting causal variables for a behavior problem, (b) empirically supported treatments are based on nomothetic research strategies, (c) a behavior problem can be a function of multiple behavior problems, and (d) clients can differ in the permutations of causal variables that affect a behavior problem. These inferences lead us to the main tenant of this commentary: The applicability (estimated magnitude of treatment effects) of an empirically supported, nomothetically based treatment to a client is a function of the degree of congruence between the causal relations relevant to the client's behavior problem and the causal relations targeted by the treatment.

For example, McNally (1990) identified genetic/neurological deficits, Pavlovian interoceptive conditioning, catastrophic misinterpretation of bodily sensations, and a tendency to respond with fear to physiological symptoms as causal variables associated with panic disorder. The empirically supported treatments for panic disorder include cognitive-behavioral therapy, with a relative focus on changing catastrophic misinterpretations of bodily sensations, and behavior therapy, with a relative focus on exposure to classically conditioned aversive stimuli (DeRubeis & Crits-Cristoph, 1998). The expected magnitude of treatment effects of each treatment for a client would depend on the degree to which its underlying causal model was congruent with the causal relations extant for the client.

Figures 2 and 3 illustrate the differential magnitude of effects of a treatment program for two clients with the same behavior problem but with different networks of causal relations. The treatment program is more congruent with the causal functions for the client in Figure 2 than with the client in Figure 3. If we arbitrarily set values to the parameters in these figures, the magnitude of effect of treatment for the client depicted in Figure 3 is about twice that for the client depicted in Figure 2.

A SUMMARY OF INFERENCES

Several inferences can be drawn from the preceding discussion. First, empirically based treatments vary in the degree to which their causal mechanisms are congruent with the idiographic networks of causal relations extant across clients. An empirically supported but unindividualized treatment may have significant effects, but it will not be optimally effective or efficient unless it proportionately targets the major causal functions associated with a client's behavior problems.

Second, the match between a client's network of causal functions and a treatment can best be estimated if the clinician has information about the network of behavior problems and causal functions relevant for the client. Diagnostic labels usually do not provide such information, and carefully constructed pretreatment assessment can help determine the most effective treatment foci to the degree that it (a) serves to identify and rank order a client's multiple behavior problems and (b) specifies relevant causal relations.

Third, the applicability of empirically supported treatments to individual clients could be estimated better if the
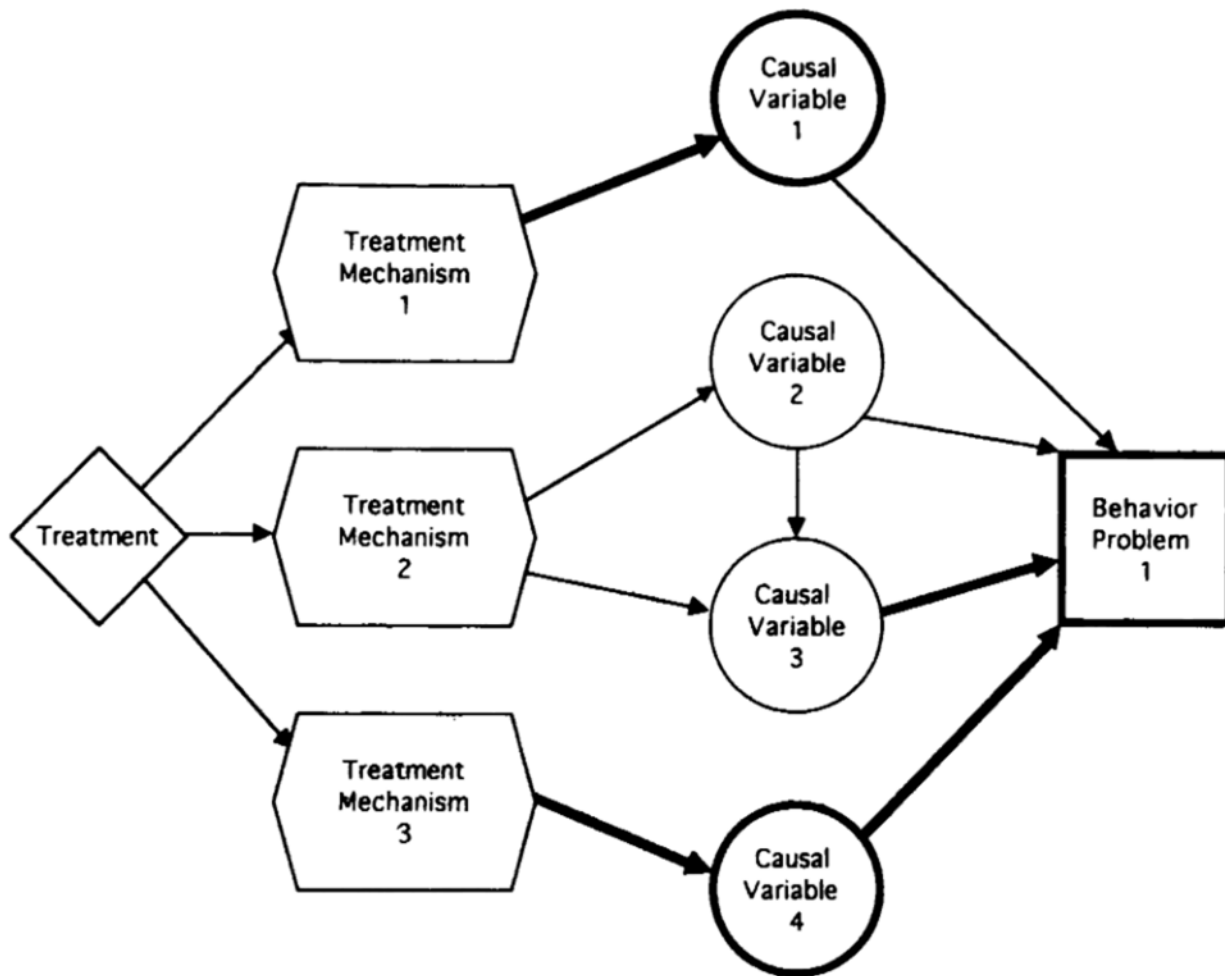
Figure 2. The magnitude of effect of a treatment program with multiple treatment mechanisms on a client whose behavior problem is a function of multiple causal variables. If we assign arbitrary values to the variables and paths, such that the behavior problem is given a relative importance rating of 10, the arrows indicate the strength of a functional relation (or magnitude of effect, e.g., .8 for the thick arrows, .2 for the thin arrows; similar to a correlation or proportion of variance coefficient), the thickness of the causal variable circle indicates its modifiability (e.g., .8 for the thick circle, .2 for this thin circle), and the overall magnitude of effect of this treatment for this client is 6.8 (see Haynes & O'Brien, 1999, for a discussion of functional analytic clinical case modeling).

treatment manuals indicated the degree to which they address the causal variables that have been identified empirically. This recommendation is similar to that of Kendall, Chu, Gifford, Hayes, and Nauta (1998), who suggested that clinicians should understand the "model" on which the treatment is based.

Fourth, cost-effectiveness is an important dimension in evaluating individualized treatments. Individualized treatments are warranted only if the incremental treatment effects warrant the additional expense of acquiring the clinical assessment data necessary for individualization.

Fifth, empirically supported treatment programs should provide decision algorithms, branching programs, to increase their amenability for the idiographic arrays of client problems and causal variables (e.g., Kendall et al., 1998). Branching programs would increase the congruence of a treatment program to the important causal variables and relations for individual clients.

NOTE

1. Addis et al. focused on the "dissemination" of "manualized treatments." However, adoption and use by, rather than dissemination of, empirically based treatments is a more important concern. Empirically based treatments must be delivered in a
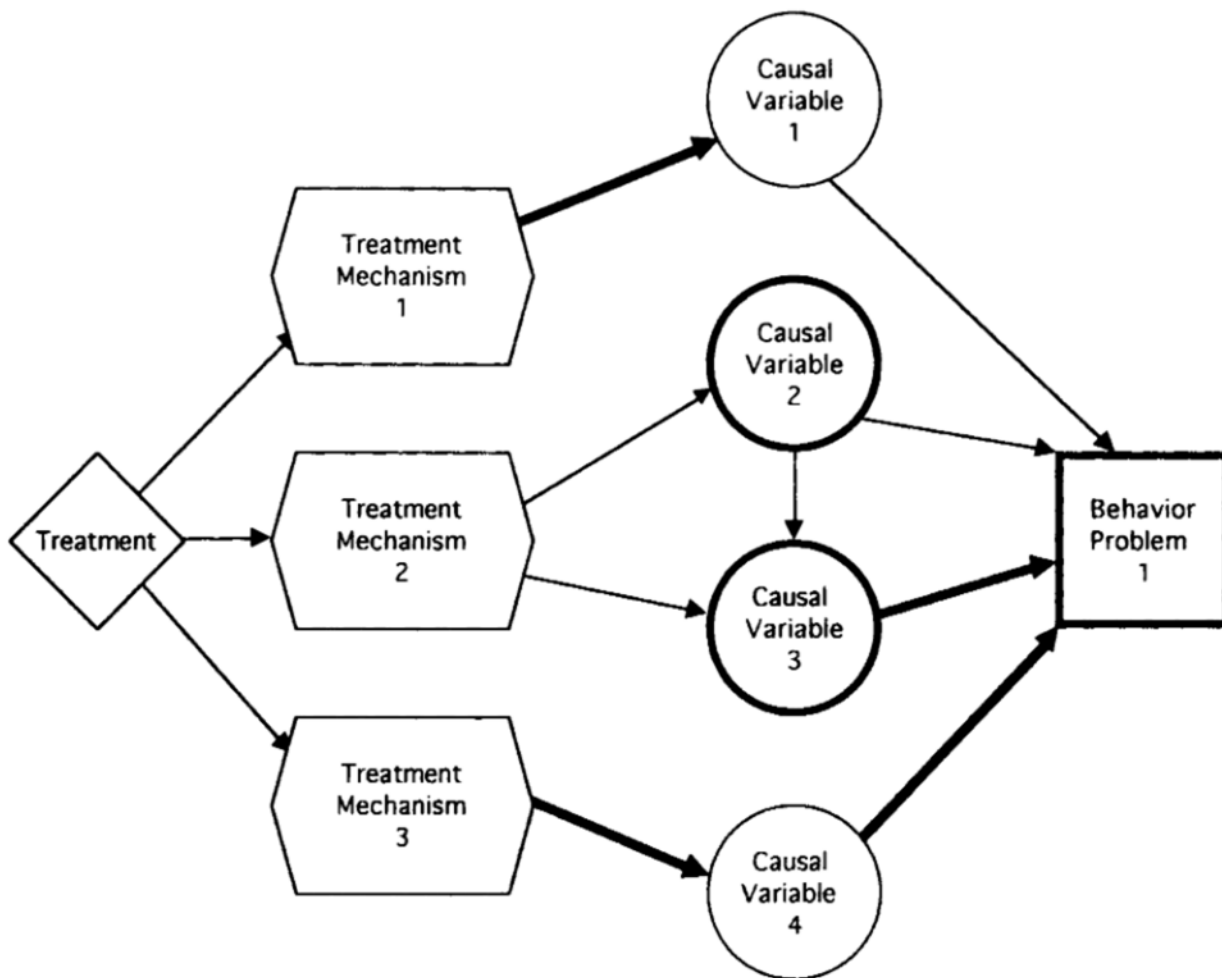
Figure 3. The magnitude of effect of the same treatment program as depicted in Figure 2, on a client with the same behavior problem, but with a different permutation of causal variables. With the same values assigned to variables and paths, the overall magnitude of effect of this treatment for this client is 3.4, about half that for the client in Figure 2.

structured or semistructured manner. However, manualization is only one way of learning such treatments; other ways include videotapes and computerized instructional programs. Addis et al. used the term "evidence based" but there are many forms of "evidence" (e.g., personal testimonials), empirical being only one.

REFERENCES

Beck, J. G., & Zebb, B. J. (1994). Behavioral assessment and treatment of panic disorder: Current status, future directions. *Behavior Therapy, 25*, 581–612.

Brown, T. A., & Barlow, D. H. (1992). Comorbidity among anxiety disorders: Implications for treatment and *DSM-IV. Journal of Consulting and Clinical Psychology, 60*, 835–844.

DeRubeis, R. J., & Crits-Cristoph, P. (1998). Empirically supported individual and group psychological treatments for adult mental disorders. *Journal of Consulting and Clinical Psychology, 66*, 37–52.

Garfield, S. L. (1996). Some problems associated with "validated" forms of psychotherapy. *Clinical Psychology: Science and Practice, 3*, 218–229

Haynes, S. N. (1992). *Models of causality in psychopathology.* Boston: Allyn and Bacon.

Haynes, S. N., & O'Brien, W. O. (1999). *Behavioral assessment: Principles and methods.* New York: Plenum Press.

Kendall, P. C., Chu, Gifford, A., Hayes, C., & Nauta, M. (1998). Breathing life into a manual: Flexibility and creativity with manual-based treatments. *Cognitive and Behavioral Practice, 5*, 177–198.

McConaghy, N. (1998). Assessment of sexual dysfunction and deviation. In A. S. Bellack & M. Hersen (Eds.), *Behavioral assessment-a practical handbook* (4th ed., pp. 315–341). Boston: Allyn and Bacon.

McNally, R. J. (1990). Psychological approaches to panic disorder: A review. *Psychological Bulletin, 108,* 403–419.

Sutker, P. B., & H. E. Adams, H. E. (Eds.). (1993). *Comprehensive handbook of psychopathology* (2nd ed., pp. 3–26). New York: Plenum Press.