

The Research–Practice Gap: Bridging the Schism Between Eating Disorder Researchers and Practitioners

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ABSTRACT

Objective: The field of eating disorders (EDs) treatment has been beset by a marked disjunction between scientific evidence and clinical application. We describe the nature and scope of the research–practice gap in the ED field.

Method: We draw on surveys and broader literature to better understand the research–practice gap in ED treatment and reasons for resistance to evidence-based practice.

Results: We identify three sources of the research–practice gap: (1) attitudinal factors, (2) differences in the definition of “evidence,” and (3) cognitive factors, especially naive realism and confirmation bias. We affirm the role of science as

a safeguard against human fallibility and as a means of bridging the research–practice gap, and delineate key principles of scientific thinking for ED researchers and practitioners.

Discussion: We conclude with proposals for narrowing the research–practice gap in ED treatment and enhancing the quality of interventions for ED clients. © 2013 by Wiley Periodicals, Inc.

Keywords: research–practice gap; evidence-based practice; randomized controlled trial; naive realism; confirmation bias; placebo effect

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Introduction

The allied fields of mental health, including psychology, psychiatry, and social work, have long struggled with an identity crisis. We are hybrid disciplines, with one foot planted firmly in research and another in practice. Over 60 years ago, Boring et al.¹ described the profession of psychology as “a huge organism with two heads, one professional and one scientific” (p. 531). In many respects, our fields have yet to reconcile these two faces of our intellectual persona.^{2,3}

As a consequence, mental health at large has been beset by a research–practice gap: a troubling disjunction between the scientific evidence bearing on intervention and assessment techniques and

their routine clinical application.⁴ This gap pervades much of the eating disorders (ED) field, manifesting itself in suboptimal treatment for clients with anorexia nervosa (AN), bulimia nervosa (BN), binge-eating disorder (BED), and related conditions, including obesity.⁵

Ideally, clinical research and practice in the ED field, as in other domains, ought to reflect both sides of the same coin. Both should be undergirded by science,⁶ which is a systematic set of methods for reducing inferential error.⁷ Rather than exemplifying distinct approaches to knowledge, research and practice should interweave, reflecting the application of the same scientific principles to two separable but often overlapping sets of questions. Similarly, although research and practice address different goals, namely advancing knowledge and helping individuals, respectively, both should be guided by science. This injunction does not imply that the treatment of EDs or other conditions can—or should—be reduced to an algorithm, or that the field should aim to expunge the artistic component from psychotherapy. In fact, even here, much of what is commonly described as the “art” of therapy can be informed by scientific evidence. For example, research demonstrating that the therapeutic alliance correlates with, and perhaps contributes to, positive outcomes provides psychotherapists with scientific support for their intuitions and

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practice knowledge regarding the importance of establishing rapport with clients.⁸

The goals of our article are fourfold. First, we lay out the nature and scope of the research–practice gap, with a particular focus on ED treatment. Second, we examine three sources of the research–practice gap. In doing so, we intend to avoid apportioning blame to researchers or practitioners alone, as some responsibility surely resides with each group of professionals. Third, we affirm the crucial role of science in bridging the research–practice gap and delineate key principles of scientific thinking for ED researchers and practitioners. Fourth, we outline three proposals for narrowing this gap, with the aim of enhancing the quality of interventions for clients with EDs.

The Research-Practice Gap Writ Large

The evidence for the research–practice gap in mental health is as overwhelming as it is sobering (for comprehensive reviews of the nature, scope, and causes of this gap, see Refs. 9,4,10).

Despite the growing influence of practice guidelines for the treatment of psychological conditions, such as the National Institute for Health and Clinical Excellence guidelines,¹¹ there is abundant evidence that many clients are not receiving scientifically supported interventions. For example, most therapists who treat clients with obsessive-compulsive disorder (OCD) do not use exposure and response (ritual) prevention¹² (see the work of Becker et al.,¹³ for comparable data regarding post-traumatic stress disorder), despite evidence that this treatment is the clear scientific treatment of choice for OCD. Moreover, 75% of licensed clinical social workers use one or more scientifically unsupported treatments (e.g., neurolinguistic programming, age regression, psychodrama) in their practice.¹⁴ In addition, half or more of individuals with autism spectrum disorders receive scientifically unsupported interventions, such as sensory-motor integration therapy and facilitated communication.¹⁵

The research–practice gap extends to ED treatment as well.¹⁶ Before canvassing the magnitude of this gap, a capsule overview of the status of research support for ED interventions is in order. According to the Division 12 (Society of Clinical Psychology) Task Force of the American Psychological Association (APA), cognitive-behavior therapy (CBT) and interpersonal therapy (IPT) are efficacious for BED. Similarly, CBT and IPT are

efficacious for BN,¹⁷ although the former possesses stronger empirical support than the latter for BN. Although the number of randomized controlled trials (RCTs) for AN is limited,¹⁸ family-based therapy and CBT have received moderate empirical support for adolescent and adult AN, respectively.¹⁹

Survey data reveal that many or most clinicians who treat EDs do not adhere to these guidelines. This state of affairs may hold even for practitioners who purport to be implementing evidence-based treatments. For example, even among those who claim to be administering CBT for EDs, only a minority use standard CBT methods, such as cognitive restructuring and exposure, with all of their clients.²⁰

Other data point to relatively high levels of use of unsupported approaches among therapists who treat EDs. In a sample of licensed clinical psychologists who treated clients with EDs, Pederson Mussell et al.²¹ found that 23.4% reported using psychodynamic approaches frequently; 5% reported that such approaches comprised their primary technique. Although CBT was the most commonly used approach (38.8%), 78.3% of respondents had received no formal training in manual-based CBT for EDs. Similarly, 73.3% reported a lack of training in manualized IPT for EDs.

Tobin et al.²² surveyed 265 clinicians recruited from organizations of ED specialists. Only 6% reported hewing closely to EST treatment manuals for patients with EDs; 73% reported using a “flexible” application of such manuals (with no further information provided), and 21% had never studied a manual. Certainly, a flexible application of treatment manuals may be defensible if guided by scientific considerations,²³ but if it runs counter to broader evidence-based principles (e.g., the need for anxiety to habituate substantially before terminating exposure), it may detract from the effectiveness of the intervention.

Wallace and von Ranson¹⁹ administered a web-based survey to a large international sample of ED practitioners and researchers. Many of these providers reported using psychodynamic methods for clients with AN (21.4%), BN (16.7%), and BED (18.8%). Although over 80% reported previously having used one or more ESTs, only half of those reported using only ESTs for these same disorders: 40.4% with AN, 49.2% with BN, and 55.2% with BED. As in earlier surveys,¹⁹ most clinicians reported that they fold elements of ESTs into eclectic approaches rather than deliver ESTs in the form in which they were tested.

In another diverse sample of community clinicians who treated ED patients, von Ranson et al.²⁴ found that 14% had no specific training in ED treatment. As in other studies, the clinicians' most commonly endorsed approach was eclectic (43.2%), followed by CBT (22.9%). Again, many respondents did not usually administer ESTs in manualized form, instead preferring to combine intervention strategies.

In sum, research indicates that large proportions of clinicians do not use ESTs when treating clients with EDs, and that many use approaches of undemonstrated efficacy for these conditions. Moreover, many clinicians do not use treatment manuals for EDs. Those who do use manuals often make modifications to them, although the extent to which such alterations impeded the effectiveness of psychotherapy among the clinicians surveyed is of course unknown. In all fairness, practitioners' perceived need for these modifications may in some cases reflect the failure of researchers to develop interventions that are sufficiently sensitive to the pragmatic exigencies of real-world clients, a point to which we return.

The research–practice gap is hardly unique to ED treatment or to mental health treatment broadly construed. In traditional medicine, there is an average lag of 17 years between the acquisition of new knowledge regarding treatment efficacy derived from RCTs and their application to routine practice.²⁵ Medicine has more than its share of fads too, as evidenced by the proliferation of hundreds of complementary and alternative medical (CAM) remedies marked by negligible or nonexistent scientific support.²⁶ Many CAM treatments are widely used for EDs. For example, in one sample of women with EDs, 23.8% of Mexican-Americans and 6.5% of European-Americans obtained alternative medical interventions such as acupuncture,²⁷ despite the lack of evidence of their efficacy for these conditions. Other published sources recommend herbal remedies (e.g., holy basil, milk thistle), aromatherapy, and other naturopathic treatments for EDs in the absence of research support.²⁸

Evidence-Based Practice: Definition and Resistance

Resistance to evidence-based practice (EBP) appears to be especially endemic in mental health.⁹ Before examining the nature and sources of this resistance, we provide a brief overview of EBP.

Definition of EBP

EBP is traditionally conceptualized as a three-legged stool comprising (1) research evidence for interventions, (2) clinical expertise, and (3) client preferences and values.²⁹ EBP should not be confused with empirically supported therapies (ESTs). EBP is an approach to integrating the best current data on the efficacy and effectiveness of psychological interventions with other considerations, whereas ESTs are merely one operationalization of the research leg of the EBP stool. Despite the limitations of the research base and criteria for ESTs (see Refs. 30 and 31 for thoughtful objections), ESTs reflect our field's current best consensus regarding the evidentiary basis for interventions. Hence, the burden of proof rests with practitioners who depart from ESTs to justify their choice of alternative interventions.

The research leg of the EBP stool is the biggest bone of contention for practitioners hesitant to adopt evidence-based interventions, probably because it places constraints on clinicians' freedom to select treatments. In essence, this leg asserts that clinicians possess an epistemic duty³² to rely on the best available scientific evidence when selecting treatments.

Resistance to EBP in Mental Health: Survey Data

Indeed, surveys suggest that many clinicians appear dubious of the research prong of EBP. A study of 508 members of APA Division 12³³ revealed that respondents expressed only modest agreement (mean of 3.09 on a 1–7 scale, with 1 = Strongly Agree and 7 = Strongly Disagree) with the proposition that controlled research on psychotherapy is pertinent to their practice. They rated “current research on treatment outcome” as modestly influential in their treatment decisions (2.86 on the same scale), but less so than past clinical experiences (1.53) or colleagues' advice (2.70). A survey of 52 therapists specializing in EDs demonstrated that 39% listed research as a reason for their treatment selection; however, respondents also listed clinical experience (60%) and compatibility with their theoretical orientation (39%) as reasons.³⁴ In another study, 400 licensed clinical social workers rated reasons for selecting treatments using a 1–7 scale, with higher scores reflecting stronger endorsement.¹⁴ Responses with the greatest endorsement were “Clinical experience with positive results that held up over time” ($M = 6.50$), “Compatibility with your theoretical orientation” ($M = 5.65$); and “Compatibility with your per-

sonality” ($M = 5.63$); rated lower was “Favorable research in peer reviewed journals” ($M = 4.74$).

Resistance to Evidence-Based Treatment in Medicine: A Basis for Comparison

This state of affairs contrasts with that in traditional medicine. For example, in a survey of 420 family practitioners, only 3% expressed resistance to using clinical practice guidelines³⁵ (see also Ref. 36). In most cases, practicing physicians in developed countries appear to be adhering to EBP. In one study, 86% of patients in an internal medicine clinic were receiving evidence-based interventions³⁷; in another, 63% of physicians prescribed medications for heart failure in accord with practice guidelines.³⁸

Sources of the Research-Practice Gap

Rather than strive to provide an exhaustive analysis of the sources of the research–practice gap, we examine three potential reasons for this gap: (1) attitudinal factors, (2) differences in the definition of “evidence,” and (3) cognitive obstacles (see also Ref. 10, 39).

Attitudinal Factors

To a larger extent than is typically recognized, the research–practice gap probably reflects differences in attitudes between many researchers and practitioners. Among undergraduates, measures of science interests (e.g., interests in “analyzing data from an experiment you have conducted”) are positively correlated with measures of practice interests (e.g., interests in “organizing a treatment program in a mental hospital”). By graduate school, however, these two sets of interests are significantly negatively correlated,⁴⁰ perhaps reflecting a shift of interests over the course of training, a winnowing of graduate students into different professional tracks, or both.

These contrasting attitudes to science and practice may run even deeper. Individuals with pronounced “social” interests, reflecting a desire to help others, tend to perform somewhat more poorly than other individuals in math and science.⁴¹ Although the causal direction is unclear, differences in aptitudes may eventually translate into differences in attitudes. Individuals who have few success experiences in math and science courses may develop negative attitudes toward these subjects, perhaps rendering them less likely to adopt a scientific approach to practice.

Differences in the Definition of “Evidence”

It would be tempting to regard the research–practice divide as stemming merely from differences in the weight accorded to evidence in clinical decision-making, with one side valuing evidence more than the other. The genuine picture is more complex, however, as illustrated by: (1) a workshop advertisement that recently found its way into the first author’s inbox, touting the therapeutic technique of self-care drumming as “evidence-based” and (2) recent assertions that Thought Field Therapy, a treatment that purports to effect psychological change by altering blockages in clients’ invisible energy fields using complex tapping algorithms, is evidence-based.⁴²

The issue here boils down largely to how one conceptualizes and operationalizes “evidence.” In this respect, we agree with Banker and Klump,²⁵ who maintained that “perhaps the most salient attitudinal factor contributing to a divide between researchers and practitioners is their view about what constitutes valid evidence” (p. 453). McHugh⁴³ advanced a similar point by distinguishing “romantics” from “empiricists” in the psychotherapy field. Romantics regard intuitions and informal clinical observations as affording valid evidence regarding the effectiveness of treatment, whereas empiricists believe that more rigorous sources of data, such as findings from RCTs, are necessary to adduce evidence for such claims.

The ecumenical resolution to the clash between romantics and empiricists is to propose that we can be both. This amicable compromise allows us to draw on both our intuitions about individual clients (idiographic information) and controlled research derived from groups of clients (nomothetic information) to inform our clinical decisions.⁴⁴ Yet as Meehl⁴⁵ noted over a half century ago, when the “rubber meets the road,” we cannot be romantics and empiricists simultaneously. If the best available research evidence says that our client with BN will respond best to CBT but our clinical intuition tells us otherwise, we cannot conclude that our client both will and will not respond well to CBT. When intuitions and data conflict, we must select one to guide treatment.

To be sure, the literature on intuition and expertise is decidedly complex, and there are instances in which experts rely on their intuitions with exceptional success (e.g., when a firefighter senses correctly that a building is on the verge of collapse). Nevertheless, research demonstrates that such

“skilled intuition” emerges only in highly constrained contexts, namely those in which there are regularly presented, clear-cut, valid, and relevant cues.⁴⁶ These conditions are rarely met in psychotherapy, in which feedback regarding success is often delayed and ambiguous.

Cognitive Factors

Another major set of sources underpinning the research–practice gap are cognitive impediments to evaluating client change in therapy. These obstacles may preclude a full appreciation of the necessity of systematic research evidence for ascertaining treatment effectiveness. Although these cognitive limitations afflict practitioners and researchers alike, they can be especially problematic for the former, because the psychotherapy consulting room does not afford clinicians with many protections against them. We examine two such cognitive impediments here.

Naïve realism is the belief that we can always trust our perceptions to afford us an accurate view of the world.⁴⁷ Because of this assumption, we may be tempted to rely exclusively on our raw perceptions of client change when drawing inferences concerning therapeutic effectiveness¹⁰: “Three weeks ago, I saw that my client was really preoccupied with her body image. Now, after several sessions of therapy, I can see that her preoccupation is decreasing, so it’s clear that the treatment is working.” Yet naïve realism is erroneous: Although our perceptions are constrained by reality, they are also influenced by our expectations and biases.⁴⁸ As a consequence of naïve realism, we may conclude mistakenly that we can infer client change without the aid of systematic research designs. Naïve realism may account in large measure for the continued popularity of ED treatments that are not supported by compelling evidence. These include equine (horse)-assisted therapy,⁴⁹ energy therapy,⁵⁰ hypnosis,²⁷ art-based therapies (e.g., art, music, and dance treatments⁵¹; and eye movement desensitization and reprocessing,⁵² which appears to be helpful for posttraumatic stress disorder,⁵³ but has not been adequately investigated for EDs.

Indeed, a host of sources can mislead us into concluding that ineffective treatments for EDs and other conditions are effective. We term these factors causes of spurious therapeutic effectiveness (CSTEs¹⁰). Among the more problematic CSTEs are (1) placebo effects, or the tendency of clients to improve merely because they expect to improve⁵⁴; (2) effort justification, or the tendency of clients to persuade themselves that they have improved

owing to the need to justify the time, energy, and effort they have expended on treatments (see Ref. 55 for evidence that effort justification can contribute to weight loss in intervention studies of obesity); (3) regression to the mean, or the tendency of extreme scores to become less extreme on retesting, a propensity exacerbated by the fact that clients often seek out treatment when their symptoms are at their worst⁵⁶; (4) spontaneous remission, or the tendency of clients to improve on their own⁵⁷; and (5) multiple treatment interference, or the tendency of clients to obtain interventions, both formal (e.g., medication) and informal (e.g., confiding in a friend), in conjunction with their primary treatment, rendering it difficult or impossible to attribute improvement to this treatment *per se*.⁵⁸

CSTEs remind us of the perils of naïve realism, as they underscore the point that client change over the course of psychotherapy can arise from a plethora of sources unrelated to treatment itself. Yet because CSTEs typically lie in the causal background, whereas client change tends to lie in the causal foreground, we may overlook their influence. CSTEs also expose serious cracks in the edifice of the romantics’ conceptualization of evidence. They remind us that subjective judgments of client change, although sometimes accurate and worth attending to, are not sufficient to infer that a treatment works. CSTEs also underscore the pressing need for RCTs and other systematic designs that comprise the research prong of the EBP stool, because these designs are needed to exclude CSTEs as rival explanations for client improvement.

A second cognitive impediment is confirmation bias, the deeply ingrained tendency to seek out evidence consistent with our hypotheses and to deny, dismiss, and distort evidence that is not.⁵⁹ Because of this bias, we may inadvertently tend to recall our apparent therapy successes while forgetting our apparent therapy failures. This propensity may help to explain why many—although by no means all—therapists tend to overestimate their treatment effectiveness,⁶⁰ and to underestimate the proportion of clients in their caseloads who deteriorate.⁶¹ Confirmation bias may also contribute to illusory correlation (the perception of a statistical association between variables in its absence), in this case, a false perception that our interventions are associated with positive client outcomes.⁶² In other cases, we may explain away failures as due to factors unrelated to our skills (e.g., “the client wasn’t ready to improve”).

In summary, an inadequate awareness of naïve realism and confirmation bias probably accounts in part for the research–practice gap and for resist-

ance to the research prong of EBP. These foibles can lead us to overvalue the accuracy of our clinical intuitions and to undervalue the need for research designs to control for rival explanations of client improvement. They can also predispose us to neglect evidence-based interventions and to embrace interventions devoid of scientific support.

Science as a Safeguard Against Human Fallibility

As researchers and educators, we often portray science, including psychological science, as a body of accumulated knowledge. From this perspective, science consists of what we have learned about a topic, such as the correlates and treatment of AN. Yet as most philosophers of science have observed, science is a systematic approach to evidence that strives to root out errors in our web of beliefs by subjecting them to rigorous scrutiny.^{63,64} Conjectures that cannot withstand careful analysis are typically jettisoned or revised; those that can are provisionally retained, although they are not strictly “proven.”

Framed in the lingo of social cognition, we can conceptualize science as a set of bulwarks against confirmation bias and allied errors. As Tavis and Aronson⁶⁵ aptly noted, science is a prescription for “arrogance control” (p. 108), because it forces us to keep in check our confidence regarding our most cherished assumptions.⁶⁶ Physicist Richard Feynman⁶⁷ similarly defined the heart of science as bending over backwards to prove ourselves wrong. Although we rarely present them this way in our graduate courses or clinical supervision, many psychotherapy research methods are partial safeguards against bias. For example, the blinding of raters in psychotherapy outcome research minimizes the chances that observers’ confirmation bias will unwittingly influence their evaluations of change. Similarly, the use of well-validated and largely objective indicators in psychotherapy outcome research reduces the likelihood that observers’ biases will lead them to perceive nonexistent improvements in ambiguous symptoms.

When conceptualized in this light, the research–practice gap and the resistance to EBP that often accompanies it are largely to be expected, because confirmation bias and allied errors are deeply entrenched ways of thinking. Research demonstrates that most people find confirmatory thinking easier than disconfirmatory thinking.⁶⁸

Putting it somewhat differently, scientific thinking does not come naturally to the human spe-

cies^{69,70}; it is not intuitive,⁷¹ as it often requires us to override our gut hunches and informal impressions with research evidence. As a consequence, scientific thinking needs to be taught explicitly and nurtured continually.

Confronting and Narrowing the Research–Practice Gap

Much like the vast partisan divide in American politics, the wide research–practice gap in the ED field may at times appear to be grounds for despair. Nevertheless, we are sanguine in the long-term. Regardless of one’s stance on the merits of ESTs, it is clear that the field is moving toward a heightened emphasis on accountability. The research–practice gap may gradually be narrowing, thanks in no small measure to the EBP movement. On balance, we view this development as positive for both the profession and, even more important, for mental health consumers and their loved ones.

At the same time, considerable work lies ahead. The research–practice gap remains too wide, and the persistent popularity of unsubstantiated treatments for EDs is a continuing cause for concern. Even if such treatments are themselves innocuous, they may incur substantial opportunity costs⁴: Clients who expend a great deal of time, energy, effort, and resources obtaining these interventions may be bereft of all four by the end of treatment. Moreover, although many in our field have long assumed that “doing something is better than doing nothing,” there is mounting evidence that certain psychological interventions, such as crisis debriefing for trauma-exposed victims, are associated with negative effect sizes.⁷² Similarly, several authors have raised the possibility that certain treatments, such as psychoanalysis, may be iatrogenic for EDs, although rigorous evidence for this hypothesis is wanting.⁷³

There are no panaceas for bridging the research–practice gap in ED treatment. Nevertheless, we offer three overarching proposals in this regard (see Refs. 10 and 74 for further suggestions). First, we recommend that training and education in cognitive biases become mandatory components of classwork and therapy training in all mental professions. Just as important, students must learn how research methods are essential, albeit fallible, safeguards against these pervasive biases. Students should come to appreciate that science is a systematic prescription for humility,⁶ because it reminds

us that our intuitions are fallible. As astronomer Carl Sagan noted,⁷⁵ science is like a little voice in our heads that intones, “You might be mistaken. You’ve been wrong before” (pp. 34–35). Researchers in the ED field would do well to model such epistemic modesty for their colleagues and students.

Second, ED researchers should aim to establish partnerships with clinicians. In a review of community-partnership research (CPR) in ED treatment, Becker et al.⁷⁶ argued that such collaborations can assist researchers with designing more effective real-world interventions, as input from practitioners can provide valuable feedback regarding the feasibility and user-friendliness of treatments. Moreover, CPR may aid in dissemination efforts, because researcher-practitioner partnerships help to forge trust on both sides and boost the probability that resulting interventions will be compatible with therapists’ needs on the front lines of clinical practice.

Third, we need to make effective and respectful communication between ED researchers and practitioners a priority. Creating more forums for exchanging information between these two professional groups should assist in (1) helping researchers to generate more effective ideas for novel interventions and (2) disseminating effective interventions from researchers to clinicians. With respect to the latter point, we can turn to the dissemination literature for guidance. Young et al.⁷⁷ concluded that the extent to which a message is persuasive to an audience is predicted largely by the identity of the person transmitting it. The success of “opinion leaders”⁷⁸ hinges substantially on audience perception of in-group status; messages from leaders perceived as outsiders often are dismissed. Thus, relying exclusively on academics to disseminate evidence-based interventions may be misguided, as many clinicians may feel that researchers do not grasp the complexities posed by clients in everyday practice. Moreover, dependence on academics as disseminators of EBP may elicit reactance⁷⁹ and defensiveness to research evidence among clinicians. In this respect, we are inclined to concur with Westen and colleagues⁸⁰ that “Clinicians do not want to be disseminated on or disseminated at” (p. 431).

Applying literature from social cognition to the political world, Sunstein⁸¹ observed that “People tend to dismiss information that would falsify their convictions. But they may reconsider if the information comes from a source they cannot dismiss” (p. A25). He lobbied for the utility of “surprising validators,” individuals whom we would expect to echo our views but end up chal-

lenging them. ED practitioners who embrace EBP may function as surprising validators for ED practitioners skeptical of EBP, and may thereby serve as especially effective communication agents for disseminating EBP.

Closing Thoughts: Revisiting Romanticism and Empiricism

We have proposed that the research–practice gap reflects fundamental differences in both attitudes toward science and views of how one conceptualizes evidence for truth claims. These deep-seated rifts bring us back full circle to the distinction between romantics and empiricists.⁴³

In this regard, we have contended that we cannot resolve the research–practice gap in ED treatment by embracing romantic and empiricist perspectives simultaneously, because when our intuitions conflict with research evidence, we cannot choose both. At the same time, we are staunch believers that there is ample room for both romanticism and empiricism in clinical practice, but that we need to be clear about their proper roles.

When generating promising ideas for novel interventions, we *should* be romantics. We should feel free to be creative, and to think big and dream big. When doing so, we should often attend to our intuitions and gut hunches, and, when relevant, draw on our clinical observations in the context of hypothesis generation. Yet when administering interventions to our clients, we have an ethical obligation to be empiricists. We possess an epistemic duty³² to deliver treatments grounded in the best available scientific evidence and to be willing to override our intuitive beliefs when they conflict with well-replicated findings. Hence, romanticism and empiricism are incompatible only in the sense that we cannot readily adopt both perspectives at the same time; yet both play invaluable roles in distinct phases of psychotherapy development and implementation.¹⁶

A better understanding of the romantic-empiricist schism and its genesis will not bridge the research–practice gap in the ED field overnight. But the recognition that both approaches make essential contributions to psychotherapy should help partisans on opposing sides of this often bitter divide to appreciate the need for both intuition and scientific rigor in the treatment of EDs. The romantics in us hold out hope that by doing so, our field can move past fruitless debates and enhance the quality of interventions for our clients, and the

empiricists in us look forward to testing this conjecture scientifically.

References

1. Boring E. Policy and plans of the APA. *Am Psychol* 1949;4:531–532.
2. Hershenberg R, Drabick DG, Vivian D. An opportunity to bridge the gap between clinical research and clinical practice: Implications for clinical training. *Psychotherapy* 2012;49:123–134.
3. Ritschel LA. Reconciling the rift: Improving clinical psychology graduate training in the twenty-first century. *J Clin Psychol* 2005;61:1111–1114.
4. Lilienfeld SO, Lynn SJ, Lohr JM. *Science and Pseudoscience in Clinical Psychology*. New York, NY: Guilford, 2003.
5. Maine M, McGilley B, Bunnell DW. *Treatment of Eating Disorders: Bridging the Research–Practice Gap*. San Diego: Elsevier Academic Press, 2010.
6. McFall RM. Manifesto for a science of clinical psychology. *Clin Psychol* 1991;44:75–88.
7. O’Donohue WT, Fowler KA, Lilienfeld, SO. Science is an essential safeguard against human error. In: Lilienfeld SO, O’Donohue WT, editors. *The Great Ideas of Clinical Science: 17 Principles that Every Mental Health Professional Should Understand*. New York: Routledge/Taylor & Francis Group, 2007, p. 3–27.
8. Addis ME. Graduate training in Boulder model clinical psychology programs: The evolving tension between science and art. In: Soldz S, McCullough L, editors. *Reconciling Empirical Knowledge and Clinical Experience: The Art and Science of Psychotherapy*. Washington, DC: American Psychological Association, 2000, p. 51–66.
9. Baker TB, McFall RM, Shoham V. Current status and future prospects of clinical psychology: Toward a scientifically principled approach to mental and behavioral health care. *Psychol Sci Public Interest* 2008;9:67–103.
10. Lilienfeld SO, Ritschel LA, Lynn SJ, Cautin RL, Litzman RD. Why many clinical psychologists are resistant to evidence-based practice: Root causes and constructive remedies. *Clin Psychol Rev*, in press.
11. Clark DM. Implementing NICE Guidelines for the psychological treatment of depression and anxiety disorders: The IAPT experience. *Int J Psychiatry* 2011;23:375–384.
12. Freheit SR, Vye C, Swan R, Cady M. Cognitive-behavioral therapy for anxiety: Is dissemination working? *Behav Ther* 2004;27:25–30.
13. Becker CB, Zayfert C, Anderson E. A survey of psychologists’ attitudes towards and utilization of exposure therapy for PTSD. *Behav Res Ther* 2004;42:277–292.
14. Pignotti M, Thyer BA. Use of novel unsupported and empirically supported therapies by licensed clinical social workers: an exploratory study. *Soc Work Res* 2009;33:5–17.
15. Golnik AE, Ireland M. Complementary alternative medicine for children with autism: A physician survey. *J Autism Dev Disord* 2009;39:996–1005.
16. Strober M, Johnson C. The need for complex ideas in anorexia nervosa: Why biology, environment, and psyche all matter, why therapists make mistakes, and why clinical benchmarks are needed for managing weight correction. *Int J Eat Disord* 2012;45:155–178.
17. Chambless D. Empirically supported treatments for eating disorders. 2102. Available at: http://www.apa.org/divisions/div12/rev_est/eating.html.
18. Lock J, Le Grange D, Agras W, Moye A, Bryson SW, Jo B. Randomized clinical trial comparing family-based treatment with adolescent-focused individual therapy for adolescents with anorexia nervosa. *Arch Gen Psychiatry* 2010;67:1025–1032.
19. Wallace LM, von Ranson KM. Perceptions and use of empirically-supported psychotherapies among eating disorder professionals. *Behav Res Ther* 2012;50:215–222.
20. Waller G, Stringer H, Meyer C. What cognitive-behavioral techniques do therapists report using when delivering cognitive-behavioral therapy for the eating disorders? *J Consult Clin Psychol* 2012;80:171–175.
21. Pederson Mussell M, Crosby RD, Crow SJ, Knopke AJ, Peterson CB, Wonderlich S, et al. Utilization of empirically supported psychotherapy treatments for individuals with eating disorders: A survey of psychologists. *Int J Eat Disord* 2000;27:230–237.
22. Tobin DL, Banker, JD, Weisberg L, Bowers W. I know what you did last summer (and it was not CBT): A factor analytic model of international psychotherapeutic practice in the eating disorders. *Int J Eat Disord* 2007;40:754–757.
23. Kendall PC. Flexibility within fidelity. *Clin Child Adolesc Newsletter* 2001;16:1–4.
24. von Ranson KM, Wallace LM, Stevenson A. Psychotherapies provided for eating disorders by community clinicians: Infrequent use of evidence-based treatment. *Psychother Res*, in press.
25. Banker JD, Klump, KL. The research–practice gap: Challenges and opportunities for the eating disorder treatment professional. In: Maine M, McGilley B, Bunnell DW, editors. *Treatment of Eating Disorders: Bridging the Research–Practice Gap*. San Diego: Elsevier Academic Press, 2010, p. 459–477.
26. Bausell RB. *Snake Oil Science: The Truth About Complementary and Alternative Medicine*. New York: Oxford University Press, 2007.
27. Cachelin FM, Striegel-Moore RH. Help seeking and barriers to treatment in a community sample of Mexican American and European American women with eating disorders. *Int J Eat Disord* 2006;39:154–161.
28. Calabro S. Can alternative therapy treat eating disorders? *Everyday Health*. Available at: <http://www.everydayhealth.com/eating-disorders/alternative-therapy-for-eating-disorders.aspx>. Last accessed on: October 5, 2010.
29. Sackett DL, Rosenberg W, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: What it is and what it isn’t. *Br Med J* 1996;312:71–72.
30. Herbert JD. The science and practice of empirically supported treatments. *Behav Modif* 2003;27:412–430.
31. Westen D, Novotny CM, Thompson-Brenner H. The empirical status of empirically supported psychotherapies: Assumptions, findings, and reporting in controlled clinical trials. *Psychol Bull* 2004;130:631–663.
32. O’Donohue W, Henderson D. Epistemic and ethical duties in clinical decision-making. *Behav Change* 1999;16:10–19.
33. Stewart RE, Chambless D. Does psychotherapy determine treatment decisions in private practice? *J Clin Psychol* 2007;63:267–283.
34. von Ranson KM, Robinson KE. Who is providing what type of psychotherapy to eating disorder clients? A survey. *Int J Eat Disord* 2006;39:27–34.
35. Wolfe RM, Sharp LK, Wang RM. Family physicians’ opinions and attitudes to three clinical practice guidelines. *J Am Board Fam Pract* 2004;17:150–157.
36. Farquhar CM, Kofa EW, Slutsky JR. Clinicians’ attitudes to clinical practice guidelines: A systematic review. *Med J Aust* 2002;177:502–506.
37. Lucas BP, Evans AT, Reilly BM, Khodakov YV, Perumal K, Rohr LG, et al. The impact of evidence on physicians’ inpatient treatment decisions. *J Gen Intern Med* 2004;19(5 part 1):402–409.

38. Calvin JE, Shanbhag S, Avery E, Kane J, Richardson D, Powell L. Adherence to evidence-based guidelines for heart failure in physicians and their patients: Lessons from the Heart Failure Adherence Retention Trial (HART). *Congest Heart Fail* 2012;18:73–78.
39. Shafran R, Clark DM, Fairburn CG, Wilson GT. Mind the gap: Improving the dissemination of CBT. *Behav Res Ther* 2009;47:902–909.
40. Zachar P, Leong FTL. A 10-year longitudinal study of scientist and practitioner interests in psychology: Assessing the Boulder model. *Prof Psychol Res Practice* 2000;31:575–580.
41. Ackerman PL, Heggstad ED. Intelligence, personality, and interests: evidence for overlapping traits. *Psychol Bull* 1997;121:219–245.
42. Feinstein D. Energy psychology in disaster relief. *Traumatology* 2008;14:127–139.
43. McHugh PM. Psychotherapy awry. *Am Scholar* 1994;63:17–30.
44. Hess AK. Sound judgments. *Sci News* 1998;164:382.
45. Meehl PE. *Clinical Versus Statistical Prediction: A Theoretical Analysis and a Review of the Evidence*. Minneapolis: University of Minnesota Press, 1954.
46. Kahneman D, Klein G. Conditions for intuitive expertise: A failure to disagree. *Am Psychol* 2009;64:515–526.
47. Ross L, Ward A. Naive realism in everyday life: Implications for social conflict and misunderstanding. In: Reed ES, Turiel E, Brown T, editors. *Values and Knowledge*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 1996, p. 103–135.
48. Segall HH, Campbell DT, Herskovits MJ. *The Influence of Culture on Visual Perception*. Oxford, England: Bobbs-Merrill, 1996.
49. Cumella EJ. Is equine therapy useful in the treatment of eating disorders? *Eat Disord* 2003;11:143.
50. Stapleton P, Sheldon T, Porter B, Whitty JA. Randomised clinical trial of a meridian-based intervention for food cravings with six-month follow-up. *Behav Change* 2011;28:1–16.
51. Frisch MJ, Franko DL, Herzog DB. Arts-based therapies in the treatment of eating disorders. *Eat Disord* 2006;14:131–142.
52. Hudson JI, Chase EA, Pope HG. Eye movement desensitization and reprocessing in eating disorders: Caution against premature acceptance. *Int J Eat Disord* 1998;23:1–5.
53. Benish SG, Imel ZE, Wampold BE. The relative efficacy of bona fide psychotherapies for treating post-traumatic stress disorder: A meta-analysis of direct comparisons. *Clin Psychol Rev* 2008;28:746–758.
54. Steer RY, Ritschel LA. Placebo. In: Weiner I, Craighead WE, editors. *Corsini Encyclopedia of Psychology*. New York: Wiley, 2010, p. 1252–1254.
55. Axsom D, Cooper J. Cognitive dissonance and psychotherapy: The role of effort justification in inducing weight loss. *J Exp Soc Psychol* 1985;21:149–160.
56. Campbell D, Kenny DA. *A Primer on Regression Artifacts*. New York: Guilford Press, 1999.
57. Beyerstein BL. Why bogus therapies seem to work. In: Lilienfeld SO, Ruscio J, Lynn SJ, editors. *Navigating the Mindfield: A User's Guide to Distinguishing Science From Pseudoscience in Mental Health*. Amherst, NY: Prometheus Books, 2008, p. 111–125.
58. Kendall PC, Butcher JN, Holmbeck GN, editors. *Handbook of Research Methods in Clinical Psychology*. New York, NY: Wiley, 1999.
59. Nickerson RS. Confirmation bias: A ubiquitous phenomenon in many guises. *Rev Gen Psychol* 1998;2:175–220.
60. Brosan L, Reynolds S, Moore RG. Self-evaluation of cognitive therapy performance: Do therapists know how competent they are? *Behav Cogn Psychother* 1981;36:581–587.
61. Walfish S, McAlister B, O'Donnell P, Lambert MJ. An investigation of self-assessment bias in mental health providers. *Psychol Rep* 2012;110:639–644.
62. Chapman LJ, Chapman JP. Genesis of popular but erroneous psychodiagnostic observations. *J Abnorm Psychol* 1967;72:193–204.
63. Popper KR. *The Logic of Scientific Discovery*. Oxford: Basic Books, 1959.
64. Quine WV. Main trends in recent philosophy: two dogmas of empiricism. *Philos Rev* 1951;60:20–43.
65. Tavis C, Aronson E. *Mistakes were Made (But Not by Me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts*. Orlando, FL: Harcourt, 2007.
66. Lilienfeld SO. Can psychology become a science? *Pers Individ Difference* 2010;49:281–288.
67. Feynman RP. Cargo cult science. *Eng Sci* 1974;37:10–13.
68. Gilbert DT. How mental systems believe. *Am Psychol* 1991;46:107–119.
69. Lilienfeld SO, Ammirati R, David M. Distinguishing science from pseudoscience in school psychology: Science and scientific thinking as safeguards against human error. *J School Psychol* 2012;50:7–36.
70. McCauley RN. *Why Religion is Natural and Science is Not*. New York: Oxford University Press, 2011.
71. Cromer A. *Uncommon Sense: The Heretical Nature of Science*. New York: Oxford University Press, 1993.
72. Lilienfeld SO. Psychological treatments that cause harm. *Pers Psychol Sci* 2007;2:53–70.
73. Treasure J, Crane A, McKnight R, Buchanan E, Wolfe, M. First do no harm: Iatrogenic maintaining factors in anorexia nervosa. *Eur Eat Disord Rev* 2011;19:296–302.
74. Gallo KP, Barlow DH. Factors involved in clinician adoption and nonadoption of evidence-based interventions in mental health. *Clin Psychol Sci Pract* 2012;19:93–106.
75. Sagan C. *The Demon-Haunted World: Science as a Candle in the Dark*. New York: Random House, 1995.
76. Becker C, Stice E, Shaw H, Woda S. Use of empirically supported interventions for psychopathology: Can the participatory approach move us beyond the research-to-practice gap? *Behav Res Ther* 2009;47:265–274.
77. Young J, Connolly K, Lohr JM. Fighting the good fight by hunting the Dodo bird to extinction: ABCT's dissemination effort. *Behav Ther* 2008;31:97–100.
78. Rogers EM. *Diffusion of Innovations*, 5th ed. New York: Free Press, 2003.
79. Brehm SS, Brehm JW. *Psychological Reactance: A Theory of Freedom and Control*. New York: Academic Press, 1981.
80. Westen D, Novotny CM, Thompson-Brenner H. EBP ≠ EST: Reply to Crits-Christoph et al. (2005) and Weisz et al. (2005). *Psychol Bull* 2005;131:427–433.
81. Sunstein CR. Breaking up the echo. *NY Times*. Available at: http://www.nytimes.com/2012/09/18/opinion/balanced-news-reports-may-only-inflate.html?_r=0. Last accessed on: September 17, 2012.