

# Introduction: Applying Clinical Psychological Science to Practice

Christine B. Cha and Katherine A. DiVasto

*Teachers College, Columbia University*

Mental illness is a prevalent and extraordinarily complex phenomenon. Psychologists have developed distinct approaches toward understanding and treating mental illness, rooted in divergent epistemology. This introduction to the Special Issue on *Clinical Psychological Science and Practice* provides a brief overview of the scientist-practitioner gap, and explores one step (of many) toward bridging this divide. Seven compelling case illustrations featured in this Special Issue apply empirical findings to case formulation, treatment selection, and assessment across complex and varied clinical presentations. This issue thereby demonstrates the feasibility of integrating research and clinical expertise in mental healthcare. © 2017 Wiley Periodicals, Inc. *J. Clin. Psychol.*: In Session 73:1–7, 2017.

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Mental illness is an enormously complex phenomenon. No two cases of depression, for instance, are ever exactly alike. Two depressed individuals may in fact share only one of nine diverse symptoms (Hyman, 2010). Unfortunately, the challenges of mental illness run deeper than heterogeneity within diagnoses. Even highly similar clinical presentations can be characterized by distinct etiological pathways (i.e., principle of equifinality; Cicchetti & Rogosch, 1996). These complexities of mental illness have long been acknowledged by theorists, researchers, and practitioners (Cicchetti & Rogosch, 1996; Freud & Strachey, 1962; Jung, 1914), and fittingly captured by a first-hand account of depression written by the late writer William Styron (1990): “Unlike, let us say, diabetes, where immediate measures taken to rearrange the body’s adaptation to glucose can dramatically reverse a dangerous process and bring it under control, depression in its major stages possesses no quick available remedy: failure of alleviation is one of the most distressing factors of the disorder as it reveals itself to the victim, and one that helps situate it squarely in the category of grave diseases” (p. 10). This sentiment largely captures what both motivates and frustrates many of us in the field of clinical psychology, as we try to better understand and treat mental illness.

Despite sharing a unified goal of alleviating mental illness, psychologists have long been divided in how to seek solutions (Cautin, 2009). The dialogue (or lack thereof) between practice- and research-oriented psychologists has resulted in a well-known gap in the field that hampers progress toward improving mental health outcomes. Here, we briefly review the scientist–practitioner gap and shift our attention toward the unique and well-positioned role of psychologists to improve the quality and breadth of mental healthcare.

The scientist–practitioner gap is marked by a sharp distinction about what type of evidence should guide clinical decision making (Tavris, 2003). Many practice-oriented psychologists rely on evidence produced via clinical observation and experience, which integrates rich information about each individual. This traditionally idiographic approach highlights the unique aspects of

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Please address correspondence to: Christine B. Cha, Ph.D., Department of Counseling and Clinical Psychology, Teachers College, Columbia University, 525 W 120<sup>th</sup> Street, Box 102, New York, NY 10027. E-mail: cbc2120@tc.columbia.edu

each client and how treatment could be optimally tailored to them. Often in contrast, many research-oriented psychologists rely on evidence produced by the scientific method and hold fast to scientific epistemology that offers a “quantitative and self-correcting method” to guide understanding and practice (Lilienfeld, Ritschel, Lynn, Cautin & Lutzman, 2013; McFall, Treat, & Simons 2015, p. 2). This traditionally nomothetic approach calls for the implementation of standardized treatment protocols and assessments (e.g., randomized controlled trials; RCTs). Research-oriented psychologists tend to prioritize methodological rigor over theoretical richness, trading in details about each individual client (i.e., noise) to achieve a clearer signal.

The implications of the scientist-practitioner gap go far beyond a theoretical divide. This gap perpetuates, and is perpetuated by, everyday practices. For instance, psychologists as a whole subscribe to divergent and confined communication outlets to inform their knowledge base. On the one hand, practice-oriented psychologists largely rely on their own or their peer networks’ clinical experiences and prefer case studies over alternative forms of published evidence (Allen & Armstrong, 2014; Stewart & Chambless, 2007). On the other hand, research-oriented psychologists rely on standardized assessments and published empirical studies, which typically employ inferential statistics and summarize classes of individuals (Lilienfeld et al., 2013).

A natural temptation in the discussion of this scientist–practitioner gap is to ask which “side” has it “right.” This overarching debate is relevant yet not central to the current article and journal issue. Some may in fact consider the question of “rightness” to be outdated, since the singular value of each side has now been well established. For more on this point, we guide the readers to additional commentaries by both practice- and research-oriented psychologists (including present contributors; Blackwell & Holmes, this issue; Goldfried & Wolfe, 1996; Lilienfeld et al. 2013; Teachman et al. 2012; Wolfe, 2012), as well as the evidence-based practice in psychology movement that promotes the integration of research and clinical expertise (Goodheart et al., 2006). Here, we authors of this introductory article—who have admittedly spent most of our time on only one (research-oriented) side of this divide—add to the many voices from both sides that have urged the unification of the clinical psychology field.

### *Toward Bridging the Divide: The Current Issue*

Titled *Clinical Psychological Science and Practice*, the current issue features a series of case illustrations that join two epistemologically distinct traditions: knowing via standardized assessments and empirical studies, and knowing via individual cases and theoretical frameworks. The issue was curated with the intention of encouraging psychologists who largely subscribe to scientific epistemology and clinical psychological science to present a recent case illustration. The powerful case illustration format lends itself nicely to highlighting details about an individual client and the course of treatment that often cannot be captured by published empirical studies. The present issue thereby represents a discrete and initial step (of many necessary steps) toward bridging the aforementioned gap.

Each case, at its core, features a psychological treatment with *empirically supported treatment targets*: psychological processes that maintain disorders and, when modified, are expected (based on empirical studies) to help alleviate clinical symptoms. To be clear, a focus on specific targets is not meant to reduce the complexity of psychopathology. Targets are parsimonious not merely for the sake of parsimony. Empirically supported targets are selected instead because they have been shown to be salient aspects of psychopathology and may represent a promising “lead” in treatment. As a brief example: *negative interpretation bias* (i.e., the tendency to interpret ambiguous information—in this case, ambiguous social information—in threatening and catastrophic ways) does not encompass all aspects of social anxiety, but does frequently present in socially anxious individuals. It has previously been shown to help maintain social anxiety specifically, even when compared to other anxiety disorders (e.g., Amir, Foa, & Coles, 1998). Recent work has shown that negative interpretation bias is modifiable, and when experimentally reduced, results in decreased social anxiety (Murphy, Hirsch, Mathews, Smith, & Clark, 2007; Vassilopoulos, Banerjee, & Prantzalou, 2009). These empirical findings suggest that this psychological process may be a viable treatment target, as explained and further

pursued in our case illustrations (Narr & Teachman, this issue). Interpretation bias is one of several treatment targets featured in this issue. Given their known role in mental illness, these targets offer promising steps (of many steps) forward toward improving treatment.

This issue challenges two acknowledged customs within research that have widened the scientist-practitioner gap (Stewart, Stirman, & Chambless, 2012; Wolfe, 2012): (1) selecting relatively simple clinical presentations (i.e., single diagnoses vs. multiple diagnoses); (2) testing structured and burdensome treatment protocols. In contrast to the first custom, the present case illustrations feature an array of complex clinical presentations, ranging from the overlap of disruptive behavior disorders and mood disorders (Goodall et al., this issue; Hooley & Miklowitz, this issue), to depression and anxiety (Blackwell & Holmes, this issue; Narr & Teachman, this issue), and persistent self-injurious or suicidal thoughts and behaviors (Bentley, this issue; Franklin, Fox, & Ribeiro, this issue). Despite their focus on specific treatment targets, these case studies feature clinical presentations similar to those frequently encountered in outpatient care.

In contrast to the second custom, many of these case illustrations do not utilize traditional, fully structured treatment manuals but rather more adaptable evidence-based protocols. While a number of them draw from principles of cognitive behavioral therapy, they are novel and more flexible in structure (e.g., transdiagnostic unified protocol; Bentley, this issue) and modality of administration (e.g., computerized interventions, technology apps; Blackwell & Holmes, this issue; Franklin et al., this issue; Najmi & Amir, this issue). The focus on empirically supported targets lends itself nicely to the development of more precise intervention techniques, which may be more easily integrated into existing practices and eclectic frameworks. Moreover, these case illustrations demonstrate the feasibility of assessing these targets through clinical observation or brief measures to help inform treatment selection and assess progress.

The case illustrations, summarized below, are largely organized according to their primary clinical feature. In most cases, these novel treatments are being presented in case study format for the very first time. All of these cases report assessments of either the intended target(s) of intervention (Hooley & Miklowitz, this issue), clinical outcomes (Bentley, this issue; Goodall et al., this issue; Najmi & Amir, this issue; Narr & Teachman, this issue), or both (Blackwell & Holmes, this issue; Franklin, Fox, & Ribeiro, this issue) to track progress across the course of treatment. Specific treatment targets are italicized throughout the summaries below.

*Trauma and related disorders.* Benjamin Goodall and colleagues (this issue) present a case in which they implemented a novel treatment protocol, Trauma-Focused Cognitive Therapy (TF-CT) for children. TF-CT adapted for youth has been shown through multiple RCTs to effectively reduce posttraumatic stress disorder (PTSD) symptoms. In this case of treating an eight-year-old survivor of a motor vehicle accident, Goodall et al. targeted *distorted memory representations and maladaptive cognitive appraisals*—two empirically-supported cognitive mediators of the effects of TF-CT—and *impoverished coping* while tracking PTSD symptoms throughout the course of treatment.

*Anxiety and related disorders.* The next two case illustrations are similar in that they feature cognitive biases maintaining anxiety and avoidance of threat. Rachel Narr and Bethany Teachman (this issue) present a case of a socially anxious young man, with whom they targeted his tendency to *interpret ambiguous social information in threatening and catastrophic ways*. Narr and Teachman summarize evidence pointing to the key role that interpretation bias plays in perpetuating anxiety, and in this case implement cognitive behavioral techniques such as cognitive restructuring and exposure therapy to ultimately reduce the patient's fear of negative evaluation and distress, as tracked across time.

Sadia Najmi and Nader Amir (this issue) also aimed to reduce anxiety-related cognitive biases, but instead with a woman diagnosed with obsessive compulsive disorder (OCD). Najmi and Amir similarly targeted *interpretation bias* and other cognitive biases such as *working memory* and *attentional disengagement from threat*, in their case implementing a novel computer-based treatment technique known as cognitive bias modification (CBM). Najmi and Amir review the evidence behind CBM and use this technique to complement self-directed exposure response

prevention treatment. This case study demonstrates how CBM can be integrated with more traditional treatments to significantly reduce OCD symptoms and functional impairment, which they systematically measured over time.

*Self-injury and suicide.* Shifting toward a mix of cognitive, affective, and behavioral treatment targets, the next set of case illustrations showcase distinct ways to reduce self-injurious and suicidal behaviors among patients. Kate Bentley (this issue) focuses on a complex case of a young woman engaging in nonsuicidal self-injury (NSSI) and presenting with social anxiety disorder, generalized anxiety disorder, and depressive symptoms. Based on prior evidence that the most common function of NSSI is to reduce aversive thoughts and feelings, Bentley formulated treatment targets that are cognitive (*negative perceptions of emotional experiences*), affective (*frequent and intense negative emotions*), and behavioral (*avoidant response to intense negative emotional experiences*). To modify these multiple treatment targets, Bentley selected a new cognitive behavioral treatment specifically designed to be transdiagnostic in scope (*i.e.*, Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders), and documented substantial decrease in the patient's frequency of NSSI over the course of treatment.

In contrast to the traditional in-person psychotherapy format, Joe Franklin and colleagues (this issue) introduce a brief and game-like app known as therapeutic evaluative conditioning (TEC) for self-injurious and suicidal individuals. TEC was designed and implemented with specific treatment targets in mind: *fearlessness and positive feelings toward self-injury, suicide, and death*, and *negative feelings toward the self*. Informed by three RCTs demonstrating the effectiveness of TEC as well as evidence in support of these treatment targets, Franklin et al. present a case here in which they administered TEC in the context of outpatient treatment. Throughout the course of TEC, a young woman with an extensive history of suicide attempts, self-cutting, and multiple hospitalizations showed a marked decrease in pleasant responses to self-injury, an increase in pleasant responses to self-identity, and overall reduction in self-cutting, suicidal plans, and suicidal behaviors over time.

*Mood disorders.* The last two case illustrations highlight two distinct sets of treatment targets pertaining to a primary diagnosis of mood disorders. Jill Hooley and David Miklowitz (this issue) present a case of a depressed and anxious adolescent boy at high risk for bipolar disorder. The patient and his parents completed family-focused treatment for youth at high risk of bipolar disorder (FFT-HR) to target both the *patient's subjective experience of criticism (i.e., perceived criticism)* and *critical and negative interactions of the patient's caregivers*. Hooley and Miklowitz review the literature pointing to the profound impact of perceived criticism on the course of psychopathology and demonstrate a case in which a treatment such as FFT-HR decreases the patient's perceived criticism over time.

Finally, Simon Blackwell and Emily Holmes (this issue) highlight the emerging science around a lesser known yet compelling set of cognitive vulnerabilities, *impoverished positive mental imagery and interpretation*. They present a case in which they administered a positive imagery CBM with a woman who was currently depressed and had a 30-year-long history of recurrent depression. The woman underwent 6 weeks of this CBM intervention and showed marked improvement in the treatment targets and in clinical outcomes such as anhedonia and overall depressive symptoms. Blackwell and Holmes round out this issue by returning to a theme discussed in aforementioned contributions (e.g., Franklin et al.; Najmi & Amir; Narr & Teachman): the integration of clinical psychological science findings into brief, flexible, and cost-effective intervention tools for patients to self-administer. These tools can address barriers to treatment, enhance traditional treatments, or deliver resources to millions of people in underserved areas who have limited access to mental healthcare.

#### *Additional Considerations and Caveats*

We urge readers to consider the following caveats. First and most importantly, in writing and curating this issue we do not assume a unidirectional exchange between science and practice. In contrast to the traditional biomedical model of science informing practice, we return to our

forementioned point about mental illness being a complex phenomenon that draws in and often benefits from diverse perspectives. Clinical expertise offers a number of invaluable competencies in the areas of flexible delivery of treatment (e.g., framing of the intervention, maintaining a balance between treatment adherence and individual patient feedback); interpersonal relationship between the client and the psychologist (e.g., practicing cultural competence, promoting positive engagement in the therapeutic process, detecting barriers to fostering a therapeutic relationship); assessment (e.g., detecting additional psychological processes that may not otherwise be captured by a limited number of assessments); and evaluation and use of research evidence (Goodheart et al., 2006). Both research and clinical expertise are crucial to enhancing our understanding of psychopathology, informing the continued development of treatment, and enhancing dissemination efforts.

Second, some treatments featured here are new, recently introduced, and are still being tested. A common definition for a well-established, evidence-based treatment is that at least two RCTs show that the treatment outperforms a control condition in at least two independent efficacy trials (Chambless & Hollon, 1998). Several of the newest treatments featured (e.g., TEC, Unified Protocol) have been proven to be effective via initial RCTs, but await further RCT testing by researchers outside of the treatment developer team to meet Chambless and Hollon's criteria. Treatment developers themselves emphasize that despite promising initial results, much more work is needed in this area (e.g., Franklin et al., 2016). Importantly, however, all featured treatments have been compared to a control group beyond a waitlist condition.

Third, the current issue lacks cases of failed treatment, which can be just as if not more helpful than cases of success (Lilienfeld, 2007). There are many cases of failed treatment, as even some of the most accepted evidence-based treatments show remission rates below 50% (e.g., Cuijpers et al., 2014). Case illustrations have the opportunity to avoid the "file drawer effect" problem that exists with empirical studies, in that it has historically been nearly impossible (or extremely time consuming) to publish null findings. This is problematic for researchers as it creates a system in which a given field of research is not made aware of what not to further pursue. Applied here, published case illustrations of failed treatment may help avoid investing time and energy into therapies that do not help, or that can hurt clients.

Fourth, the present issue does not fully capture all of the new ways that clinical psychological science is approaching the complexities of mental illness. It is possible that traditional scientific methods (e.g., experiments) may not be able to pick up on all of the nuances required to understand and treat such complicated and multidetermined outcomes. Researchers have therefore begun to explore richer datasets and data analytic models (e.g., machine learning) to more comprehensively predict and ultimately treat clinical outcomes such as PTSD and suicide (Karstoft, Galatzer-Levy, Statnikov, Li, & Shalev, 2015; Kessler et al., 2016).

Fifth, the present issue does not exhaust all of the ways clinical psychological science lends itself to practice. We guide readers to similar and more extensive sets of case studies and commentaries (e.g., O'Donohue & Lilienfeld, 2013) and to the compelling yet underused approach of single case experimental designs (Barlow, Nock, & Hersen, 2009). Other areas of research that are relevant to practice test whether treatments work when implemented outside a sterile research setting (*effectiveness of treatment*; Weisz & Jensen, 1999); exactly how treatments work (*mechanisms of treatment change*; Kazdin, 2007; Ng & Weisz, 2016; Weisz, Ng, & Bearman, 2014); which groups benefit from certain treatments more than others (*moderators of treatment effects*; Kazdin, 2008); how to optimally prescribe and match interventions for a given individual (*personalized medicine*; DeRubeis et al., 2014); how treatments can be broken from a manualized mold to be more flexibly tailored to each client (*modularized treatment*; Chorpita & Weisz, 2009); and how to improve adoption and administration of effective treatments in clinical settings (*implementation science*; McHugh & Barlow, 2010). Beyond research initiatives, a key source to closing the scientist–practitioner gap is in training doctoral students, clinical trainees, interns, and postdoctoral fellows in ways that facilitate training in evidence-based practice and dissemination and implementation (Hershenberg, Drabick, & Vivian, 2012; Weisz et al., 2014).

Finally, the challenges of mental illness go far beyond the scientist–practitioner gap. The larger issue remains that a minority of individuals receive any form of treatment (Wang et al.,

2005). In analysis of the National Comorbidity Replication Survey, less than half of those with a diagnosed mental illness in the past year received any treatment, and of those who did receive some form of treatment, less than 30% saw a mental health professional (Wang et al., 2005). This concerning pattern of treatment delivery can be accounted for by additional considerations such as the stigma of mental illness, treatment cost, logistical barriers, and required training. To counter this, practicing and researching psychologists have organized implementation and dissemination efforts in recent years (Chambless & Ollendick, 2001; Weisz et al., 2014), and have begun to address global outreach to ensure that innovative and evidence-based treatments are delivered to underserved populations (Verdeli, 2016). These efforts, in addition to increased dialogue between researchers and practitioners, represent ways that all psychologists can return to the unified goal of addressing mental illness.

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