**Introduction to the Instructor’s Manual for**

***Process-Based CBT: The Science and Core Clinical Competencies of Cognitive Behavioral Therapy***

**by Emily Leeming, PhD**

**(with assistance from Steven C. Hayes and Stefan G. Hofmann)**

Welcome to the instructor’s manual for *Process-Based CBT: The Science and Core Clinical Competencies of Cognitive Behavioral Therapy.* This text is based on a simple but unconventional wisdom: if the test reflects the subject matter students are required to understand, then teaching to the test is an adequate instructional strategy. In other words, the aim of this text is to provide instructors and students with all the tools they will need to be successful in the course. There is little in this text that could be classified as strictly “for an instructor’s eyes only.” In fact, only the test bank is designated for the instructors of record. All other materials can be shared with students as the instructor sees fit.

The supplemental guides for each textbook chapter are presented in the following format: a brief description of the chapter author(s), a chapter summary, a study guide of key terms and definitions, a practice test, ideas for group activities, and a list of additional readings. Each of the supplemental learning categories was purposely chosen for their ability to facilitate learning.

In general, the most successful courses are built around two basic ideas. First, courses should be systematically predictable in their rollout. Courses that can produce clear and definite expectations are more likely to produce contingencies students can effectively respond to. Second, interactive participation is critical to learning. Loosely speaking, *learning* is defined as what an individual can do now (after the process of learning has occurred) that they could not do before (their behavior pre-learning). So, any assessment of learning should look to what students can do. This text is designed to aid instructors and students in doing things relevant to the learning material.

**What This Manual Contains**

The reference text for this course guide is a collaboration of experts in each chapter’s primary subject area. The content and academic rigor presented here cannot be denied. The **brief bio** component of the guide is designed to provide the reader with information on how the author or authors’ work relates and contributes to the science in each chapter. This is done to provide a broader context of the relevance for each chapter’s material and those who investigate it.

From there, we turn to the **chapter summaries**. This guide provides the instructor and student with the opportunity to access the lecture material prepared for each chapter. The chapter summaries are in no way completely comprehensive; they are not intended as a means of gaining information in an abbreviated timeframe. Instead, the chapter summaries are designed to highlight critical areas of the chapter in such a way that one can be directed to specific and fundamental sections of each chapter for more detail. However, understanding overall concepts can be a great challenge if underlying components are misunderstood or completely missed. So **key terms and definitions** are provided to students to help address this potential barrier to learning.

Many of the authors of *Process-Based CBT: The Science and Core Clinical Competencies of Cognitive Behavioral Therapy* were presented with the opportunity to discuss the benefits and necessary nature of assessment and progress monitoring. The remaining authors, if given the opportunity, would follow suit in support of these clinical tools. Hence the **practice tests** provided to students in this guide. These tests are designed to mimic the type of questions in the test bank but are not in the test bank itself. Students can use these practice exams as a means to assess their readiness for examination.

The intent in imparting knowledge to students is to equip them with the skills needed to apply that knowledge. Unfortunately, traditional education settings more often than not fall grossly short in providing students with practice opportunities for these skills. The assumption that knowledge automatically transfers to application can create a grossly disproportional ratio of knowledge to actual skill set. The **group activities** for each chapter in no way presumes to make up for this common deficit in practical training; however, they do aim to promote more interaction between student, instructor, and content. And the activities are designed in such a way that they can easily be implemented in a traditional classroom setting.

Multiple exposures can often help in the acquisition of complex and detailed subject matter. The chapters in this text are based on philosophical, theoretical or conceptual, and research-based work. Each chapter guide provides some of this work in the **additional reading** sections.

In addition to the chapter guides are **lecture slides**, in Powerpoint format. The slides distill key concepts from each chapter of *Process-Based CBT* and present them in a format you can edit and adjust to best fit your teaching needs and preferences.

Finally, we turn to the **test bank**, a summative instrument that is designed to help instructors assess students’ learning of critical components of the text.

As behavior scientists, we know that testing alone is not the best assessment of knowledge gained (and this manual reflects that body of work); however, it is a rite of passage, and while not sufficient in and of itself, testing is a time-honored tradition that is both useful and necessary in education. Essay questions, in particular, look at student’s ability to understand and relate information and concepts. As such, the answer guides for test questions, for both the practice tests and the test bank, do leave answers somewhat open-ended. The author of the guide knows that many students will have their own brilliant and relevant points to add to the essay/short answer components; thus, the key provides students the freedom to express these thoughts and still meet point criteria.

**In Conclusion**

At its best, academia is an adventure that is exciting, scary, challenging, brutal, fun, and awe-inspiring. We hope this text contributes to that adventurous journey. And we hope that it works to complement the reference text in a way that further inspires both instructors and students to inquire more deeply into the psychological sciences.

**Chapter 1:**

**Supplemental Guide for**

**“The History and Current Status of CBT as an Evidence-Based Therapy”**

**by Stefan G. Hofmann and Steven C. Hayes**

**Authors in Brief**

**Dr. Stefan Hofmann:** Stefan G. Hofmann, PhD, is a professor of psychology at Boston University, where he is also the director of the Psychotherapy and the Emotion Research Laboratory. He was born and raised in Germany and has been living in Boston, Massachusetts, USA, since 1996. Dr. Hofmann has authored more than 300 articles and 15 books, including *An Introduction to Modern CBT* (Wiley-Blackwell) and *Emotion in Therapy* (Guilford Press). He has been named a Highly Cited Researcher by Thomson Reuters. Dr. Hofmann’s research focuses on the mechanism of treatment change, translating discoveries from neuroscience into clinical applications, emotion regulation, and cultural expressions of psychopathology, especially anxiety disorders. Because of his expertise, he has served as an advisor in the DSM-5 Development Process and was a member of the DSM-5 Anxiety Disorder Sub-Work Group. He is the recipient of numerous awards, including the Association for Behavioral and Cognitive Therapy’s 2010 Outstanding Service award, the Aaron T. Beck Award for Excellence in Contributions to CBT by Assumption College, and the Aaron T. Beck Award for Significant and Enduring Contributions to the Field of Cognitive Therapy by the Academy of Cognitive Therapy. Dr. Hofmann is a fellow of the American Psychological Association and the Association for Psychological Science. He has served as president of numerous national and international professional societies, including the Association for Behavioral and Cognitive Therapies and the International Association for Cognitive Psychotherapy. He is presently editor-in-chief of *Cognitive Therapy and Research* and associate editor of *Clinical Psychological Science*. His research has been funded through generous research grants from private foundations of the National Institutes of Health. He lectures internationally, is a licensed psychologist, and is married with two children.

**Dr. Steven C. Hayes:** Steven C. Hayes is Foundation Professor in the department of psychology at the University of Nevada. He has authored dozens of books and over 575 scientific articles. Dr. Hayes’s career has focused on an analysis of the nature of human language and cognition and the application of this to the understanding and alleviation of human suffering. He is the developer of relational frame theory (RFT), and has guided its extension to acceptance and commitment therapy (ACT). ACT is a popular evidence-based form of psychotherapy which utilizes mindfulness, acceptance, and values-based methods. Dr. Hayes has been president of Division 25 of the APA, the American Association of Applied and Preventive Psychology, the Association for Behavioral and Cognitive Therapies, and the Association for Contextual Behavioral Science. He was the first Secretary-Treasurer of the Association for Psychological Science, which he helped form. He served a five-year term on the National Advisory Council on Drug Abuse in the National Institutes of Health. In 1992, he was listed by the Institute for Scientific Information as the 30th "highest impact" psychologist in the world and Google Scholar lists him among the top ~1,300 most cited scholars in all areas of study, living and dead. His work has been recognized by several awards, including the Exemplary Contributions to Basic Behavioral Research and Its Applications from Division 25 of the APA, the Impact of Science on Application award from the Society for the Advancement of Behavior Analysis, and the Lifetime Achievement Award from the Association for Behavioral and Cognitive Therapies.

**Chapter Summary**

In this chapter, Hofmann and Hayes discuss the history and current status of CBT and evidence-based therapy in general. Several key pivot points for the field are mentioned. This includes the Boulder conference in 1949, in which practice and research were recognized as equally important in clinical psychology training. As a result, clinical psychology was placed under a critical lens to evaluate its effectiveness. In 1952, Hans-Jürgen Eysenck evaluated the effectiveness of psychotherapy and concluded that time itself was as effective as psychotherapy at that period. This was a sobering and concerning conclusion for the field. In response to this finding, the journal *Behaviour Research and Therapy* was formed in 1965. The journal worked to rise to the challenge set by Eysenck’s work.

By 1969, Gordon Paul provided a question that would guide clinical research to not only answer Eysenck’s “Does psychotherapy work?” question, but also expand upon it: “What treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances, and how does it come about?” By 1977, the field of behavior and cognitive therapy had made massive gains. Smith and Glass (1977) conducted a state-of-affairs follow up to Eysenck’s work by running a meta-analysis of 375 studies. The results showed that psychotherapy was effective, but it left questions regarding which treatment was best open for further investigation.

Since 1977, massive gains have continued to occur in all areas of psychology; the research, assessment, treatment, and understanding of psychopathologies continues to improve. As a result of these advancements, a push for evidence-based practices has grown. In 1995, the Society of Clinical Psychology (Division 12 of the APA) created a Task Force on the Promotion and Dissemination of Psychological Procedures. This built the current list of “research-supported psychological treatments,” or RSPTs. Despite the well-planned mission of the Division 12 task force, this list has generated some concerns. These concerns include but are not limited to, the following: the use of treatment manuals can encourage mechanical, inflexible interventions that may cause a loss of creativity and innovation in therapy settings; and clinically researched treatments may not transfer to “real-life” situations.

In addition to these concerns was the widespread adoption of the biomedical model for understanding mental disorders. These types of models often overemphasize treatment of symptoms instead of considering the role of contextual factors and the function of human suffering in psychological distress. Such issues produced the present authors’ argument for the development of core processes in treatments and interventions. This, they contend, will lead the field into the future and make room for great progress. To move on this point, a thorough understanding of philosophy and theory will be needed in clinical training—which is the objective of *Process-Based CBT*.

**Key Terms and Definitions**

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| **Key Term or Phrase** | **Definition** |
| Inter-Organizational Task Force on Cognitive and Behavioral Psychology Doctoral Education | Task force charged with developing guidelines for integrating doctoral education and training in cognitive and behavioral psychology in the United States. |
| Association for Behavioral and Cognitive Therapies | Organizing entity that united many organizations to create the Inter-Organizational Task Force. |
| Boulder conference | Served to officially recognize that clinically psychology training should emphasize both practice and science of the profession. Took place in 1949. |
| Gordon Paul’s question | “What treatment, by whom, is the most effective for this individual with that specific problem, under which set of circumstances, and how does it come about?” |
| Society of Clinical Psychology (Division 12 of the APA) | Division of the APA whose mission is to encourage and support the integration of psychological science and practice in education, research, application, advocacy, and public policy, attending to the importance of diversity. |
| Task Force on Promotion and Dissemination of Psychological Procedures (1995) | Task force that aimed to develop a dynamic list of what is now referred to as “research-supported psychological treatments,” or RSPTs |
| Well-established treatments | One category of RSPT, defined by adherence to either the following criteria:   1. Supported by at least two between-group design experiments that show efficacy in one or more of the following ways:    * Statistically superior to pill, psychological placebo, or a different type of treatment    * Equivalent to an already established treatment in experiments with adequate sample sizes   Or the following:   1. A large series of single-case/within-subject design experiments (n>9) demonstrating efficacy and    * Use of good experimental design    * A comparison of the intervention to another treatment 2. Research must utilize a treatment manual. 3. Participant characteristics must be clearly and objectively specified. 4. Results must be supported and demonstrated by at least two different investigators or investigating teams. |
| Probably efficacious treatments | Another category of RSPT. For a treatment to qualify, one of the following three criterion must be met:   * Two experiments indicating the intervention to be superior (statistically significant) to a wait-list control * One or more experiments meeting well-established treatment criterion 1 or 2 along with criterion 3, and 4, but not 5 * A small grouping of single-case design experiments (n>3) otherwise meeting well-established treatment criteria 2, 3, and 4 |
| Experimental treatments | Treatments that have yet to show or meet well-established or probably efficacious treatment criteria. |
| *Diagnostic and Statistical Manual of Mental Disorders* (DSM) | A handbook used by health care professionals and seen as an authoritative guide in the diagnosis of mental disorders by the APA. |
| *International Statistical Classification of Diseases and Related Health Problems* (ICD) | A standardized diagnostic tool for epidemiology and health management, and for clinical application for diseases. |
| Biomedical model | A conceptual model that excludes psychological and social factors as contributing factors in illness and includes only biological factors as a means by which to understand a person’s illness or disorder. |
| Psychoanalytic theory | A theory of personality and the dynamics of personality development. |
| Genetic processes | Processes that contribute to the transmission of hereditary traits. |
| Biological processes | Processes vital for a living organism to operate; chemical reactions or other events involved in the life functions. |
| Psychological processes | Processes which typically involve the contribution of mental, physical, social and physiological activities and events. Sensation, perception, learning, memory, thinking, motivation, and emotion are commonly considered key psychological processes. |
| Developmental processes | The events that are critical to growing in maturity. |
| Mental disorder | A wide range of psychological conditions that impact health and life functioning. |
| Harmful dysfunction | A sociobiological definition of the term *mental disorder*, by which such disorders are considered “harmful” because of their negative consequences for a person, and a “dysfunction” because of the negative impact on one’s ability to perform natural function as designed by evolution. |
| Diathesis-stress model | A conceptual way of viewing behavior as occurring based on predisposed vulnerability in coordination with life experiences. |
| Initiating factors | Factors contributing to the development of a behavior. |
| Maintaining factors | Factors that are responsible for the maintenance of a behavior. |
| Functional analysis | An analysis that focuses on identifying the maintaining factors for currently occurring behaviors that are in need of change or modification. |
| National Institute of Mental Health (NIMH) | The lead federal agency for research on mental disorders. |
| Research Domain Criteria (RDoC) | A project spearheaded by NIMH to create a classification system that integrates biological and behavioral data rather than only relying on the clinical impression and subjective symptom report in identifying mental dysfunction and treatment. |
| Evidence-based medicine | The conscientious, explicit, judicious and reasonable use of decisions for intervention for patient care. |
| Evidence-based practice | The integration of clinical expertise, external scientific evidence, and client/patient and caregiver perspectives that work to provide the best possible services for clients. |

**Practice Test**

**Multiple Choice:**

1. How did the Boulder conference impact the training of clinical psychology?
   1. Made a decision that clinical psychology training should include the biomedical model and the psychoanalytic model of mental disorders.
   2. Indicated that clinical psychology training should focus on practical experience in the treatment of mental disorders.
   3. Indicated that all clinical psychologists should be mechanists.
   4. Officially recognized that clinical psychology training should emphasize both practice and the science of the field.
2. All of the following are examples of treatments recognized by the Division 12 of the APA as “empirically validated” except:
   1. Probably efficacious treatments
   2. Experimental treatments
   3. Proven treatments
   4. Well-established treatments
3. The DSM classifies mental disorders for diagnosis by:
   1. Presenting symptoms
   2. Behavioral function
   3. Environmental context
   4. Processes
4. A functional analysis looks at the \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ for target behavior.
   1. Initiating factors
   2. Maintaining factors
   3. Functional factors
   4. Biological factors
5. Version \_\_\_\_\_ of the DSM is the most current.
   1. 5
   2. 2
   3. 1
   4. 11
6. In order to move psychology into the future, \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ must be identified.
   1. Brain abnormalities
   2. Biochemical imbalances
   3. An individual’s dysfunctional history
   4. Core processes

**True/False:**

1. All disorders are equally responsive to CBT.
2. Early versions of the *DSM* and *ICD* were grounded in psychoanalytic theory.
3. CBT is generally more concerned about the initiating factors of mental disorders.

**Essay/Short Answer:**

1. Hans Eysenck, in his 1952 clinical review of the effectiveness of adult psychotherapies, revealed some sobering findings concerning clinical psychology during that time. What were these findings? Why were these findings concerning? And what call to action did these findings provide the clinical psychology field?
2. What is the criteria for a well-established treatment? Include both group and single-subject designs.
3. Discuss how the dichotomy between clinical research and clinical practice is in error.

*For the answer key to this practice test, see the end of this supplemental guide.*

**Group Activities**

1. *Ask the class to complete the following exercise:* Gordon Paul’s question for socially valid research is by no means simple, but it is critical for developing meaningful research with real-world implications. In groups of two, work together to create a research question that addresses all the components of Gordon Paul’s question. When complete, share with the class. *Or, if the class is large:* Share your question with three other groups.
2. *Lead the class in an “identify that model” exercise. This chapter discusses the biomedical, psychodynamic, and core-process-oriented models of clinical treatment and research. Generate a random list of statements, and have groups identify what category each statement belongs to: whether it is the biomedical, psychodynamic, or core-process-oriented model of research and practice.*
3. *Discuss with your class the real-world implications of the scientist-practitioner model. Identify at least three benefits and three deficits.*

**Additional Readings**

Paul, G. L. (1969). Behavior modification research: Design and tactics. In C. M. Franks (Ed.), *Behavior therapy: Appraisal and status* (29–62). New York: McGraw-Hill.

Raimy, C. (Ed.) (1950). *Training in clinical psychology*. Englewood Cliffs, NJ: Prentice Hall.

Society of Clinical Psychology. (2016). *Psychological treatments*. Retrieved from <http://www.div12.org/psychological-treatments/treatments/>.

Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies, *American Psychologist, 32*, 752–760.

**Answer Key for the Practice Test**

**Multiple Choice:**

1. **d**
2. **c**
3. **a**
4. **b**
5. **a**
6. **d**

**True/False:**

1. **False**
2. **True**
3. **False**

**Essay/Short Answer:**

1. **Answers should include at least the following points:**

* Eysenck discovered that though people often invested much time, effort, money, and other resources in psychotherapies, psychotherapy was no more effective than the simple passage of time.
* Time itself is not an intervention; it is a metric tool. If time is just as effective as psychotherapy it indicates that therapy is ineffective.
* Eysenck’s discovery was a call for practice and science to coordinate efforts so that advances, when found, could be identified by data, and advanced upon, and ineffective treatments could be abandoned.

1. **Answer should be compressive and include all five criterion areas and sub-areas.**

Supported by

1. At least two between-group design experiments that show efficacy in one or more of the following ways:

* Statistically superior to pill, psychological placebo, or a different type of treatment
* Equivalent to an already established treatment in experiments with adequate sample sizes

Or:

2. A large series of single-case/within-subject design experiments (n>9) demonstrating efficacy and

* Use of good experimental design
* A comparison of the intervention to another treatment

3. Research must utilize a treatment manual.

4. Participant characteristics must be clearly and objectively specified.

5. Results must be supported and demonstrated by at least two different investigators or investigating teams.

1. **Answer should include at least the following points:**

* A definition of the dichotomy, specifically: The dependence on treatment protocol and strategies has mostly ignored common and relevant factors that are primarily responsible for therapeutic change.
* In actuality, clinical researchers who develop empirically supported treatments consider these factors by examining various effects on outcomes.
* Thus, the impact of common factors varies from disorder to disorder, and while they are important, they are not sufficient in identifying functional relationships between intervention and treatment outcomes.
* This suggests that the theoretically coherent behavioral processes in CBT may account for some common factors.

**Chapter 2:**

**Supplemental Guide for**

**“The Philosophy of Science as It Applies to Clinical Psychology”**

**by Sean Hughes**

**Author in Brief**

**Dr. Sean Hughes:** Sean Hughes, PhD, is a postdoctoral researcher at Ghent University. He was born and raised in Ireland and has been living in Belgium for the last four years. Dr. Hughes has authored more than 30 articles and book chapters that mainly center on the study of evaluative learning, implicit cognition, and the role that rules and instructions play in psychopathology. His interests also extend to philosophy of science as well as the potential for communication and collaboration between scientists and clinicians who operate within different worldviews. His research has been supported by funding from the Irish and Belgian governments and has received positive press coverage in national and international media. Sean has delivered invited talks at international conferences and for audiences in Italy, the Netherlands, Ireland, and Japan. When not shackled to his computer, he can be found hiking or playing the guitar.

**Chapter Summary**

This chapter introduces the reader to the basics of philosophy of science, and in particular how it relates to the investigation and practices of clinical psychology. Philosophy of science serves a critical role within scientific enterprises. It provides a unifying foundation between scientific areas. And in this particular chapter, Hughes presents the case that the philosophy of science is also critical in providing a unifying foundation within the many fractions of inquiry that make up psychology.

Part one of the chapter discusses worldviews and their preanalytic components. In particular, Hughes discusses ontology, the philosophical term used to discuss the nature, origin, and structure of reality. Three ontological approaches relevant to psychology are presented: positivism, postpositivism, and constructivism. Epistemology, the theory of the acquisition and justification of knowledge, is then discussed. Third axiology, the relationship between knowledge and human values, is then layered in. Finally, methodology and its relation to the preceding topics is discussed.

Part two of the chapter, “Pepper’s Four Worldviews and Their Relation to Clinical Psychology,” discusses the implications of world perspectives on psychological progress and the unity within an enterprise. In particular, formism (which holds as its root metaphor the recurrence of recognizable patterns), organicism (which operates based on the root metaphor of the growing organism), mechanism (which utilizes the metaphor of the machine, meaning the parts that mediate between input and output), and contextualism (the root metaphor of which is the ongoing “act in context”) are discussed in relation to how they impact theory, methodology, data interpretation, and the application of therapy. Mechanism and contextualism are of particular importance to the cognitive behavioral wings of psychology.

Part three, “Selection, Evaluation, and Communication Among Worldviews,” concludes with a brief discussion of the evaluation and selection of a worldview. While conventional wisdom indicates that worldviews cannot coexist in harmony or without eclecticism, the present author and the volume’s editors make the point that if education is provided with regards to all worldviews, then arguments that stem from the application of criteria from one worldview to a different worldview may decrease, and an appreciation across perspectives that runs philosophically, theoretically, and practically could result in a more collaborative community.

**Key Terms and Definitions**

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| **Key Term or Phrase** | **Definition** |
| Philosophical worldview | The coherent set of interrelated assumptions that provide the preanalytic framework that sets the stage for scientific or therapeutic activity. |
| Ontology | The philosophical approach to the nature, origin, and structure of reality and “being.” |
| Epistemology | Theory of knowledge with specific regards to methods, validity, and scope. Concerned with the acquisition and justification of knowledge. |
| Axiology | The relationship between knowledge and human values. |
| Science | Broadly concerned with the development of a systematic body of knowledge that is tied to empirically derived evidence. Its system of knowledge is built with the intention of understanding and influencing “patterns of relations among phenomena and processes of the experienced world” (Lerner & Damon, 2006, P. 70). |
| Philosophy of science | The conceptual foundation upon which a systematic body of knowledge is built. It is concerned with the scientific enterprise itself. |
| Positivism | A reductionist and determinist perspective that often links to a belief in naïve realism. |
| Reductionism | The activity of analyzing and describing a complex event in terms of phenomena that represent a simpler and more fundamental representation. |
| Determinism | A doctrine that argues that all action (including human action) is determined by causes external to internal will. |
| Naïve realism | The idea that a discoverable reality exists that is governed by a system of natural laws and mechanisms. |
| Truth as correspondence | The idea that a statement is true only in how it relates to the world and if it accurately describes an event. |
| Postpositivism | Holds to “mind-independent reality,” but maintains that the world can only be imperfectly and probabilistically understood by humans. |
| Constructivism | Holds to a constructed reality: reality does not exist independently from our perception or our theories regarding it. Interactions with the social, experimental, historical, and cultural influence realities around us form the basis of our interpretation of reality, and thus it is malleable. |
| Dualism | The conceptual division of two opposed or contrasted ideas, events, or phenomena. |
| Dialectics | A process of investigating the truth of opinions, but more narrowly a process of finding unity inside the examination of opposing sides. |
| Formism | One of Pepper’s worldviews. Root metaphor: “recurrence of recognizable forms.” |
| Teleological | A philosophical view that describes events and phenomena in terms of their purpose, directive principle, or goal. |
| Mechanism | One of Pepper’s worldviews. Root metaphor: machine. |
| Organiscism | One of Pepper’s worldviews. Root metaphor: growing organism. |
| Contextualism | One of Pepper’s worldviews. Root metaphor: the historical, purposive, situated act-in-context. |

**Practice Test**

**Multiple Choice:**

1. All the following are fundamental components of a worldview except:
   1. Ontology
   2. Anthropology
   3. Epistemology
   4. Axiology
2. Postpositivism asserts that reality can be understood by humans in which ways?
   1. Imperfectly and probabilistically
   2. In its true form/as it really is
   3. Subjectively and contextually
   4. Only as we perceive/experience it
3. “How certain are we that we have accumulated knowledge?” is what type of question?
   1. Epistemological
   2. Ontology
   3. Axiology
   4. Constructivism
4. “Truth” or “validity” criteria for formists is based on:
   1. Truth by agreement
   2. Pragmatism
   3. Realism
   4. Correspondence
5. Mechanism most closely aligns with which of the following:
   1. Postpositivism
   2. Positivism
   3. Constructivism
   4. Reductionism

**True/False:**

1. Not just any methodology will suffice when conducting research to identify knowledge inside of a specific worldview.
2. A worldview is a coherent set of analytic assumptions that facilitates scientific investigation.
3. Constructivism argues that there is no absolute truth about the reality of the world.
4. Postpositivism is transactional and subjective.
5. Pepper articulates four primary worldviews.
6. The root metaphor for mechanism is the act in context.

**Essay/Short Answer:**

1. Philosophy of science serves what purpose for clinical psychology?
2. How are the methodology requirements of positivists, postpositivists, and conceptualists different?
3. Provide an example of a contextual approach to a clinical event, and provide a second explanation of the same event from a mechanistic perspective.

*For the answer key to this practice test, see the end of this supplemental guide.*

**Group Activities**

1. *Lead the class in a “match the worldview with the real-world event” exercise.* *Have students, at random, pick a worldview and an event or phenomenon (fire, solving a math problem, writing a novel, swimming, etc.) and work in groups of at least two to explain the phenomenon they picked from that philosophical perspective.*

**Additional Readings**

Dougher, M. J. (1995). A bigger picture: Cause and cognition in relation to differing scientific frameworks. *Journal of Behavior Therapy and Experimental Psychiatry*, *26*, 215–219.

Hayes, S. C., Hayes, L. J., & Reese, H. W. (1988). Finding the philosophical core: A review of Stephen C. Pepper’s world hypotheses: A study in evidence. *Journal of the Experimental Analysis of Behavior*, *50*, 97–111.

Lerner, R. M., & Damon, W. E. (2006). *Handbook of child psychology* (Vol. 1, Theoretical models of human development, 6th ed). Hoboken, NJ: Wiley.

Pepper, S. C. (1942). *World hypotheses: A study in evidence*. Berkeley: University of California Press.

**Answer Key for the Practice Test**

**Multiple Choice:**

1. **b**
2. **a**
3. **a**
4. **c**
5. **b**

**True/False:**

1. True
2. False
3. True
4. False
5. False
6. True
7. False

**Essay/Short Answer:**

1. **Answers should include a discussion of at least the following points:**

* The philosophy of science provides a unifying foundation between sciences.
* It can provide unity and clarity within clinical psychology.
  + It helps provide distinction in theory and data interpretation across levels of analysis and understanding in basic assumptions.

2. **Answers should include a discussion of at least the following points:**

* Positivists take an experimental and manipulative stance.
* Postpositivists are similar in their approach to their predecessors but require replication/critical multiples.
* For conceptualists, all matter is reliant upon the researcher’s experience, subject to interpretation.

3. **Answers should include a discussion of at least the following points:**

* This question aims to look at your ability to relate and distinguish two concepts.
* Your example from a contextual perspective should discuss multiple sources of influence (for example, events that are not temporally constricted).
* Your example from a mechanical perspective should discuss an *a priori* explanation (for example, events would be very dependent on temporal effects).

**Chapter 3:**

**Supplemental Guide for**

**“Science in Practice”**

**by Kelly Koerner**

**Author in Brief**

**Dr. Kelly Koerner:** Kelly Koerner, PhD, serves as CEO and Creative Director of the Evidence-Based Practice Institute, a social enterprise that helps practitioners

learn and use evidence-based mental health care practices. She does this by melding scientific values, teaching methodological design and social entrepreneurship skills—all while developing highly collaborative, technology-based tools to disseminate evidence-based practices. Her experience includes extensive practical experience in supporting individuals and systems as they learn, implement, and sustain evidence-based practices in diverse settings and educational backgrounds (e.g., from paraprofessionals working in juvenile justice facilities to master’s-level counselors working in community mental health and substance abuse treatment centers to research therapists working on academic clinical trials). She maintains an active research program and is clinical faculty at the University of Washington.

**Chapter Summary**

The central theme of this chapter could be summarized with the line “implementing evidence-based practice (EBP) in clinical work is not as easy as it first appears.” Applying EBP, in an ideal world, involves getting access to the relevant evidence, discussing it with the client, and then implementing the chosen treatment. However, there are two sources of complication: (1) finding and appraising the evidence relevant to clinical decisions, and (2) exercising sound clinical judgment. In this chapter, Koerner discusses the challenges inherent in implementing EBP with clients and concludes with ways clinicians can systematically work to ensure that the most effective and evidence-based procedures are provided to clients.

The rate at which we can access information today far surpasses that of any generation before us. However, the process of getting the most accurate and effective information, even from experts, can be disillusioning. As a result, most decisions therapists make are based on clinical judgment—which is notorious for bias and error. Koerner uses the dual processing theory to illustrate the difficulty of identifying the best clinical intervention. In conclusion, the reader is presented with an argument for systematic environmental manipulation to ensure that the practice implemented works to identify the best course of action and client response to treatment. In essence, Koerner is arguing that therapists’ work be research based and outcome oriented.

There are three steps, Koerner maintains, by which practitioners should look to produce a therapeutic environment that works to ensure effective outcomes: (1) standardize the use of progress monitoring; (2) start with a standardized protocol for the client’s main problem; and (3) use explicit case formulation to specify how evidence-based treatment targets will be addressed.

**Key Terms and Definitions**

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| **Key Term or Phrase** | **Definition** |
| Evidence-based practice (EBP) | “The integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA, 2006). |
| RCT | Randomized controlled trial; a study design that randomly assigns participants into an experimental and control group and studies the difference between the groups as the key variable. |
| Meta-analysis | Statistical procedure for combining data from multiple studies. |
| Nonrandomized trials | Investigations that follow groups of people over time; they examine associations between different interventions and outcomes. |
| Case series | Research that tracks a subject’s course of treatment. |
| Qualitative research | Considered exploratory research. Provides insight to problems but does not evaluate the effects of interventions per se. |
| Dual processing theory | Holds that there are two ways to process info:   * A fast, associative, low-effort mode using heuristic shortcuts and reaching good-enough solutions * A slower, rule-based mode that relies on high-effort systematic reasoning |
| Narrow framing | Binary “do/don’t do” framing; opposed to a framing such as “What are the ways I could make X better?” |
| Confirmation bias | The practice of pretending we want “truth” when all we want is reassurance. |
| Short term emotion | When we “churn” but the facts don’t change. |
| Overconfidence | When we think we know more about how things in the future will unfold than we actually do. |
| Wicked environments | Environments low in validity. |
| Kind environments | Improved conditions in routine practice settings that support learning the relationship between clinical judgment, intervention, and outcomes. |
| Scientific literacy | Specialized knowledge related to probability and chance; the tools to think scientifically and the propensity to do so; tendency to exhaustively examine possibilities; tendency to avoid “my-side” thinking; knowledge of some rules of formal and informal reasoning; and good argument evaluation skills. |
| Progress monitoring | The practice of tracking clinical progress and outcomes. Regularly collecting data on a client’s functioning and quality of life and change regarding the client’s problems and symptoms. |
| Patient-reported outcomes | A method for tracking clinical progress and outcomes. |
| Measurement-based care | A method for tracking client progress and outcomes. |
| Practice-based evidence | A method for tracking clinical progress and outcomes. |
| Transdiagnostic | A descriptor for EBPs that apply the same underlying treatment principles across presenting problems without reliance on a specific protocol. |
| Modular components | Components of an EBP that can be applied to settings and clients that don’t match the EBP’s typical use. |

**Practice Test**

**Multiple Choice:**

1. EBP stands for:
   1. Evaluation bias protection
   2. Evidence-based practice
   3. Elementary block principle
   4. Effective basic principle
2. System 1 of the dual processing theory evaluates and makes decisions on information based on:
   1. Heuristic, good-enough solutions
   2. Clinical evidence
   3. Personal experience
   4. Informed reasoning
3. All of the following are progress-monitoring tools except:
   1. Patient reported outcomes
   2. Practice based evidence
   3. Post-hoc case summary
   4. Measurement-based care
4. Modular components are a part of:
   1. Evidence-based protocols
   2. The identified dysfunctional areas of a client’s life
   3. The areas of function the client needs to attain
   4. Goals for treatment
5. Clinicians should target a client’s \_\_\_\_\_\_\_\_\_\_ problem first.
   1. Least severe
   2. Most severe
   3. Direct dysfunctions in the brain
   4. None of the above. All problems should be targeted at the same time.

**True/False:**

1. Observation studies are considered the top of the hierarchy for identifying the best EBP available for a specific problem.
2. Kind environments are low in validity.
3. In using progress monitoring, a clinician should adopt heuristic rules about how to track and guide client interventions.
4. When available, utilize EBPs for the client’s top problem first.

**Essay/Short Answer:**

1. According to Kahneman and Klein, what environmental factors must be in place to create excellent and expert decision-making?
2. According to Kahneman, Klein, and Hogarth, what is a kind environment?

*For the answer key to this practice test, see the end of this supplemental guide.*

**Group Activities**

1. *Lead the class in a case conceptualization and PICO table exercise. Provide at least three different case conceptualizations and have the students work in groups to create their own versions of the visual diagram in figure 1 from the chapter for each one. Have them share and discuss their results with the class.*

**Additional Readings**

APA. (2006). APA Presidential Task Force on Evidence-Based Practice. *American Psychologist*, *61*, 271–285.

Kahneman, D. (2011). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.

Kahneman, D., & Klein, G. (2009). Conditions for intuitive expertise: A failure to disagree. *American Psychologist, 64*, 515–526.

Hogarth, R. M. (2001). *Educating intuition*. Chicago: University of Chicago Press.

**Answer Key for the Practice Test**

**Multiple Choice:**

1. **b**
2. **a**
3. **c**
4. **a**
5. **b**

**True/False:**

1. False
2. False
3. True
4. True

**Essay/Short Answer:**

1. **Answers should include at the least the following points:**

* The environment itself is characterized by stable relationships between objectively identifiable cues and subsequent events or between cues and the outcomes of possible actions (i.e., it is a high-validity environment).
* There are opportunities to learn the rules of the environment.

1. **Answers should include at least the following points:**

* Intentional environmental construction that allows for routine practice settings to support learning the relationship between clinical judgment, intervention, and outcomes.
* Requires scientific literacy on the part of the practitioner.