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The Scientific Truth Continuum: A New Model for Determining Best Practices in Counseling

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Introduction

Evidence-based practice in counseling and psychotherapy is evolving from previous paradigms that considered randomized controlled trials to be the gold standard of research evidence. The field is reconsidering the veracity of various forms of research. This theoretical article proposes a new model for evaluating best practices in counseling and psychotherapy, termed the “scientific truth continuum.” Implications are discussed, including the need for best practice decisions to be informed by longitudinal studies and meta-analysis.

Counseling exists in the age of accountability. Over the past 15 years, research into counseling and psychotherapy has sought to identify the most effective approaches and to delineate best practices based upon supposed objective truths. Unfortunately, one of the most common goals of research into counseling and psychotherapy outcomes has consistently been to claim superiority for one specific approach. This competition between schools of counseling and psychotherapy culminated in a 1995 Task Force of the American Psychological Association (APA) creating a list of *evidence-based treatments* (EBTs), also known as “empirically validated” and “empirically supported” treatments. The Council for Accreditation of Counseling and Related Educational Programs (CACREP) now requires that trainee counselors in Addictions Counseling, Clinical Mental Health Counseling, and Marriage, Couple, and Family Counseling demonstrate knowledge of “evidence-based treatments” (CACREP, 2009, Standard I.3). In recent years, efforts have been made to broaden the scope of what is considered a best practice in counseling and psychotherapy. The field is moving toward a paradigm of evaluating best practices based upon three specific elements: research evidence, clinical expertise, and client context (APA, 2006). The latter element includes the client’s “characteristics, culture, values, and preferences” (p. 276).

Scientific Philosophies of Counseling and Psychotherapy

It could be argued that attempts to demonstrate the superiority of one approach over another originated from different scientific philosophies. Freud's grand theory of psychoanalysis was developed in the Victorian-era of mentalism. Behaviorists such as Skinner later decried the attention given to private events, claiming that science should attend to what can be observed. This philosophical approach is called positivism, which has developed into post-positivism (Phillips & Burbules, 2000). Post-positivism is the current paradigm for how best practices are determined in counseling and psychotherapy. As discussed later, the current popularity of post-positivism helps to explain why the majority of evidence-based treatments are behavioral/cognitive-behavioral. Humanism, the third school of counseling and psychotherapy, developed from the philosophical underpinnings of phenomenology. This scientific philosophy posits that the subjective individual experience is central to understanding objective reality. The person-centered, existential, and gestalt theoretical counseling approaches derived from this philosophy. In recent years, a fourth approach to counseling and psychotherapy has emerged, based upon a postmodern or constructivist philosophy. This approach contends that human meaning is constructed, and thus social/cultural phenomena are not objective truths. It rejects the modernist assumption that there is one singular, correct way of being (Hansen, 2010). Narrative, feminist, and multicultural counseling approaches are based upon this philosophy.

Recent trends within the field have included the consideration of pragmatism as a valid philosophical alternative to post-positivism, phenomenology, and constructivism. Pragmatism is based on *contingency theory* (Johnson & Onwuegbuzie, 2004), meaning that each philosophy is considered superior under different circumstances. In other words, all philosophical positions have merit, and must be matched appropriately to the contextual situation. This integrative and pluralistic framework developed from the pragmatic need to use what works for a particular situation, rather than merely limit intervention to dogmatic/purist approaches. The APA's (2006) current definition of evidence-based practice included the consideration of client context when making best-practice decisions; thus, the present definition of evidence-based practice in counseling and psychotherapy can be considered pragmatic.

The emergence of pragmatism and the integration of philosophical approaches can also be seen within the research community. The two major schools of research had been previously grounded in antithetical philosophies of post-positivism (quantitative) and constructivism (qualitative). A third paradigm has emerged within the past few decades, called mixed methods, which rejects the polarity of quantitative/qualitative research (Creswell & Plano Clark, 2011). Mixed methods research is grounded in pragmatism; the best research design is considered to be the one that best fits the research question being asked. While a fuller discussion of mixed methods research is beyond the scope of this paper, mixed methods inquiry weaves both strands of quantitative and qualitative procedures and methodology within different stages and/or phases of research. Thus, a movement exists within the field toward an integrative and pragmatic approach to conducting and evaluating research.

Current Trends in Delineating Best Practices

Currently, the field of counseling and psychotherapy evaluates best practices based upon positivist assumptions about scientific truth. In 1995, the APA was concerned that psychotherapy was considered a second-line of treatment to psychiatric medications (LaRoche & Christopher, 2009). Randomized controlled trials (RCTs) were determined to be the pinnacle of research evidence in an attempt to compare psychotherapy outcomes with psychiatric medications, and establish respect for psychological treatments within the medical community since RCTs are the standard research design used in drug trials. This is problematic because other valid psychotherapy approaches are grounded in philosophies that are incompatible with positivism. By identifying RCTs as the gold standard of research evidence, the APA essentially championed positivism at the expense of other scientific philosophies (LaRoche & Christopher, 2009). For example, humanistic counseling/psychotherapy has not been considered a best practice, although a meta-analysis of 47 studies comprising 190 research tests found a moderate effect for the Rogerian definition of empathy on successful counseling/ psychotherapy outcome (Bohart, Elliott, Greenberg, & Watson, 2002). Humanistic therapies have not been classified as EBTs because they do not focus on symptom remission (fundamental to post-positivism), and do not require a predetermined treatment or uniform approach. In short, Rogerian counseling does not readily measure concrete and behavioral outcomes that are currently favored within a post-positivist paradigm.

Humanism's incompatibility with positivism is not unique. The fourth major counseling philosophy of constructivism/multiculturalism has criticized the EBT movement for failing to adequately represent different minority groups in RCT samples (Comas-Diaz, 2006; Sue & Zane, 2006). To some, this misrepresentation of cultural minority groups re-enforces the values of the dominant culture. Further, the positivist approach to symptom reduction is antithetical to the constructivist philosophy. To illustrate this, imagine that a gay client seeks counseling for subjectively experienced life dissatisfaction. The therapist may diagnose anxiety, utilize a manualized form of EBT, and achieve reduction in anxiety symptoms upon termination of counseling. In EBT terms, an effective outcome was reached. However, what if the client's life dissatisfaction did not improve? What if the client's main concern was discrimination? Does this still constitute a positive outcome? From this example, it is apparent that counselors who place high value on multicultural competence will experience conflict while operating within the reductionist paradigm of EBT (Wilcoxon, Magnuson, & Norem, 2008).

While some attempt has since been made to rectify the orthodoxy of the drug model of research evaluation (e.g., APA, 2006), the positivist model remains the central mode for creating practice guidelines and recommendations. It is time for the counseling profession to consider a more integrative philosophical model for determining best practices.

The Scientific Truth Continuum

Figure 1 shows a new model for conceptualizing scientific truth, in the form of a Venn diagram. Truth can be understood to exist upon a valueless continuum, representing a progression from personal/subjective to universal/objective. It is vital to explain that while the continuum contains polarities, neither polarity is considered more truthful than

the other. As such, the types merely represent different forms of scientific truth. This is important, because historically the value of objective truth has been considered greater than the value of subjective truth. In this continuum, neither polarity has an associated value. As described below, each type of scientific truth has different strengths and weaknesses depending on its pragmatic context.

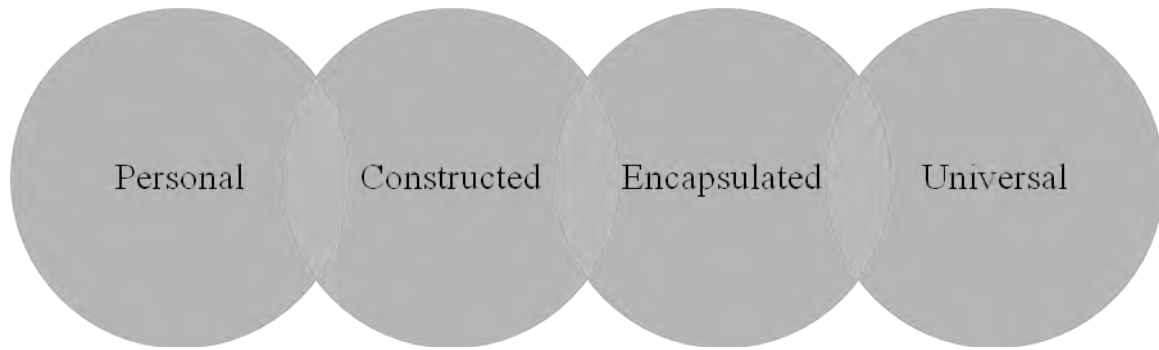


Figure 1. The scientific truth continuum.

Personal Truth

Personal truth is comprised of an individual's unique experiences and interpretations of events. Traditionally considered subjective phenomenology, this form of scientific truth has been described most fully in humanist philosophies. Examples of these personal truths include individual accounts of an event, such as near death experiences, and small group interpretations of an event such as the World Trade Center attacks. Common topics in counseling include subjective accounts of being a client or therapist. A limitation of personal truth is that data specific to one person or a small group of people cannot be reliably generalized to the population. This is because personal truth is phenomenological, and individual experiences are expected to be unique and distinct. Qualitative methodology is usually the most appropriate research method for inquiring into personal truth, such as interviews or case studies. While not an objective form of truth, personal truth is important to consider during counseling interventions. Incorporating personal truths into case conceptualization and treatment planning allows for individual client experiences to be respected and validated.

Constructed Truth

Whereas personal truth refers to individual phenomenological interpretation of events, constructed truth can be defined as the shared meaning and constructs between groups of people. Constructed truth derives from constructivist/postmodern philosophy, although diverges from its philosophical roots in one important way. In the scientific truth continuum model, social and cultural constructs are considered forms of "truth," which is antithetical to formal constructivist philosophy. Constructed truth includes public rituals like funerals and political elections. It includes social customs and conventions, such as shaking hands as a sign of formal greeting, and religious practices and doctrine. It includes ethical guidelines, degree requirements, and the legal system. It

also includes private or psychological constructs such as stereotypes, sex-role socialization, and racism. The most important component of constructed truth is that it exists for social/cultural reasons, and was created by humans. While some degree of controversy may arise from religion's assignment as a constructed truth, it must be noted that this designation applies only to human practices and doctrines, not specifically to spiritual experiences (which would be considered personal truth) or the existence of a supernatural being. It is the human construct of religious practice that is understood to be constructed truth.

The most common research method for constructed truth is the analysis of current cultural artifacts, such as laws, media information (e.g., television/radio broadcasts), advertising, or religious doctrines. An example of research that qualifies as constructed truth is the ACA's Ethics Revision Task Force that is considering changes to the ACA Code of Ethics (Rollins, 2011). Research into personal events such as interviews with individuals who have experienced racism or homophobia are considered to be personal truths unless a concerted effort is made to analyze social/cultural data. While this form of truth is more generalizable than personal truth, it is heavily dependent upon context. Different understandings of the same phenomena may occur in different countries, or among different cultural groups. Considering the client's constructed truth is vital in counseling, since humans typically exist within specific socio-cultural environments that influence thoughts, feelings, and behavior. The counseling profession emphasizes the importance of cultural competence when providing counseling services (e.g., American Counseling Association [ACA], 2005, sections A.2.c., E.5.b., E.6.c., and E.8.). The client's socio-cultural background should inform case conceptualization and treatment planning.

Encapsulated Truth

Encapsulated truth is grounded in positivist philosophy. Put simply, this form of scientific inquiry seeks to collect and analyze observable data. The goal of this research is typically to make inferences about the population at large. This universal quality is one of the reasons why positivism considers itself to be a form of objective truth. However, all research findings are limited due to a variety of factors, such as temporality, sampling error, and socio-cultural differences. For example, it is possible that the results from an older experiment may not be replicated if the experiment was conducted again, due to psychological changes in the population. It is very possible that Eysenck's conclusion in 1952 that psychotherapy did not produce superior results to spontaneous remission was actually correct *for that era*; Luborsky, Singer, and Luborsky's (1976) later meta-analysis, which validated the effectiveness of psychotherapy, may have reflected a change in public expectancy or public openness to the effects of psychotherapy compared to 25 years earlier. There is a good reason why survey studies are frequently repeated, since data tend to fluctuate from one year to another. Encapsulated truth frequently employs quantitative methodology, such as experiments (both single subject and RCTs), psychological test administrations, and survey designs. Furthermore, research findings from one population (e.g., the United States) may not be generalizable to different populations in different countries (Pedersen, 2003). While all forms of truth can be understood to be somewhat encapsulated, but this form of truth is especially so because data is usually collected and measured during one discrete moment in time.

To reduce the influence of temporal factors and encapsulation, other research methods could be prioritized that provide more accurate results about the long-term effectiveness of counseling interventions. One of the main limitations of typical research into counseling and psychotherapy outcomes is the short time span in which the research is conducted. Most counseling and psychotherapy research is conducted within 15 to 20 sessions, usually lasting approximately 15 to 20 weeks. Even when follow-up appointments are conducted, they rarely last beyond one year post-treatment. This lack of temporal validity causes a bias toward short-term outcomes being favored over long-term outcomes and may misrepresent the true effects of certain counseling/psychotherapy interventions. Westen, Novotny, and Thompson-Brenner (2004) found that most EBTs leave clients symptomatic upon termination, and vulnerable to relapse within two years. A best practices approach to counseling needs to consider the sustainability of any changes that occur during the course of counseling. This could be measured and analyzed via longitudinal studies. Currently, these are fairly sparse in the literature because of the increased costs associated with maintaining a study over a prolonged period of time.

The true gold standard for experimental research should be meta-analysis, which evaluates outcomes by comparing effects between multiple experimental studies. Meta-analysis reduces the potential temporal bias found in single experimental studies. While still reliant upon post-positivist philosophy, this approach is more successful in adequately assessing the objectivity of findings. In the scientific truth continuum, research findings from meta-analyses lie close to the right side of the encapsulated truth category, and closer to the shaded area in the Venn diagram representing the shared information between encapsulated and universal truth. While one cannot consider the findings of meta-analysis to be true universal truths (findings remain reliant on time, even if the time span/range is greater than single studies), one could argue that they provide more objective information than single studies. Thus, meta-analysis should be the preferred methodology when determining the importance of encapsulated research findings.

Counselors must consider forms of encapsulated truth when conceptualizing cases and administering counseling interventions because encapsulated truth provides counselors with important information from research findings that may be relevant to the client's situation. For example, recent meta-analyses have revealed that the therapeutic alliance accounts for seven times more variance than any particular technique (Orlinsky, Rønnestad & Willutzski, 2004), and is the only factor that seems to differentiate therapists (Anker, Duncan, & Sparks, 2009; Baldwin, Wampold, & Immel, 2007). Another example of how encapsulated truth can be incorporated during counseling interventions is the consideration of psychological testing results during case conceptualization and treatment planning. Ignoring this important information would be negligent; although limited by time, recent findings may be relevant to the presenting situation.

Universal Truth

Universal truth is less influenced by temporal variables. Most data in this category resembles scientific laws or principles. Examples of universal truth include the effect of gravity on human behavior (i.e., humans cannot fly without mechanical aids), immutable laws of human behavior (e.g., reinforcement shapes behavior), and certain kinds of

biological data (e.g., humans need oxygen to live). Unlike the other forms of scientific truth, universal truth is exceedingly rare in the social sciences. This is because most forms of human experience tend to vary between individuals or groups, and are rarely consistently uniform throughout time. The difference between encapsulated and universal truth can be understood as a distinction in consistency. For example, mean IQ scores on intelligence tests have been found to vary across time and between cultural groups (Brooks-Gunn, Klebanov, & Duncan, 1996; Morse, 1993). Even in the harder sciences, some individual differences in genetics and biological makeup preclude certain findings from being considered universal. For example, results from drug trials are encapsulated truths because different medications or dosages affect people differently, based upon their biology. One cannot state that a psychiatric drug “works for everybody.” The same could be said for counseling and psychotherapy, which certainly does not appear to work for everybody. This can be contrasted with the body’s need for oxygen; it is not possible for any human to survive without it. Even some biological data cannot be considered universal truths, such as developmental milestones; it is possible for these values in the population to vary over time.

Counselors must consider universal truths when planning interventions. Universal truth provides consistent information about human behavior, and while not individualized, can be recruited by counselors to ensure that clients receive appropriate services. For example, counselors should always reinforce positive changes that the client has made.

Discussion

Best practices are delineated from supposed universal truths. Most of these supposed universal truths derived from inferences about the population based on findings from a sample selected during a discrete period in time. It is clear from the above model that such research findings are usually encapsulated truths and can vary over time and between different groups/ populations. This has specific ramifications for the current environment of best practices in counseling and psychotherapy. The 2009 CACREP Standards require that students are knowledgeable of EBTs, which are interventions primarily designated as best practices by a few select experiments rather than meta-analyses. For a psychological treatment to be classified as an EBT, only two RCTs are required that show superiority over placebo or equivalence with another EBT (Task Force on Promotion and Dissemination of Psychological Procedures, 1995) despite the placement of meta-analysis as the pinnacle of research evidence on the APA’s research hierarchy. In fact, if Division 12 of the APA re-constructed their list of EBTs to exclude any treatments that lacked meta-analytic support, it would be a short list indeed; meta-analyses have consistently found that different counseling approaches have equivalent outcomes when compared with similar bona-fide treatments and not placebos. In other words, the method of psychotherapy does not appear to significantly influence client outcomes (Luborsky et al., 1976; Robinson, Berman, & Neimeyer, 1990; Shapiro & Shapiro, 1982; Smith & Glass, 1977; Wampold, Minami, Baskin, & Tierney, 2002; Wampold et al., 1997). Considering this information, it appears that best practices have been unfairly designated in recent history. Clearly, another approach is needed to delineate best practices.

Toward An Integrative Scientific Approach

The field is moving toward an integrative model for evaluating best practices. For example, the APA re-defined evidence-based practice as incorporating research evidence, clinical expertise, and client context (APA, 2006). Taken one step further, it is proposed that a best practice approach to counseling should consider integrating all four elements of scientific truth: personal, constructed, encapsulated, and universal. Personal, meaning the counselor must seek to understand the client's own perspective and phenomenology. Constructed, meaning the counselor must be aware of socio-cultural contextual factors involved in the case, and be aware of how societal constructs may influence the client and the counseling relationship. Encapsulated, meaning that the counselor must be familiar with previous research evidence from the positivist paradigm that suggests certain ingredients strongly influence counseling outcomes, such as the therapeutic alliance. Finally, the counselor must consider universal truths such as scientific laws and principles of behavior. For example, counselors should always strive to reinforce positive gains by the client. This integrative approach is therefore both a paradigm for evaluating best practices in counseling, and a specific intervention approach whereby the counselor considers all forms of scientific truth in their practice. This approach is more inclusive than previous best practices approaches such as the EBT movement, which only required counselors to follow treatment manuals in a reductionist manner.

Conclusion

Counseling is both a complicated art and a messy science. A large number of variables appear to be affecting outcomes (Wampold et al., 1997). Extratherapeutic factors, such as client variables and events that occur outside of the therapy room, seem to account for the vast proportion (87%) of the variability in outcomes. Other common factors/ingredients that affect counseling outcomes (e.g., the therapeutic alliance, the personality of the counselor, expectancy/allegiance) tend to be inter-related and difficult to separate from each other (Wampold et al., 1997). Counseling is a difficult activity to quantify, and efforts to delineate specific counseling interventions as superior treatments have been successful, if unwarranted. It is time to consider research evidence from longitudinal data regarding the sustainability of outcomes, and supplant single RCTs with meta-analysis as the gold standard of objective findings. It is also time to embrace the different forms of scientific truth in research, and not solely base best practice decisions upon post-positivist philosophy. A best practices approach to counseling and psychotherapy needs to include all four elements of the scientific truth continuum (personal, constructed, encapsulated, and universal). The current definition of evidence-based practice by the APA (2006) reflects this need for pragmatism when considering how to best serve clients. Awareness and consideration for research findings from all four scientific truths leads to a more holistic and global understanding of case conceptualization, and a more balanced approach to treatment planning.

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