10-2009

Values in Qualitative and Quantitative Research

Maureen Duffy
Barry University, mwhelehan@gmail.com

Ronald J. Chenail
Nova Southeastern University, ronaldchenail@gmail.com

Values in Qualitative and Quantitative Research

Maureen Duffy and Ronald J. Chenail

The authors identify the philosophical underpinnings and value-ladenness of major research paradigms. They argue that useful and meaningful research findings for counseling can be generated from both qualitative and quantitative research methodologies, provided that the researcher has an appreciation of the importance of philosophical coherence in working within a particular research tradition. Moreover, the authors recognize that the research world is one of methodological pluralism; they discuss particular critical values central to conducting research and evaluating research findings. Finally, the authors demonstrate that there is not a 1-to-1 correspondence between a research method and the research paradigm.

Although quantitative research has dominated the research conducted in counseling and other helping professions, there is increasing recognition of the importance of qualitative research and its fit with the values of the counseling profession, in general (Ponterotto, 2005), and evidence-based practice, in particular (McLeod, 2000; Rowland & Goss, 2000). Berrios and Lucca (2006) reported that in a content analysis of four major professional counseling journals published between 1997 and 2002, qualitative research articles represented one sixth of all articles published in the journals studied. Berrios and Lucca also called for increased awareness and training in qualitative research methods. In this article, we identify important unprovable philosophical assumptions underlying major research paradigms and demonstrate how useful research findings can be derived from multiple paradigms as long as the counselor researcher conducts the research and presents the findings in a philosophically congruent way. We also emphasize the value-ladenness of all research paradigms and methodologies. It is tempting to think that learning how to conduct and appreciate research in counseling and other human sciences follows a linear, step-by-step pattern. Of course, it does not, and the complexities of conducting and understanding qualitative and quantitative research involve an array of philosophical and methodological concepts, activities, choices, and consequences.

In the midst of the call for more qualitative research because it fits with the values of both the counseling profession and counseling professionals, Ponterotto (2005) warned that although more counseling professionals are beginning to use qualitative research methods, "some are doing so without a firm grasp of the philosophical anchors undergirding many approaches to qualitative inquiry. It is important that researchers understand well the philosophy of science parameters anchoring their work" (p. 127). This concern

Maureen Duffy, Department of Counseling, Barry University; Ronald J. Chenail, Department of Family Therapy, Nova Southeastern University. Correspondence concerning this article should be addressed to Maureen Duffy, 501 Grand Concourse, Miami Shores, FL 33138 (e-mail: mwhelehan@gmail.com).

may become even greater as more counseling researchers use a "generic" qualitative research methodology (i.e., one without a well-established epistemological and theoretical foundation) to conduct their studies instead of using a "brand name" methodology, such as ethnography or phenomenology, which do have well-established theoretical and epistemological foundations (Chenail, 2005).

Learning the basics of any research approach is necessary but insufficient if the researcher is to understand the underlying philosophies and values reflected by the method and by the paradigm within which the method is situated. No value-free research method exists, and counseling researchers can contribute best to their profession and to their clients if they have a full appreciation of the values embedded within their selected research methods and the paradigms connected to them. Research methods are connected to research paradigms, and, as Kuhn (1970) pointed out, paradigms are developed to govern what questions may be appropriately asked. In order to ask many kinds of questions, researchers need to understand many kinds of paradigms. Kuhn also emphasized that multiple paradigms, with very different epistemological and value-laden foundations, may coexist simultaneously, sometimes comfortably, but more often uneasily. The coexistence of research paradigms to which Kuhn refers suggests that paradigm development, and, by inference, philosophical development, often occurs in a discontinuous rather than a chronologically linear way.

Research Paradigms and Their Value-Based Components

Encapsulated within any particular research design or methodology is a whole view of the world that contains a belief about how the world is defined and who people are (ontology), how the world is known and understood and how people come to believe in the ideas that they hold as important (epistemology), what procedures or strategies should be used to learn about people and the world (methodology), and what values or ethical principles should be adhered to in conducting our research (axiology). All research paradigms and designs are ultimately based on philosophical notions that cannot be proven or disproven; they can only be accepted or rejected. As Crotty (1998) stated, "Justification of our choice and particular use of methodology and methods is something that reaches into the assumptions about reality that we bring to our work. To ask about these assumptions is to ask about our theoretical perspective" (p. 2). The worldviews associated with particular research approaches contain philosophical and methodological beliefs and practices that may vary strikingly from one to the other; in fact, they may be incongruent with each other. These encompassing worldviews, best known as paradigms, organize how people see the world and act within it.

Whether it is made explicit or not, every research design contains a set of values about its ontology, epistemology, methodology, and axiology, and

reflects a particular worldview or paradigm. For this article, we define *values* as preferred ways of understanding and being in the world. It can be difficult to make the intellectual shift from understanding research as cut-and-dried sets of procedures to understanding research as a process of raising important philosophical questions that cannot be addressed in a narrow cookbook fashion (Slife, Williams, & Barlow, 2001). This is especially the case for quantitative research, which is rooted in the empiricist or positivist paradigm wherein philosophical underpinnings, assumptions, and values are not explicitly articulated. In the case of experimental research (an example of a positivist paradigm research design), conducted using rigorous scientific procedures, there are multiple, interwoven values that are rarely, if ever, discussed in the study. Although these values are assumed and taken for granted, they are values or preferences for particular beliefs nonetheless.

An Example of Values in Quantitative Experimental Research

Given that philosophical values in positivist designs are the most likely to be unaddressed in the research literature, we use experimental research to illustrate the values that are present throughout the experimental research process. Experimental research designs have an ontological foundation that is based on the assumption that the world exists independently "out there" and that individuals can learn about the world by studying it using the scientific method. No one can actually "prove" that the world exists in a form that is largely independent of humans; the individual simply chooses to either accept or not accept that notion.

Experimental research designs contain implicit epistemological values that require the researcher to remain as separate and detached as possible from the research participants in order to limit any possible researcher bias. Additionally, only findings that are the result of rigorous application of the scientific method and that preferably have been confirmed through replication of the study are accepted as reliable or trustworthy. Establishing such rigorous conditions for the acceptance of experimental research findings as knowledge is value-laden, as is, for example, the acceptance of intuitive or spiritual knowledge by those working from different epistemologies. The epistemological stance of an experimental researcher and a mystic could not be further apart.

The experimental researcher can only consider as knowledge evidence that has been obtained from a rigorous scientific study, whereas the mystic considers as knowledge evidence obtained from a direct transcendent experience with the divine. Could someone be both an experimental researcher and a mystic? Most certainly. However, his or her knowledge claims as experimental researcher and mystic would not typically be presented in the same forum. That is not to say that an experimental researcher could not study mystical phenomena or that mystics could not dialogue usefully with experimental

researchers. In fact, serious efforts to bring together values from the world of science and values from the world of spirituality have taken place and have been led, for example, by researchers who are interested in studying the nature of consciousness (Varela, 1997; Varela, Thompson, & Rosch, 1997).

The invariable methodological value or preference for experimental researchers is the scientific method. This methodological value in experimental designs includes identifying units of study and using control and treatment groups. The treatment group receives an intervention whereas the control group does not. Participants or subjects are randomly assigned to each group; after the intervention is completed, the outcomes for each group are systematically measured and statistically analyzed and compared.

From an axiological perspective, the values and research ethics guiding the experimental study are (a) adherence to the rigorous procedures required in an experimental design; (b) researcher detachment and impartiality, as much as possible, to avoid undue influence over the research participants or subjects; (c) careful analysis of the data; (d) presentation of the findings without overstating their significance so that policy changes are not made lightly; and (e) disclosure of methodological and analytic procedures so that the study can be replicated by other experimental researchers. The ontological, epistemological, methodological, and axiological values or preferences in this example were those embedded in a study using a quantitative research experimental design. If we had selected a grounded theory study, an emancipatory research study, a narrative research study, or a phenomenological study (all nonquantitative research designs) as an illustration, the researcher's values or preferences would have been quite different from those held by the experimental researcher in the example that we used.

Every research approach or design contains an implicit set of values that guide how the researcher understands the nature of reality and defines what constitutes knowledge, selects a research question, sets up the procedures for gathering and analyzing the information collected, interacts with the research participants or subjects, and determines the quality and usefulness of the research findings. In no case is there a research approach that is value free or value neutral, in spite of the confusing and long-standing emphasis on the importance of objectivity.

Research Paradigms and Qualitative and Quantitative Research

Counseling and other human science research have been organized in a variety of ways. One way of organizing research is according to the *perspectival approach* (Guba & Lincoln, 1998; Paul, Graffam, & Fowler, 2005) wherein various methods of research are classified on the basis of their philosophical and methodological underpinnings. The perspectival approach to classifying kinds of research is particularly useful for uncovering the hidden values that

shape all research. Table 1 provides an introduction to a variety of research approaches, with a focus on their underlying core values and philosophies. What is critical in reviewing this table is an understanding that specific research designs do not necessarily correspond in a one-to-one way with particular overarching research paradigms. For example, grounded theory is a qualitative research design that can be conducted within both postpositivist (Strauss & Corbin, 1990) and constructivist (Charmaz, 2000) paradigms.

Creswell (2004) also classified research by distinguishing between quantitative and qualitative research. A commonly used but not entirely accurate distinction between the two is that quantitative research translates human experiences into numbers, and qualitative research translates human experiences into words. In fact, quantitative and qualitative research both require some manipulation of numbers and interpretation of language. Moreover, the traditional "false dichotomies" between the two methodological families, wherein qualitative research is depicted as the naturalistic, subjective, inductive, nonnumeric inquiry of the real world and quantitative research is characterized as the artificial, objective, deductive, numeric inquiry of the laboratory, have been questioned or at least have been thrown into a state of useful confusion (Bavelas, 1995). Moving beyond the false dichotomies perspective helps researchers to see that quantitative and qualitative research both rely on empirical data and both answer scientific questions, albeit different kinds of scientific questions. By challenging oversimplified distinctions between quantitative and qualitative research, counseling researchers can appreciate how qualitative research conducted outside of the positivist paradigm is able to address certain kinds of questions that cannot adequately be answered by positivist quantitative research designs (Elliott, Fischer, & Rennie, 1999).

What Should Lead—Research Questions or Research Methods and Paradigms?

Whether research questions or research methods and paradigms should be the primary focus in counseling research is a critical issue. Researchers have methodological and paradigmatic allegiances that may interfere with their ability to expand their knowledge about what counselors do because such allegiances may impose limits on the kinds of questions a researcher may ask. Like a metaphor, a research paradigm provides both openings and closings. It opens up frameworks for investigating certain kinds of questions and problems and closes down possibilities for investigating others.

We reviewed recent issues of the *Journal of Counseling & Development* to identify the kinds of research questions being asked, the methods and paradigms associated with those questions, and how those questions imposed both opportunities and limitations. For example, Bogar and Hulse-Killacky (2006) used a qualitative phenomenological approach to study the determinants and processes of resilience among adult female survivors of childhood sexual abuse. Among the research questions they asked was "Would you

TABLE 1

Research Designs, Values, and Philosophies

Research Perspective	Ontology	Epistemology	Methodology	Axiology	Possible Research Design
			Postpositivism		
The term *postpositivism* does not refer primarily to a scientific phase after positivism, but refers, more important, to the acceptance of the impossibility of pure objectivity. Pure positivism is not included in this chart because it is a theoretical rather than practical paradigm. Very few, if any, serious researchers hold the position that pure objectivity is attainable.	Modified realist. The world is theoretically knowable as it is but cannot be directly apprehended because of the influence of the researcher. Acknowledgment that pure objectivity does not exist; therefore, research findings are subject to review and scrutiny by peers in the scientific community. The world of quantum science posits a world of change that is brought into being and is influenced by the observation of the researcher. This is a world that is very different from the stable world of Newtonian science.	In Newtonian science, researcher and subject are separate from each other. The researcher makes every effort to reduce researcher bias and introduction of other variables in order to keep the findings as valid as possible. In quantum science, the influence of the researcher on what is being studied is already acknowledged. Knowledge is tentative and subject to disconfirmation. Only knowledge that has been derived from the application of rigorous, scientific methods is deemed reliable. Findings that stand the test of replication are more reliable.	Scientific method and qualitative methods that include systematic, rigorous procedures for gathering and analyzing data. Procedures for establishing trustworthiness must always be incorporated into research. Findings must be arrived at cautiously and must take into account the possibility of alternative, competing explanations for the same phenomena.	Reduce researcher bias as much as possible. Disclose researcher assumptions and conflicts of interest. Make decisions and changes very carefully based on the evidence from the research. Best practices are evidence-based. Must be willing to subject methods and findings to peer review. Findings always subject to change based on new evidence.	1. Experimental, quasi-experimental, and ex post facto designs 2. Correlational designs 3. Survey research 4. Grounded theory 5. Ethnography 6. Action research 7. Narrative research 8. Oral and life histories 9. Consensual qualitative research

(Continued on next page)

TABLE 1 (*Continued*)

Research Designs, Values, and Philosophies

Research Perspective	Ontology	Epistemology	Methodology	Axiology	Possible Research Design
			Critical theory		
Critical theory is probably best associated with the Frankfurt School (University of Frankfurt, Germany, in the 1920s) and its ideas that inequality, power differences, and social injustices were the primary influences in people's everyday experiences.	Modified realist acknowledging the impossibility of pure objectivity. Emphasis is on the reality of the structures of power, culture, class, race, and gender that shape human experience within society.	The researcher collaborates with the participants or coresearchers as they are more commonly referred to in critical theory. This collaboration results in the production of knowledge that is both theoretically sensitive and pragmatic in that knowledge provides a blueprint for liberating and transformative change.	Critical theory methodologies are participatory, dialogical, and interrogatory. They are designed to identify, examine, and reveal inequities and other societal characteristics that keep people constrained and oppressed.	Values are center and forward in critical research and are utilized to effect positive, transformative change in people's lives. Research is a tool that serves change and the reduction of oppressive social circumstances. Research should be about change.	1. Emancipatory research 2. Participatory research 3. Action research 4. Feminist research 5. Marxist research 6. Freirian research 7. Liberation research

(Continued on next page)

TABLE 1 (*Continued*)

Research Designs, Values, and Philosophies

Research Perspective	Ontology	Epistemology	Methodology	Axiology	Possible Research Design
			Constructivism/constructionism		
The descriptions in this section include both constructivism, which focuses on the individual's building up and making sense of the world through interaction with it, and constructionism, which focuses on the building up of knowledge within a social or cultural milieu through the medium of language.	Relativistic. Distinction between the subject and object, the knower and the known, is collapsed. Knowledge is reflexive meaning; it turns back on the knower and says as much about the knower as it does about what is known. In constructivism, reality is composed of multiple mental or cognitive maps that provide a basis for meaning. In constructionism, knowledge is coconstructed within relationship through language. Reality is composed of multiple "truth" communities that are built up through the interaction of people within the social world in and through language.	Knowledge is not a thing-in-itself, but rather provides a blueprint for human adaptation and movement through the world. It also provides maps of meaning that individuals graft on to their experiential worlds (constructivism). Knowledge is relativistic but not totally so, because truth inheres in community and it is the community that cocreates its own knowledges through the primary vehicle of language (constructionism). There are as many different knowledges as there are communities of knowers or individuals with differing cognitive maps.	The researcher's focus is on how people make sense of their experiences and how they generate meanings about their own lives and their worlds. The research process is interrogatory and dialogical.	Everything is ethical. What is said and what is not said are of ethical import. All research decisions and actions are ethically laden because they influence each other and, hence, reality. The researcher is continuously called upon to reflect upon his or her own situatedness or value stance and to include a description of that stance in the research report.	1. Reflexive forms of research 2. Auto-ethnography 3. Critical ethnography 4. Narrative research 5. Consensual qualitative research 6. Participatory research 7. Action research 8. Grounded theory

(Continued on next page)

TABLE 1 (*Continued*)

Research Designs, Values, and Philosophies

Research Perspective	Ontology	Epistemology	Methodology	Axiology	Possible Research Design
			Interpretivism		
Interpretivism is a paradigm for conducting inquiry focusing on how people make meaning out of their lived, everyday experiences of being embodied subjects in the world. This meaning making includes how people make sense out of who they are, what they do and experience, and what happens to them in the course of their lives.	Subjectivist. Reality is the meaning or consciousness resulting from the embodied engagement of a person in the world. Language is a central part of the construction and conveyance of meaning.	The distinction between the knower and that which is known is collapsed. To understand reality or to produce knowledge, one must have a lived experience of an event or phenomenon. There can be no abstracted knowledge of the social world. All knowledge emerges from lived experience or what is known as the life world.	Research is an iterative, recursive process of engaging with people and/or texts and/or people understood as texts and inquiring into the processes of meaning making.	Values are central to the experience and processes of meaning making. The researcher must identify and account for or bracket his or her values, assumptions, and biases. No experience of the life world is value free for either the researcher or participant.	1. Phenomenological research 2. Hermeneutic research 3. Aesthetic research 4. Reflexive forms of research

please briefly describe how the effects of your experience of childhood sexual abuse are affecting you now, if at all, and please briefly tell me about some of the positive things you have going on in your life right now?" (Bogar & Hulse-Killacky, 2006, p. 320). The phenomenological method and its associated interpretivist/phenomenological paradigm allowed for depth of personal expression, emotionality, immediacy, and richness of detail in the collection of data. The first author/interviewer described her use of active listening skills and personal judgment about when to deviate from the interview protocol. The research process was personal, intense, and immediate.

In another study, Ashby, Rice, and Martin (2006) conducted a sophisticated quantitative correlational study in which they replicated an earlier study (Rice, Ashby, & Slaney, 1998) that examined the relationship between perfectionism, shame, and depressive symptoms. The 215 research participants completed five pencil-and-paper instruments that measured the constructs perfectionism, shame, and depression. The statistical techniques of regression and path analysis were used to analyze the data; the results confirmed findings from previous research, suggesting that maladaptive perfectionism is related both to the mediating variable of shame and to depressive symptoms.

In the two previously discussed studies, very different kinds of research questions were asked. In the first study, Bogar and Hulse-Killacky (2006) wanted to determine if and how past childhood trauma had affected adult women's current beliefs and behavior. They also wanted to understand what had helped the women to cope with serious past trauma so that they could lead satisfying, productive adult lives. Using a phenomenological/interpretive method and paradigm, the researchers sought (a) deeply personal and richly detailed subjective and experiential or lived-experience knowledge, (b) knowledge that was not based on an a priori or existing hypothesis (they were open to whatever the participants had to say about their experiences of surviving childhood sexual abuse), and (c) knowledge that emerged within the conversational domain in which the researcher/interviewer was a critical actor who influenced the development of knowledge through her presence and engagement with the research participants. It is important that (in order to be open to discover new and possibly unforeseen aspects of the participants' experiences) the researchers deliberately avoided being influenced by a widely held belief in the mental health field that childhood sexual abuse invariably leads to problematic adult lives.

Learning more about how women who have experienced childhood sexual abuse and who go on to lead effective adult lives is important for counselors and the profession. The depth of personal, experiential, descriptive knowledge obtained through this study could not have been obtained through a quantitative method in the postpositivist paradigm. Certainly, other kinds of useful knowledge about adult survivors could have been obtained through an ex post facto or correlational design, but not this kind of deeply personal, richly described knowledge. As Munhall (2001) stated, "the research paradigm and tradition will specify the domain of study, the

legitimate modes, and the methods of inquiry open to a researcher within a discipline" (p. 45).

Ashby et al. (2006) focused on an important question for the counseling profession, namely, how the construct of perfectionism is related to shame and depression. In the study, they wanted to replicate and, therefore, confirm or disconfirm the findings from previously developed research models that have demonstrated a relationship between perfectionism, shame, and depression. Using a correlational design and a statistical regression and path analysis, Ashby et al. (a) retested a hypothesis that had already been confirmed in previous research; (b) teased out the role of a mediating variable, in this case, shame, in order to better understand the connection between perfectionism and depression; and (c) attempted to establish a reliable basis upon which to predict that perfectionism and shame can lead to depression.

In academic and job settings in which high-stakes testing and high levels of competition for job promotion and advancement are pervasive, understanding how perfectionism and shame might contribute to depression can be very useful knowledge that has important clinical and wellness/prevention implications. Generalization and abstraction of knowledge from one study to a larger population are goals and values within the postpositivist paradigm; thus, the knowledge derived from Ashby et al.'s (2006) study on perfectionism, shame, and depression provides an abstracted, generalized conceptualization of the strength of relationship between important variables that *could* affect people with maladaptive perfectionism. This knowledge supports the underlying assumptions and values of postpositivism, namely, that the goal of science is a precise, accurate explanation of phenomena that are applicable to many people in many contexts. This is very different from the thick description of deeply personal experience generated by the phenomenological study on resilience among survivors of childhood sexual abuse (see Bogar & Hulse-Killacky, 2006).

From our point of view, the following positions seem to be the most defensible when considering counseling and related research.

1. Useful and meaningful knowledge can be generated from within multiple paradigms and multiple research traditions and research designs.
2. All research paradigms and traditions have critical, underlying, "unprovable" philosophies and values about the nature of reality, knowledge, method, and what is important in conducting research.
3. There is no one-to-one correspondence between a research method and a research paradigm. In some instances, the same research method may be situated within different research paradigms, resulting in a very different understanding and applicability of the research findings.

4. Both quantitative research and qualitative research are scientific approaches to inquiry and rely on empirical data and can provide the basis for evidence-based conceptualization and practice.
5. It is important for both researchers and consumers of research to be able to critically appreciate the philosophical, ethical, and methodological differences among varied research methods and paradigms.

We believe that for individuals in counseling and related professions, understanding the philosophies and values embedded within research methods and paradigms has significant ethical import because of the way knowledge derived from research is used to inform daily practice and general mental health and educational policy.

Values in Conducting Research and in Presenting and Evaluating Research Findings

There are clear values that can be used to help counseling researchers ethically conduct research and present their findings and that can also be used by clinical consumers of counseling research in evaluating the importance of the research they read and study. These values are fidelity; openness and transparency; care for the research participants; competence; beneficence; and statistical, practical, and clinical significance. The values of fidelity, competence, and beneficence are values already strongly rooted in Western moral philosophy. The values of care for the other can be traced to Carol Gilligan's (1982) important work on an ethic of care, and to the work of others, such as Noddings (2005), who clearly used caring as a central perspective in evaluating research in the human sciences. Openness and transparency are values that the qualitative research tradition has increasingly emphasized over the last decade (Bamberger & Schön, 1991; Constas, 1992). Finally, significance in research can no longer be understood only as statistical significance, but also must include what is understood in qualitative research as pragmatics or practical significance, specifically, that the research findings are important, are useful, and can be meaningfully applied in other clinical situations. In addressing other issues of research significance, Thompson (2002) added clinical significance and described it as the kind of significance clinicians need to help them make critical, differential decisions regarding diagnostic and treatment considerations.

We propose that all research projects should provide evidence that the values of fidelity; openness and transparency; care for the research participants; competence; beneficence; and statistical, practical, and clinical significance should be demonstrated; in addition, researchers in counseling and related fields have an obligation to clearly address these values in each stage of the research process. The following questions and discussion can provide a template that consumers of counseling research can use to evaluate the concordance of a research project with the values that we suggest are critical.

Fidelity

Is the research method faithful to the research question, its associated worldview or paradigm, and its requisite procedures? Is the research question or purpose clearly stated? Is there a meaningful rationale and justification for the research study? Are the procedures for collecting and analyzing data clearly articulated, and is there evidence that they have been followed? Are the findings reliable and trustworthy?

Openness and Transparency

Is there detailed disclosure of the steps followed by the researcher in conducting the study and generating findings? Have critical decision points in the research design and analysis process been revealed and discussed? Has the researcher's context been shared so that questions of conflicts of interest and commitment can be addressed?

Care for the Research Participants

Is there evidence that the researcher has sought approval from an institutional review board and that procedures for protecting human participants have been followed. Evaluating the informed consent to participate in the research project and evaluating the descriptions of recruitment procedures are key areas for assessing whether care and concern for the research participant have been adequately addressed. In addition, is there evidence that the research participants have been respected; protected from harm; and, where indicated by the research design, included in the procedures for establishing trustworthiness of the study? Have the research participants' anonymity or confidentiality been protected?

Competence

Does the researcher have the necessary training credentials to conduct research according to the research design or tradition selected? Does the researcher have a thorough understanding of the methods of data collection, analysis, procedures, and self-reflection for establishing trustworthiness that are used in the study? Are the limitations of the research design and findings clearly articulated and discussed? Whether researchers understand the meaning and uses of tests of statistical significance, one element of competence to conduct quantitative research, has come under particular scrutiny (e.g., Mittag & Thompson, 2000) and will be discussed in more detail later in this article.

Beneficence

Has the purpose of the research study been clearly articulated? Are the researchers clear about who benefits from the research study? Is the research

likely to make a useful or meaningful contribution to the counseling or related mental health fields? Are the research findings likely to be useful for counselors and/or their clients? Is the researcher careful to avoid overstating the clinical, educational, and/or policy implications of the research? Have the research findings been presented in a way that is understandable by most counseling practitioners so that the findings can be comprehended and applied in clinical counseling settings?

Bangert and Baumberger (2005) found that much of the membership of the American Counseling Association would be unable to understand the complexity of the research designs and statistical analyses used in many of the research studies published in the *Journal of Counseling & Development*. Their conclusion is provocative and raises the question, "For whom is the research being published—the practicing counselor who can use it to help clients or the academic researcher who can use the publication to gain rank and tenure?" Neither outcome is negative, but from the perspective of the value of beneficence or what actions provide for the greater good, providing useful information to counselors in a clear and understandable way that helps them to help clients better seems, clearly, to be the more desirable outcome.

Statistical, Practical, and Clinical Significance

Because statistical significance is such an important determinant of the value of quantitative research findings, does the researcher understand the meaning, appropriate uses, and limitations of the tests of statistical significance that are used in the study? Does the researcher fully understand what the statistical tests of significance used reveal about the variables under study and the meaning of the conclusions? There is a long and important history of both empirical research and commentary in the counseling field suggesting that researchers do not understand the purpose and limitations of the statistical tests they have used in their research (Mittag & Thompson, 2000; Nelson, Rosenthal, & Rosnow, 1986; Thompson, 2002; Zuckerman, Hodgins, Zuckerman, & Rosenthal, 1993).

In terms of practical significance, are the research findings useful and applicable in clinical and/or policy settings? The determination of practical significance is ultimately made by the stakeholders of the research and not exclusively by the researcher. Clinical significance is related to practical significance but is a more narrow understanding of significance that is related to how helpful and how useful the research findings are for clinicians. For example, counselors working with boys who have been diagnosed with a conduct disorder can make important level of care treatment decisions on the basis of the research of Enebrink, Andershed, and Langstrom (2005), which suggested that boys presenting with lack of empathy, lack of emotionality, and callousness had more severe and more aggressive symptoms of conduct disorder than did boys diagnosed with conduct disorder but who did not present with such symptoms.

In addition, some researchers (e.g., Barlow & Hersen, 1984) have suggested that in clinical experimental research, the single-case experimental design may have much to offer insofar as the design provides a built-in baseline data collection period and subsequent treatment period. This research design is particularly useful for counselors who wish to introduce experimental research into their practices but who also want to be able to focus on the clinical significance of the changes while retaining the opportunity to complete statistical analysis of more subtle differences in behavior over time. The single-case design can eliminate a number of the problems associated with group research and the use of poorly understood statistical tests while allowing the counseling researcher to focus most on the significance of observable clinical change.

Practical and clinical significance have historically been important issues in qualitative counseling research, encouraging counselors to gather data about (a) their own clinical practices and decision making, about the processes and outcomes of counseling supervision and (b) the effectiveness in real-life settings of their clinical counseling work. Qualitative counseling researchers have typically used qualitative data to assess their own effectiveness in order to identify areas of needed clinical improvement, to assess the outcome effectiveness of the treatment modalities they have used, and to evaluate the usefulness and effectiveness of the counseling supervision they have received.

Implications for Counseling Research

In this article, we have suggested that a careful consideration of the values present in the conduct of both qualitative and quantitative research can lead counseling researchers and practitioners to find value in the contributions of both families of research methodologies. In making these claims, we are not necessarily advocating a postmodern situation wherein every methodology can be used effectively within every epistemological posture and research question and that all findings are equally useful for all counselors.

In contrast, we are suggesting that when considering a methodologically pluralistic world where counseling research can be conducted from postpositivist, critical theory, constructionist/interpretivist, and other postmodern paradigms, counseling researchers should work to maintain a sense of philosophical coherence throughout the conduct of their studies and in the presentation of their findings. We also advocate that counselors and clients endeavor to maintain a stance of critical consumerism as they read, review, and apply research findings to their practices and lives. In such a world, the research products of qualitative and quantitative counseling researchers can become the value-added ingredients that counselors and clients deserve and have been expecting.

References

Ashby, J. S., Rice, K. G., & Martin, J. L. (2006). Perfectionism, shame, and depressive symptoms. *Journal of Counseling & Development, 84*, 148–156.

Bamberger, J., & Schön, D. A. (1991). Learning as reflective conversation with materials. In F. Steier (Ed.), *Research and reflexivity* (pp. 186–209). London: Sage.
Bangert, A. W., & Baumberger, J. P. (2005). Research and statistical techniques used in the *Journal of Counseling & Development*: 1990–2001. *Journal of Counseling & Development, 83*, 480–487.
Barlow, D. H., & Hersen, M. (1984). *Single case experimental designs: Strategies for studying behavior change* (2nd ed.). New York: Pergamon Press.
Bavelas, J. B. (1995). Quantitative versus qualitative? In W. Leeds-Hurwitz (Ed.), *Social approaches to communication* (pp. 49–62). New York: Guilford Press.
Berrios, R., & Lucca, N. (2006). Qualitative methodology in counseling research: Recent contributions and challenges for a new century. *Journal of Counseling & Development, 84*, 174–186.
Bogar, C. B., & Hulse-Killacky, D. (2006). Resiliency determinants and resiliency processes among female adult survivors of childhood sexual abuse. *Journal of Counseling & Development, 84*, 318–327.
Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 509–535). Thousand Oaks, CA: Sage.
Chenail, R. (2005). Future directions for qualitative methods. In D. H. Sprenkle & F. Piercy (Eds.), *Research methods in family therapy* (2nd ed., pp. 191–208). New York: Guilford Press.
Constas, M. (1992). Qualitative analysis as a public event: The documentation of category development procedures. *American Educational Research Journal, 29*, 256–266.
Creswell, J. W. (2004). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London: Sage.
Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British Journal of Clinical Psychology, 38*, 215–229.
Enebrink, P., Andershed, H., & Langstrom, N. (2005). Callous-unemotional traits are associated with clinical severity in referred boys with conduct problems. *Nordic Journal of Psychiatry, 6*, 431–440.
Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
Guba, E. G., & Lincoln, Y. S. (1998). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The landscape of qualitative research: Theories and issues* (pp. 195–220). Thousand Oaks, CA: Sage.
Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: University of Chicago Press.
McLeod, J. (2000). The contribution of qualitative research to evidence-based counselling and psychotherapy. In N. Rowland & S. Goss (Eds.), *Evidence-based counselling and psychological therapies: Research and applications* (pp. 112–126). London: Routledge.
Mittag, K. C., & Thompson, B. (2000). A national survey of AERA members' perceptions of statistical significance tests and other statistical issues. *Educational Researcher, 29,* 21–27.
Munhall, P. L. (2001). Epistemology in nursing. In P. L. Munhall (Ed.), *Nursing research: A qualitative perspective* (3rd ed., pp. 37–64). Boston: Jones & Bartlett.
Nelson, N., Rosenthal, R., & Rosnow, R. L. (1986). Interpretation of significance levels and effect sizes by psychological researchers. *American Psychologist, 41,* 1299–1301.
Noddings, N. (2005). Perspective 2: Pragmatism. In J. L. Paul (Ed.), *Introduction to the philosophies of research and criticism in education and the social sciences* (pp. 57–60). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.
Paul, J. L., Graffam, B., & Fowler, K. (2005). Perspectivism and critique of research: An overview. In J. L. Paul (Ed.), *Introduction to the philosophies of research and criticism in education and the social sciences* (pp. 43–48). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.
Ponterotto, J. G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and the philosophy of science. *Journal of Counseling Psychology, 52,* 126–136.
Rice, K., Ashby, J., & Slaney, R. (1998). Self-esteem as a mediator between perfectionism and depression: A structural equations analysis. *Journal of Counseling Psychology, 35*, 304–314.

Rowland, N., & Goss, S. (Eds.). (2000). *Evidence-based counselling and psychological therapies: Research and applications*. London: Routledge.
Slife, B. S., Williams, R. N., & Barlow, S. H. (2001). *Critical issues in psychotherapy: Translating new ideas into practice*. Thousand Oaks, CA: Sage.
Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Thousand Oaks, CA: Sage.
Thompson, B. (2002). "Statistical," "practical," and "clinical": How many kinds of significance do counselors need to consider? *Journal of Counseling & Development*, *80*, 64–72.
Varela, F. J. (Ed.). (1997). *Sleeping, dreaming, and dying: An exploration of consciousness with the Dalai Lama*. Boston: Wisdom.
Varela, F. J., Thompson, E., & Rosch, E. (1997). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.
Zuckerman, M., Hodgins, H. S., Zuckerman, A., & Rosenthal, R. (1993). Contemporary issues in the analysis of data: A survey of 551 psychologists. *Psychological Science*, *4*, 49–53.