Theory Building and Paradigms: A Primer on the Nuances of Theory Construction

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Abstract

This study examines the definitions of theory and the implications axiomatic presuppositions have on theory-building research. Theory-building is important because it provides a framework for analysis, facilitates the efficient development of the field, and is needed for the applicability to practical real-world problems. To be good theory, a theory must follow the virtues (criteria) for 'good' theory, including uniqueness, parsimony, conservation, generalizability, fecundity, internal consistency, empirical riskiness, and abstraction, which apply to all research methods. This article also focuses on the dynamic relationship that exists between the hypothetico-deduction model (alternately referred to by theorists as nomothetic, positivism, postpositivism, empirical-analytical, or hierarchialism) and the inductive-synthesis model (alternately referred to as idiographic, grounded theory, constructivism, or interpretive theory). Finally, this study argues for the inclusion of both theory-building models in a mixed methods research framework.

Key words: theory, theory-building, paradigms, hypothetico, inductive, mixed methods

1. What is a Theory?

As with many substantive topics, the academic literature on "what is a theory?" offers a plethora of definitions, opinions, and criteria. Notwithstanding the many answers to this question, points of view are conflicting and there is little agreement and a lack of consensus on its definition (Heinen, 1985; Henderikus, 2007; Metcalfe, 2004; Sutton & Staw, 1995), its quintessential nature (Corley & Gioia, 2011; Lynham, 2002) the criteria for establishing a "good" theory (Gelso, 2006; Lam, 2007; Wacker, 1998, 2008), the definitive purpose of theory (Harlow, 2009; Rynes & Gephart, 2004; Southern & Devlin, 2010) and the best methodology for theory-building (Hay & Lee, 2009; Morgan & Stewart, 2002; Smith, Bekker, & Cheater, 2011; Torraco, 2002). In fact, according to Sutton and Staw (1995), the "lack of consensus on exactly what theory is may explain why it is so difficult to develop strong theory in the behavioral sciences" (p. 372). One of the primary reasons for this state of affairs is that theorists and researchers approach scholarly activity from different worldviews and paradigms (Torraco, 2002, p. 356).

1.1 Theory presuppositions. Hall (2000) posited that "any normative theory, presupposes and is colored by a metaphysical viewpoint" (p. 52). Consequently, issues such as definition, criteria, and purpose reflect an *a priori* commitment to certain presuppositional assumptions about what constitutes knowledge (epistemology), reality (metaphysics), the nature of being or existence (ontology), values (axiology), and other basic philosophical issues. Henderikus (2007) identifies this thesis as "theory-laden" observation (p. 1); Frame (1995) and Plantinga (1990) refer to this view of epistemology as "perspectival presuppositionalism." Tarraco (2002) stated that "these [presuppositional] beliefs are fundamental to the theorist's choice of research purpose, subject, and methodology" (p. 356). Philosophers such as Plantinga and Frame would add that one's worldview even "colors" and determines the types of questions we seek to answer (Polanyi, 1997). Henderikus (2010) affirmed this point when he noted that "one does not naïvely observe the world as it is but always approaches the world with some preconceptions in place … colored by the theories or concepts that were used to frame the observations" (p. 2). Ergo, in reality, it is not (as the old adage goes) "seeing is believing" but more correctly - "believing *is* seeing!" This truism was echoed by Bolman and Deal (2003) who stated "what you expect to see is what you see . . . theories are self-sealing . . . they block us from seeing our errors and cause us to spin reality so as to protect existing beliefs" (p.34). Consequently, Creswell (2009) was correct to admonish researchers to be cognizant of the "worldview assumptions that they bring to the study [and] the strategy of inquiry that is related to this worldview" (p.5).

Indeed, despite our best effort to be "neutral" in our evaluation of evidence, our worldview often hinders the pursuit of unbiased knowledge (Helm, 1992; Naugle, 2002; Sire, 2004). From the viewpoint of perspectival presuppositionalism, it is impossible to unbiased and completely objective (Suppe, 1974). Stated differently, our commitment to certain *a priori* philosophical axioms affect us even to the point of causing us to discount evidence that does not "fit" our worldview. Professor Richard Lewontin, a Harvard geneticist, accented this problem in his review of Carl Sagan's book *The Demon-Haunted World*:

> We take the side of science in spite of the patent absurdity of some of its constructs . . . because we have an *a prior* commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated . . . for we cannot allow a Divine Foot in the door. (Lewontin, 1997, p. 31)

From the perspective of empiricists, evidentialists, positivists and other advocates of the "received view" (Henderikus, 2007) presuppositionalism "amounts to saying that theories are underdetermined by data" (p. 2); and, if there is no data, where is the verification or falsification opportunity? Evidentialists argue that since "falsifiability is a prerequisite for the very existence of theory" (Sutton & Shaw, 1995, p. 371), presuppositionalism is nothing more than personal belief; something akin to religion, superstition, intuition, or astrology— all which lack the certitude of empirical verification (Gelso, 2006).

1.2 Theory definition. Consequently, it should come as no surprise that there are differing opinions as to what constitutes a theory (Gelso, 2006; Harlow, 2009; Henderikus, 2007; Henderikus, 2010). By way of illustration, LaJoie "reported finding 20 different definitions of animal-assisted therapy . . . for the same phenomenon" (as cited in Fine, 2006, p. 22). In the academic literature, definitions of 'theory' range from the simple and succinct to the complex and elaborate. For example, Gelso (2006) succinctly stated that "a theory is a statement of the suspected relationship between and among variables" (p. 2). Heinen (1985) stated that "a theory can be defined as a group of logically organized laws or relationships that constitutes explanation in a discipline" (p. 414). Similarly, Sutton and Staw (1995) argued that a theory must essentially answer the question *why*. It describes causal relationships and explains the ordering and timing of events in that relationship as well as reasons why a relationship exists. Wacker (1998) posited that "the definition of theory … has these four components: definitions, domain, relationships, and predictive claims to answer the natural language questions of who, what, when, where, how, why, should, could and would" (p. 364). Other theorists such as Dubin (1978), Popper (1989), Quine and Ullian (1980), and Wacker (2008) cite an extensive list of "virtues" and criteria of "good theory" that include: testability, falsification, prediction, explanation, parsimony, internal consistency, uniqueness, generalizability, conservatism, empirical riskiness, fecundity (i.e., rich in generating new models and hypotheses), and abstraction.

1.3 Theory typologies. Because of the diversity and complexity of definitions and criteria associated with theory, many researchers and theorists use typologies and classifications systems to more easily describe the types of theory—including their purpose, functions, boundaries, and goals (Bachman & Schutt, 2007; Buchanan, 2004; Lincoln & Guba, 2000; Locke, 2007; Lynham 2002; Rynes & Gephart, 2004; Southern & Devlin, 2010; and Torraco, 2002). Tarraco's (2002) taxonomy identified five types of theory: (1) Dubin's hypothetico-deductive method, (2) inductive grounded theory, (3) meta-analytic theory, (4) social constructionist theory, and (5) case study theory. According to Gelso (2006), Rychlak suggested that theories have four functions: "descriptive, delimiting, generative, and integrative" (p. 2). The descriptive function explains the *why* of things (i.e., causal explanation). The delimiting function puts boundaries on *what* is examined. The generative function tends to inspire new research (heuristic value) thereby expanding the existing body of knowledge. And, finally, the integrative function which seeks to provide a coherent unified picture of often "diverse and at times seemingly disparate … facts" (Gelso, 2006, p. 3).

More parsimonious taxonomies include: Lynham (2002) who cited Habermas's three-perspective classification: empirical-analytical, interpretive, and critical theory (p. 225). DiMaggio (1995) posited that "there are at least three views of what theory should be": (1) theory as covering laws, (2) theory as enlightenment, and (3) theory as narrative (p. 391). Finally, reducing theories to their most basic types, Heinen (1985, pp. 417-418) stated that there only two kinds of theories: a *concatenated* theory (i.e., inductive-synthesis) and *hierarchical* theory (i.e., hypothetico-deductive).

1.4 Theory distinctions. Before comparing and contrasting three of the above views of what constitutes a theory, we need to distinguish theory from related concepts, such as hypothesis, paradigm, model, and concept. According to Dubin (1978), concepts are the terms designating the things about which a science tries to make sense. Stated differently, a concept is "a mental image that summarizes a set of similar observations" (Bachman & Schutt, 2007, p. 72). According to Stinchcombe (1968), concepts must have various values, and should be defined in such a way that one can tell by means of observations which value it has in a particular occurrence (i.e., variables). Propositions are statements that expresses the relationship of two or more concepts (Cozby, 2009). According to Gelso (2006), propositions form the basis of hypotheses, or more precisely, a hypothesis is a proposition stated in a manner that is empirically testable.

Hypotheses contain independent and dependent variables and predict[1] a measurable observed difference between them. Typically, hypotheses are stated in the null form (i.e., no relationship exist between the variables) and researchers then seek to reject the null hypothesis (Babbie, 2001). By rejecting the null hypothesis, researchers empirically establish the degree to which the concepts of a proposition share a co-relationship. Symbolically, the null and alternative hypotheses are written: $H_0 : \mu_D = 0$ vs. $H_1 : \mu_D \neq 0$. Where $H_0 : \mu_D = 0$ (e.g., there is no difference in mean unemployment rates and crime rates) versus $H_1 : \mu_D \neq 0$ (there is a difference in mean unemployment rates and crime rates). In the social sciences, the decision rule for rejecting the null is: If p-value < 0.05, reject H_0. The result of this process is a theory that is empirically informed.

As Sutton and Staw (1995) noted, hypotheses "serve as crucial bridges between theory and data" (p. 376), explaining how variables and relationships are operationalized. Stated differently, many scholars (Dubin, 1976; Gelso, 2006; Homans, 1964; Kaplan, 1964; Lynham, 2002; and Weick, 1989) have made it clear that hypotheses are succinct statements about *what* is predicted to occur, whereas theory presents the causal logic of *why* it is expected to occur. Kerlinger's (1986) statement clarifies the relationship of these terms succinctly when he statesd: "A theory is a set of interrelated constructs (concepts), definitions and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena" (p. 45).

As for models, diagrams, and paradigms, Sutton and Staw (1995) stated that while diagrams and models can help build theory and visualize the inter-relatedness of variables showing their causal direction and strength of relationship, theory must be used to explain what the diagram shows as opposed to the diagrams explaining the theory (i.e., theory informs why these relationships were observed). Thus, the use of models or diagrams are often used in research for the purpose of illustrating relationships within a theory but, by themselves, do not constitute theory. Paradigms[2] are general ways of viewing the phenomenal world, theories, by contrast, are "systematic sets of interrelated statements intended to explain some aspect of social life. Thus, theories flesh out and specify paradigms" (Babbie, 2001, p. 51). In short, theories are attempts to validate our paradigm(s).

1.5 Theory traditions. Despite the fact that there are numerous theory taxonomies, several theory/research traditions consistently emerge in classification systems. This section will compare and contrast three pervasive traditions: (1) hypothetico-deduction (alternately referred to by theorists as nomothetic, positivism, postpositivism, empirical-analytical, or hierarchialism; (2) inductive-synthesis (alternately referred to as idiographic, grounded theory, constructivism, or interpretive theory); and (3) critical theory (alternately referred to as radical, neo-Marxist, or social justice theory). The major tenants of these three theoretical perspectives is presented in Table 1 below. As Table 1 illustrates, the assumptions and goals of the research tend to dictate which approach to theory is utilized.

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[1] Hypotheses must contain "specific predictions concerning the outcome of the experiment" (Cozby, 2009, p. 17).

[2] The term "*paradigm*" was first used by Thomas Kuhn in his book *The structure of scientific revolutions* (1962/1970). Kuhn describes paradigms as essentially a collection of shared beliefs and a set of agreements about how problems are to be understood. According to Kuhn, paradigms are essential to scientific inquiry, for "no natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism" (pp. 16-17). Indeed, a paradigm guides the research efforts of scientific communities, and it is this criterion that most clearly identifies a field as a science. A fundamental theme of Kuhn's argument is that the typical developmental pattern of a mature science is the successive transition from one paradigm to another through a process of a conceptual revolution. When a paradigm shift takes place, "scientific revolutions are . . . non-cumulative developmental episodes in which an older paradigm is replaced in whole or in part by an incompatible new one" (p. 92).

If the goal of the research is to discover "truths" or laws that are generalizable across populations, then the hypotheses testing perspective will be used. If, however, the goal of the research is to better understand what is occurring in a specific setting and how various stakeholders make sense of the phenomenal elements under observation, then inductive grounded theory is used. Stated differently, inductive reasoning, by its very nature, is idiographic (i.e., relating to a particular situation), more open-ended and exploratory, especially at the beginning. Facts come first, then theory. The most important preliminary task is to gather all available information (data) about the situation. You do not ignore a fact simply because it does not agree with your theory. As Sherlock Holmes characteristically argued "No data yet. It is a capital mistake to theorize before you have all the evidence. It biases the judgment" (Doyle, 1887/1995, p. 23). Here, theory is grounded in the nuances of life that give meaning and significance to the various stakeholders.

Deductive reasoning is more narrow in nature and is concerned with testing or confirming hypotheses. It is nomothetic in nature (i.e., seeks to explain a broad class of situations, individuals, or behaviors). Because it is nomothetic in nature, it has greater explanatory power. Hypothetico-deduction can be characterized as Einstein's approach to theory. This approach represent a markedly different approach to the connection between theory, data, and analysis. From this perspective, the theory specifies explicitly what type of data to collect. Here the primary purpose is to discover if hypotheses have observed empirical support (prediction) and if the theory can be falsified using explicit coefficients and other criteria (Rynes & Gephart, 2004). The focus of critical theory is to uncover facts about power relations that are obscure or purposely obfuscated to members of society with the goal of transforming political, social, and economic inequalities (Morrow, 1994; Quinney, 1970; Rynes & Gephart, 2004). From this theoretical perspective, issues of exploitation, dominance, and subjugation are often explored in order to make social actors aware of these inequalities and facilitate emancipation from them. Emancipation from structures of domination is referred to in the literature as "critical reflexivity" (Rynes & Gephart, 2004, p. 457).

2. *Considering Mixed Methods Research*

A review of several texts and articles on mixed methods research (Cozby, 2009; Creswell, 2009; Creswell & Plano Clark, 2010; Curran, 2008; Fielding, 2009; Hesse-Biber, 2010; Huberman & Miles, 2002; Johnson & Onwuegbuzie, 2004; Miller & Fredericks, 2006; Morse, 2005; Patton, 2002; Suri & Clarke, 2009; Tashakkori & Teddli, 2003; Woolley, 2008) revealed varying definitions of what constitutes mixed methods research. Notwithstanding these differences, all these definitions have, at their core, two common components (Creswell, 2009): they address the issue of *methodology* (i.e., the philosophical framework and fundamental assumptions) and the issue of *method* (i.e., the specific techniques of data collection and analysis) (Creswell & Plano Clark, 2010). Our definition of mixed methods research is essentially a synthesis of the work of others. We define mixed methods as:

> An approach to inquiry that combines the unique methodology and methods of both quantitative [nomothetic inquiry] and qualitative [idiographic inquiry] epistemologies. When used in tandem, a cogent synthesis and mixing of both kinds of data results in findings that have greater insight and more validity than when either QUAN or QUAL[3] are used alone.

In determining the appropriateness of which methodology and method(s) to use (QUAN, QUAL, or MM), the obvious starting criteria would be (1) the purpose of the research, and (2) the type of data being sought to answer the research question(s). That is, certain QUAN research questions often lend themselves to only quantitative methods. Conversely, certain QUAL questions can only be answered by qualitative methodologies and methods. However, whenever feasible, researchers should consider using a mixed methods approach. The reason for doing so is that a mixed methods typology has the advantage of capitalizing on the strengths of both QUAN and QUAL approaches while offsetting the weaknesses of both (Creswell, 2009; Creswell & Plano Clark, 2010). Therefore, the use of mixed methods has the advantage of being able to better inform and highlight the nuances and complexities of the phenomenon being researched (Creswell & Plano Clark, 2010). This is the central premise of MM research, according to Creswell and Plano Clark (2010). Creswell and Plano Clark (2010) made the case for MM research by noting the following benefits of a MM approach:

> Mixed methods research provides more comprehensive evidence for studying a research problem than either quantitative or qualitative research alone … mixed methods research helps

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[3] According to Tashakkori and Teddli (2003), the use of QUAN for quantitative, QUAL for qualitative, and MM for mixed methods is the standard notational system currently used in the mixed methods research area.

> answer questions that cannot be answered by qualitative or quantitative approaches alone …
> mixed methods research encourages the use of multiple worldviews or paradigms rather than
> the typical association of certain paradigms for quantitative researchers and others for
> qualitative researchers … mixed methods research is "practical" in the sense that the
> researcher is free to use all methods possible to address a research problem. (p. 10)

The rationale provided above by Creswell and Plano Clark (2010) for the use of mixed methods research forms the basis for the reasons why we believe this methodology is appropriate for most research problems. That is, by giving equal weight to both the QUAN and QUAL evidence in the theory-building process, researchers can more easily construct a holistic understanding of the phenomenon by synthesizing the inductive and deductive data obtained in the epistemological process. This is a paradigm choice that seeks to acknowledge that both QUAN and QUAL methodologies offer separate but equal insights into the phenomenon under research. By using this approach, the results of both data sets act as buffer and a check against overstating the case for conclusions derived from either approach alone. From this perspective, the goal of the research is intended to both explain (QUAN) and explore (QUAL); to be able to hypothesize (i.e., theory test) and thereby generalize to other populations (i.e., QUAN) and more precisely understand the dynamic interaction and perceptions of the stakeholders involved (QUAL) (i.e., this type of data cannot be adequately solicited in QUAN methods).

Figure 1 below illustrates the dynamic relationship between the hypothetico-deduction (QUAN) model and the inductive-synthesis (QUAL) model that make up the "research circle" . In the research circle, inquiry can move from theory to data and back again (QUAN), or from data to theory and back again (QUAL). All though QUAN methods are deductive in nature and QUAL methods are inductive in nature, both inductive and deductive reasoning involve overlapping steps in the epistemological process. As Bachman and Schutt (2007) argue:

> Both deductive reasoning and inductive reasoning are essential to criminologists. We cannot test
> an idea fairly unless we use deductive reasoning, stating our expectations in advance and setting
> up a test in which our ideas could be shown to be wrong (falsified) … yet theories … cannot make
> useful predictions for every social situation … we seek to investigate. Moreover, we may find
> unexpected patterns in the data we collect, called serendipitous findings or anomalous findings. In
> either situation, we should reason inductively, making whatever theoretical sense we can of our
> unanticipated findings. Then, if the new findings seem sufficiently important, we can return to
> deductive reasoning and plan a new study to formally test our new ideas. (p.43)

Obviously, all research is constrained by the historical times in which the research is conducted. As few as 20 years ago, mixed methods research was not even a viable alternative available to researchers. The emergence of mixed methods as a research paradigm[4] has been documented in several texts (see Creswell & Plano Clark, 2010; Tashakkori & Teddli, 1998). According to Denzin & Lincoln (2000), the dominant and relatively unquestioned methodological orientation to research during the first half of the 20th century was quantitative methods and the positivist paradigm. Beginning circa 1970s and 1980s, a variety of qualitative methods gained widespread acceptance in the academy as an alternative to a purely positivist approach and orientation to research. The most common name given to the qualitative paradigm during this period was constructivism (Denzin & Lincoln, 2000). Over the last two decades (circa 1990 to 2010), a third methodological approach to research has emerged involving the use of mixed methods (Creswell, 2009; Tashakkori & Teddli, 2003).

Creswell and Plano Clark's (2010) review of the history of mixed methods is slightly different using four, often overlapping, time periods: (1) the *formative* period, circa 1950s to 1980s; (2) the *paradigm* debate period, circa 1970s to 1980s; (3) the *procedural* development period, circa 1980s to 2000; and (4) the *advocacy* period, circa 2000 to present (pp. 13-17). Each of these time periods (and the researchers who pioneered the ideas of MM) contributed to the development of mixed methods today so that many disciplines, researchers, and academicians consider mixed methods research to be, not only appropriate, but valid and necessary.

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[4] Tashakkori and Teddli (1998) describe, in detail, the "paradigm wars" and the perceived incompatibility between positivism
  (quantitative paradigm) and constructivism (qualitative paradigm) on such basic issues as: ontology, epistemology,
  axiology, the possibility of generalizations, inferences and axiomatic assumptions underlying these systems. Tashakkori
  and Teddli (2003) also discuss at great length (i.e., 700 pages) the emergence and major issues surrounding the mixed
  methods paradigm approach to research.

The formative period obviously laid the foundation for the use of mixed methods by finding ways to combine quantitative and qualitative data. During the paradigm period, ways were found to reconcile the apparent philosophical disparity between the QUAN and QUAL methodologies. In the procedural development era, typologies, designs, and classifications systems were developed that clarified more precisely the order, sequencing, and mixing of the data. Most recently, the turn of the century has seen "authors advocating for mixed methods research as a separate design in its own right" (Creswell & Plano Clark, 2010, p.16) and should rightfully takes its place alongside quantitative and qualitative approaches as a legitimate third research methods paradigm.

3. *Relationship between Theory and Research*

The scholarly literature on the relationship between theory and research, and the ways research can contribute to theory, is as diverse as the academic literature on the definition of theory (Bartunek & Rynes, 2010; Harlow, 2009; Kilduff, 2006; Rindova, 2008; Rynes, 2002; Smith & Hitt, 2005). Yet, even though there is a lack of consensus as to the purpose of theory, or *how* research can inform theory, and even a debate on what constitutes "research-worthiness" (Ellis & Levy, 2008) or theoretical contribution (Corley & Gioia, 2011; Wacker, 1998; Whetten, 1989), most scholars agree that "theory is the currency of scholarly research" (Corley & Gioia, 2011, p. 12). The essential issue that emerges in this perennial discussion is that original research should contribute to the body of knowledge in the applicable discipline or domain (Ellis & Levy, 2008; Southern & Devlin, 2010). The debate centers primarily on what constitutes contribution.

In sum, the extant literature suggests that research (both quantitative and qualitative) contributes to theory bi-dimensionally: (1) originality [incremental or revelatory] and (2) utility [scientific or practical] (Corley & Gioia, 2011). This tension between theoretical design (theory-building) and pragmatic design (utilitarian practice) is ubiquitous (Smith, Bekker, & Cheater, 2011). Whether resulting in originality or utility, quantitative's contribution to theory tends to be more generalizable due to rigorous hypotheses testing—thereby yielding greater explanatory power and predictability. This contribution truly is "theory testing" and nomothetic (as discussed above). Qualitative's contribution to theory, though more narrow in scope, is equally as important—particularly when exploring topics that are difficult to quantify, when trying to make sense of complex social situations (especially those populations closed to "outsider" observation), when answering the broader question "what is going on here" or when attempting to explain how stakeholders make sense of their situation. Though idiographic, the resulting theory is grounded in social reality. Notwithstanding this contribution, Hay and Lee (2009) effectively argue that "qualitative methods have the potential to make fundamental contributions to the development of *basic science* in behavioral and social domains …in elucidating changes to existing constructs, the relationship among constructs, and the direction of causation between predictors and outcomes" (p. 148).

There are many ways research can contribute to theory. Space constraints limit us to discuss only three[5]. As stated above, research contributes to theory bi-dimensionally: originality and utility. Let me briefly explicate these two dimensions. First, research can contribute to theory's explanatory power. This resulting research knowledge may be uniquely revelatory, even to the point of paradigm shifting[6]. Generally, however, research knowledge tends to contribute to theory more incrementally, building upon, and adding to a lexicon of facts. This second type of theory contribution is a long-venerated, consistently invoked theme in the extant literature (Corley & Gioia, 2011). Based on the (then) ground-breaking work of Dubin (1978), this view is premised on the assumption that what makes one theory preferred over another is the significant (albeit incremental) progression and advancement of knowledge toward the "truth."

Yet "truth" (i.e., theory) merely for the sake of truth, absent practical usefulness (scientific or pragmatic), is rarely sufficient. Stated differently, theory must have the potential to "improve the current research practice of informed scholars" (Whetten, 1990, p. 581) or improve the practice and understanding of practitioners. This third type of research contribution is, for many, a more significant function for theory—that is, the establishing of "best-practice." "Nothing is quite so practical as a good theory" is, perhaps, Kurt Lewin's (1951, p. 157) most famous assertion. This quote simply, yet elegantly, asserts that when theory is grounded in empirical research and past experiences it develops the quality of "good" because it becomes practical by serving as the base-line used to establish what should be considered as "best practice."

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[5] See Tashakkori and Teddli (2003) for a more comprehensive discussion of this topic.

[6] For example, Ptolemy's geocentric theory of planetary movement versus Copernicus' heliocentric theory of planetary movement.

As Zikmund, Babin, Carr, and Griffin (2008) note, "If a theory does not hold true in practice, then that theory holds no value" (p. 39). In short, what is the purpose of theory if it cannot bridge the research—practice gap and thus, has no practical application to the real world? Theorizing for the sake of engaging in mental gymnastics seems esoteric, at best, and unproductive. Even Einstein's Theory of General Relativity, though not immediately empirically verified, resulted in many practical applications in the field of particle physics and quantum mechanics. May all our theories be as fruitful and practical.

Figure 1

The Research Circle
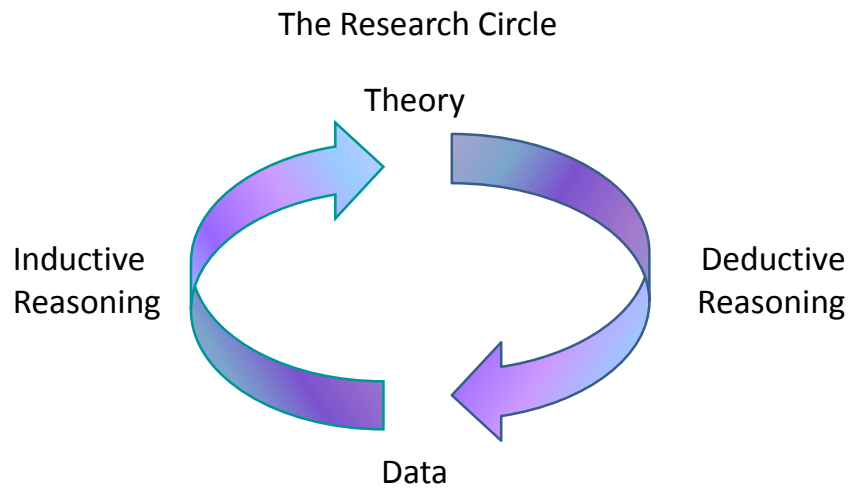
Source: Adapted from Bachman & Schutt, 2007, p.44

Table 1: Theory Traditions

Basic Orientation	Theory Perspective Hypothetico-Deduction	Inductive-Synthesis	Critical
Metaphysics	Realism—observational data are considered the foundation of knowledge; objective reality can be understood & measured	Relativism—reality composed from objective and subjective meaning as determined by stakeholders in the setting	Reactionism—reality shaped by values of those who control power & resources
Methods Focus	Hypotheses testing, falsification	Gather all facts (data) first, infer theory that matches precisely those facts; allow new theoretical understanding to emerge from the data	Understand historical forces, evolution of meanings, material practices, & inequalities
Goal	To explain & predict; discover generalizable laws & universal "truth"	Accurately understand what is occurring in this particular situation; describe actors view-point & significance	Emancipation, uncover hidden interests & contradictions; critique, transformation
Tasks	Postulates→ Deductions→ Data→ (repeat as needed) (i.e., theory to data)	Data→ Deductions→ Postulates→ Data (continuous interplay) (i.e., data to theory)	Identify and reveal political, social, and economic inequities
Unit of Analysis	Operationalized concepts & variables	Verbal and/or nonverbal action	Relationship contradictions
Research Method Metaphor	Quantitative (QUAN) Albert Einstein	Qualitative (QUAL) Sherlock Holmes	Both QUAN & QUAL Carl Marx

Source: This table is compiled from Bachman & Schutt (2007), Heinen (1985), Lincoln & Guba (2000), Locke, 2007; Lynham (2002), Rynes & Gephart (2004), Southern & Devlin (2010), and Torraco (2002).

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