

Validity in Qualitative Research

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Much contemporary dialogue has centered on the difficulty of establishing validity criteria in qualitative research. Developing validity standards in qualitative research is challenging because of the necessity to incorporate rigor and subjectivity as well as creativity into the scientific process. This article explores the extant issues related to the science and art of qualitative research and proposes a synthesis of contemporary viewpoints. A distinction between primary and secondary validity criteria in qualitative research is made with credibility, authenticity, criticality, and integrity identified as primary validity criteria and explicitness, vividness, creativity, thoroughness, congruence, and sensitivity identified as secondary validity criteria.

The proliferation of qualitative research in the past several decades has advanced the science of nursing as well as the collective understanding of the human health experience. Amid the rapid rise of qualitative research to prominence in scientific communities, considerable debate has ensued regarding epistemological, philosophical, and methodological issues. Initially, intellectual tension developed with regard to the emancipation from the quantitative epistemological perspective while still competing within a quantitatively dominated milieu. Furthermore, philosophical debate between qualitative purism and pluralism as well as between critical realism, relativism, and postmodernism exposed the opposing dangers of methodological rigidity and methodological anarchy.

One contemporary dialogue has centered on the difficulty of establishing validity criteria in qualitative research. Whereas it is commonly accepted that certainty in scientific inquiry is futile (Maxwell, 1990), validity standards in qualitative research are even more challenging because of the necessity to incorporate both rigor and subjectivity as well as creativity into the scientific process (Johnson, 1999). In addition, disparate qualitative methods espouse different evaluative criteria. How can quality in qualitative research be discerned within such an ambiguous and intangible framework? What distinguishes science from pseudoscience? Has qualitative

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research become so diversified that overarching guidelines of validity are impossible, or are there specific criteria that cross methodological and philosophical differences? Forbes et al. (1999) contended that specific warrants for knowledge claims that transcend philosophical and methodological boundaries are both possible and necessary. Emden and Sandelowski (1998), although recognizing the diversity of qualitative traditions coupled with the infinitely different assumptions of investigators, believed that the pursuit of common goodness criteria is both necessary and worthy in qualitative research.

This article explores the historical development of validity criteria in qualitative research through a review of antipodal tensions. The tension between qualitative and quantitative research, the tension between epistemological purism and pluralism, and the tension between rigor and creativity in the scientific process will be addressed. A framework of critical multiplism guides the subsequent synthesis of contemporary viewpoints into a reconceptualization of meaningful validity criteria in qualitative research. It is proposed that flexibility amid common criteria provides the best assurance that the art of qualitative research will illuminate the science of qualitative research and the science will give credence to the art.

HISTORICAL DEVELOPMENT OF VALIDITY ISSUES

Tension Between Qualitative and Quantitative Research

The concept of validity in qualitative research has undergone numerous transformations to strengthen the unique contribution this scientific tradition offers to knowledge development. Initial conceptualizations of validity were directly applied from reliability and validity standards of quantitative or experimental research based on a positivistic philosophy (LeCompte & Goetz, 1984). Traditional definitions of reliability and validity were felt to be applicable and credible benchmarks by which the quality of all research could be judged (Popay, Rogers, & Williams, 1998). *Reliability* referred to the stability of findings, whereas *validity* represented the truthfulness of findings (Altheide & Johnson, 1994). The incompatibility of these terms with the underlying assumptions and tenets of qualitative research resulted in the translation of terms to be more aligned with the interpretive perspective. The response to the need to convince the dominant and somewhat hostile scientific community about the merits of qualitative research led Lincoln and Guba (1985) into an epistemological quagmire as they translated internal validity to credibility, external validity to transferability, reliability to dependability, and objectivity to confirmability. What does transferability and dependability mean to qualitative research? How can these criteria be assured? Is qualitative research generalizable? Who should confirm results: the participant, the investigator, or an outside expert? On one hand, it was argued that qualitative research was an alternative approach to knowledge development, yet at the same time, standards of validity from the traditional approach were being advocated.

Despite the incongruity between quantitative epistemology and qualitative methodology, translated standards of validity have proven to be useful criteria for demonstrating rigor and legitimacy of qualitative research. Guba and Lincoln (1989) advanced this work by proposing standards that were more reflective of

specific threats to qualitative research. The need to demonstrate the truth value of multiple perspectives, the dependability of findings amid variability, the applicability of findings to broader contexts, and the freedom from bias in the research process were identified as validity issues to be addressed in the research process.

Yet the complexity and contradiction of applying these positivistic-based validity criteria to qualitative research was exposed through practical application and subsequent critique and analysis. The type of knowledge that the different approaches generate and the different philosophical perspectives on reality call into question the appropriateness of similar standards of quality. Qualitative research seeks depth over breadth and attempts to learn subtle nuances of life experiences as opposed to aggregate evidence (Ambert, Adler, Adler, & Detzner, 1995). Qualitative research is contextual and subjective versus generalizable and objective. The contrast between postpositivism and interpretive inquiry in terms of ontology, epistemology, and methodology have been clearly delineated (Guba & Lincoln, 1994). This argument has widened the chasm between the quantitative and qualitative perspectives and greatly influenced the evolution of validity criteria in qualitative research.

Because qualitative research is based on entirely different epistemological and ontological assumptions compared to quantitative research, many feel that validity criteria of the quantitative perspective are therefore inappropriate (Hammersly, 1992). For example, the important distinction between internal and external validity in quantitative research holds less meaning and applicability within a framework where generalizability to populations is not a significant research goal. Leininger (1994) contended that quantitative validity criteria applied to qualitative research are awkward, confounding, and confusing. Kahn (1993) espoused that the positivistic perspective on validity obscures the differing validity threats in interpretive research and ultimately leads to a "procedural charade." However, exposing these paramount differences does not imply that all quantitative and qualitative validity approaches are incompatible (Maxwell, 1992) but simply that an exacting translation is inappropriate and inadequate (Bailey, 1996).

Tension Between Epistemological Purism and Pluralism

Another tension that has greatly influenced the development of validity criteria in qualitative research has been the expansion, proliferation, and evolution of qualitative research approaches over time. Phenomenology, ethnography, and grounded theory set the stage for the development of numerous other qualitative methods applicable to nursing science. The philosophical movements of feminism, postmodernism, and critical social theory further contributed to creative approaches to science from an interpretive perspective.

Much discussion has ensued regarding the alignment of philosophy, epistemology, and methodology. The divergence of the interpretive perspective from the positivistic perspective required this articulation in depth, and therefore, the same process appeared to be essential to the establishment of different methodologies within the interpretive perspective as well. Selecting research methods was viewed not simply as a technological choice; rather, methods were proposed to be based on philosophical, ideological, ethical, and political assumptions (Moccia, 1988). Specific approaches to research design from differing philosophical schools of thought

were developed. Each delineated the acceptable sampling criteria, data collection, and analysis techniques as well as procedures for ensuring validity.

This purist movement advanced the status of qualitative inquiry. Dialogue and debate regarding philosophy and methodology fostered the articulation of different approaches, sources of data, acknowledgement of the investigator perspective, sampling, and validity criteria. Most significantly, a greater understanding of the advantages and limitations to different types of inquiry were realized, and a plethora of techniques to enhance validity in qualitative inquiry were developed.

Some scholars, however, felt stifled by the artificial boundaries imposed by a purist stance and the exclusive alignment of philosophy, epistemology, and methodology. The pluralistic values, theories, and ideologies inherent in scientists and scientific communities resisted being fit into this conceptualization. For example, Stew (1996) challenged the purist stance by proposing that the research question should direct method choice, not one's philosophical or epistemological stance. P. Atkinson (1995) explored the "perils of paradigms" and questioned the benefit of intellectual boundaries.

Further debates regarding validity criteria in qualitative research erupted. Although each branch of interpretive inquiry proposed different purposes, types of evidence, and methods of verification based on the philosophical underpinning of the method (Popay et al., 1998; Sandelowski, 1986; Yonge & Stewin, 1988), application of purist standards proved to be difficult. Is theoretical saturation only necessary with grounded theory? What guides decisions for sampling adequacy: the philosophical perspective or the research question? In addition, within all perspectives, the researcher's influence on the research process exposed the potentially infinite number of assumptions that also affect analysis and interpretation in qualitative research.

Despite these difficulties, consensus is emerging regarding a pluralistic approach to knowledge development in that "the utilization of a particular method should not be seen as an absolute ontological commitment" (Booth, Kennick, & Woods, 1997, p. 807). Contemporary philosophies of pragmatism and critical multiplism allow for the pursuit of a purist approach to knowledge development while also embracing the possibility of creative combining of philosophies, epistemologies, and methodologies. Individual visions of scholars and varying philosophical perspectives are thought to vastly enhance the richness of knowledge development (Roy, 1995).

A philosophical approach of pragmatism matches the best method with the specific research questions and issues as opposed to universally advocating a specific approach (Patton, 1990). Critical multiplism encourages the critical and exhaustive study of a phenomenon from multiple perspectives, recognizing the inherent strengths and limitations of all scientific methods (Letourneau & Allen, 1999). Although an increasing number of investigators embrace this pragmatic perspective (Miles & Huberman, 1994), the evolution of validity criteria remains in an uncertain state. Standards of validity become particularly important within such an open philosophy, as an uncritical hodgepodge is not quality work. Morse (1991) warned that unexamined mixing of methods can lead to "sloppy mishmash." Baker, Wuest and Stern (1992) contended that "method slurring" can contribute to lack of rigor. Despite these cautions, many believe it is possible to develop standards of validity in qualitative research that cross perspectives (Eisner, 1991; Emden &

Sandelowski, 1998; Forbes et al., 1999; Miles & Huberman, 1994). Clear articulation, however, continues to be elusive.

Tension Between Rigor and Creativity

Before proposing a contemporary synthesis of validity criteria in qualitative research, an additional tension needs to be examined—that between rigor and creativity. One could argue that purism of philosophy, epistemology, and methodology was one contributory factor that resulted in methodological idolatry. Another perspective was that rigorous application of methods exemplified a systematic approach that appeared to give credence and legitimacy to the validity of qualitative research, unfortunately at the expense of creativity. Janesick (1994) defined the term *methodolating* as “a slavish attachment and devotion to method” (p. 215) that resulted in an overemphasis on methods to the exclusion of the creativity of research. Sandelowski (1993) posited that the inflexibility and rigidity of rigor in qualitative research can threaten the artfulness and sensitivity to meaning that are essential to quality. Assuring validity by the systematic application of method exposes another potential procedural charade in qualitative research.

Procedures will not necessarily produce sound data or credible conclusions (Phillips, 1987). As Maxwell (1992) remarked, “Validity is not an inherent property of a particular method, but pertains to the data, accounts, or conclusions reached by using that method in a particular context for a particular purpose” (p. 284). Methods become a means to garner evidence supportive of validity (Maxwell, 1996); however, adherence to methods is not an assurance of validity and in fact may impede the development of exceptional qualitative research (Sandelowski, 1993).

“Evocative, true to life, and meaningful portraits, stories, and landscapes of human experience” (Sandelowski, 1993, p. 1) constitute the essence of qualitative research and are threatened by an overemphasis on a scientific method as opposed to the art and creativity of interpretation. Investigators need the freedom to become immersed in the research process, thoughtfully and creatively considering all possible meanings in data (B. Atkinson, Health, & Chenail, 1991).

However, some kind of validity criteria and some methodological or technical procedures are essential to guard against the investigator’s conjuring up concepts and theories that do not authentically represent the phenomenon of concern (Hammersly, 1992). Pseudoscience potentially replaces science (Johnson, 1999). Qualitative research findings can be interesting, illuminating, and erroneous (Miles & Huberman, 1994). Using the term *erroneous* does not imply either a consensual reality or corroborative truth but rather interpretations that may be unsubstantiated and reflective only of researcher bias. Greene (1992) cautioned that art without science diminishes the knowing associated with interpretive inquiry. Interpretive inquiry is not the sole creation of the investigator, as is the case with the artist and created art; rather, research involves the “joint creation of inquirer and inquired-about in a given context at a given time” (p. 42).

Creativity must be preserved within qualitative research, but not at the expense of the quality of the science. Creative work supports the discovery of the not yet known, going beyond previously established knowledge and challenging accepted thinking (Marshall, 1990). However, it is essential that qualitative work should be highly creative at the same time that it is analytically rigorous and explicit (Patton,

1990). Creativity in and of itself will not contribute to sound science. Elegant and innovative thinking can be balanced with reasonable claims, presentation of evidence, and the critical application of methods.

HOW IS QUALITY IN QUALITATIVE RESEARCH NAMED?

The notion of validity in qualitative research has been “championed, translated, exciled, redeemed, and surpassed” (Emden & Sandelowski, 1998, p. 207). Whereas it can be established that rigor is essential to any scientific endeavor to ensure validity, what this is called and how to ensure it is not so clear. How can all of the nuances of qualitative inquiry be subject to evaluation that is both reflective of the assumptions of the perspective and at the same time easily understood within the broader scientific community?

Numerous terms have been suggested as those working within the interpretive perspective have struggled to articulate validity criteria in qualitative research. Truth value, credibility (Lincoln & Guba, 1985), trustworthiness (Eisner, 1991), authenticity (Guba & Lincoln, 1989), and goodness (Emden & Sandelowski, 1998; Marshall, 1990) have all been proposed as more suitable criteria to judge the quality of qualitative research. Yet none have been overwhelmingly supported. Kahn (1993) discussed the implications of idiosyncratic terminology associated with validity in qualitative research and emphasized that language should not obscure understanding.

As the dialogue swirls around in the literature, Lincoln and Guba’s (1985) translated criteria remain the gold standard. The problem with this is that investigators rely on the theoretical assurance of validity at the expense of the practical application. Procedural charade and pseudoscience abound. Verification of a personally held belief or theory through a successful demonstration of method does not constitute science (Johnson, 1999). Validity claims often appear as standardized language from methods books without evidence that the investigator thought through the application of strategies in a specific study (Maxwell, 1992). Investigators and research consumers are equally at a disadvantage.

The staying power of Lincoln and Guba’s (1985) standards of validity demonstrates the necessity and convenience of overarching principles to all qualitative research, yet exploration of past and present tensions point to the need for a reconceptualization of criteria of validity in qualitative research. This article proposes that validity is an accurate term and does provide the opportunity for criteria to be developed that are reflective of the tenets of the interpretive perspective. The term validity offers immediate recognition and understanding within the scientific community yet does not require direct translation from the quantitative perspective. Validity is broadly defined as “the state or quality of being sound, just, and well-founded” (*Random House Webster’s Unabridged Dictionary*, 1999), which are certainly reasonable components of all investigations, be they qualitative, quantitative, or mixed. Qualitative inquiry is equally as concerned about unsound or unjustified findings as quantitative inquiry (Maxwell, 1990). The difference lies in the standards of validity that must be upheld within the infinitely different types of inquiry. *Assuring validity* becomes the process whereby ideals are sought through attention to specified criteria, claims to knowledge are made explicit, and techniques are

employed to address the most pressing threats to validity for each type of inquiry. Specified criteria of validity for qualitative research need further definition.

A CONTEMPORARY SYNTHESIS

The first aspect of a contemporary synthesis of validity criteria in qualitative research is a requirement to make the distinction between criteria and techniques. *Criteria* are the standards to be upheld as ideals in qualitative research, whereas the *techniques* are the methods employed to diminish identified validity threats. It is proposed that differing interpretive perspectives and differing research designs may require flexibility with regard to the practical application of these standards. Greene (1992) upheld that techniques of interpretivist inquiry remain as options, determined by the investigator within the context of a particular investigation. Therefore, it is logical to extend this flexibility to the determination of the most appropriate validity criteria for each investigation. Because qualitative research is often defined by uncertainty, fluidity, and emergent ideas (Lincoln, 1995), so too must be the validity criteria that give credence to these efforts. Maxwell (1992, 1996) suggested that validity is both a regulative ideal and a relative ideal, meaning that it has to be evaluated in relationship to the purposes and the circumstances of the research.

The following set of assumptions have guided this synthesis effort: (a) There is not a single set of scientific criteria and techniques that contribute to valid knowledge (Morgan, 1983); (b) all knowledge, however well founded empirically or theoretically, is ultimately uncertain (Emden & Sandelowski, 1999; Maxwell, 1990); (c) the development of validity criteria in qualitative research poses theoretical issues, not simply technical problems (Mishler, 1990); (d) there is an ethical obligation of qualitative research to demonstrate integrity and rigor of scientific judgments (Angen, 2000) balanced with the artfulness associated with discovering meaning in context (Sandelowski, 1993); and (e) there is a need for common validity criteria in qualitative research—however judgment is necessary to determine the optimal weight of each criteria in specific studies (Eisenhart & Howe, 1992; Lincoln, 1995; Marshall, 1990).

Criteria

Numerous scholars have contributed to this proposed synthesis of validity criteria. The purpose of Table 1 is to delineate the key validity criteria debated and used over the past decade. Those most influential to this synthesis are identified with a superscript *a*. Lincoln and Guba's (1985) philosophical and practical contributions to the evolution of validity criteria clearly established the need for credibility and authenticity as benchmarks for quality. Maxwell (1990), Marshall (1990), and Smith (1990) further articulated the need for integrity and criticality to all qualitative research, particularly within the postmodern era of uncertainty in science. Sandelowski (1993) advocated for creativity and artfulness. Lincoln (1995) thoughtfully articulated the sacredness of research, recognizing the importance of sensitivity to participants.

TABLE 1: Validity Criteria Development

<i>Author</i>	<i>Validity Criteria</i>
Altheide and Johnson (1994)	Plausibility, relevance, credibility, importance of topic
Eisenhart and Howe (1992)	Completeness, appropriateness, comprehensiveness, credibility, significance
Leininger (1994)	Credibility, confirmability, meaning in context, recurrent patterning, saturation, transferability
Lincoln (1995) ^a	Positionality, community as arbiter, voice, critical subjectivity, reciprocity, sacredness, sharing perquisites of privilege
Lincoln and Guba ^a (1985); Guba and Lincoln ^a (1989)	Truth value, applicability, consistency, neutrality
Marshall (1990) ^a	Goodness, canons of evidence
Maxwell (1992, 1996) ^a	Descriptive validity, interpretive validity, theoretical validity, evaluative validity, generalizability
Sandelowski (1986, 1993) ^a	Credibility, fittingness, auditability, confirmability, creativity, artfulness
Smith (1990) ^a	Moral and ethical component
Thorne (1997)	Methodological integrity, representative credibility, analytic logic, interpretive authority

a. Most influential to this contemporary synthesis.

A reconceptualization of the concept of validity in qualitative research is illustrated through the explication and differentiation of primary criteria, secondary criteria, and techniques (see Figure 1). Credibility, authenticity, criticality, and integrity are considered primary criteria, whereas explicitness, vividness, creativity, thoroughness, congruence, and sensitivity are considered secondary criteria. Primary criteria are necessary to all qualitative inquiry; however, they are insufficient in and of themselves. Secondary criteria provide further benchmarks of quality and are considered to be more flexible as applied to particular investigations. For example, Glaser and Strauss (1967) distinguished between substantive theory or localized knowledge and formal theory or abstract knowledge produced through qualitative inquiry. Validity in both types of inquiry would require demonstration of integrity, authenticity, credibility, and criticality (primary criteria) in the research process; however, substantive theory would require more evidence of vividness and thoroughness in contrast to formal theory, which would require more evidence of creativity and congruence. Very contextual investigations have a different focus and therefore different secondary criteria of quality than more abstract investigations. The same could be said for investigations with differing philosophical approaches. A critical theorist approach to inquiry portrays the emic perspective within a social, historical, and political culture; therefore, secondary validity criteria of sensitivity, explicitness, and vividness may take precedence. In contrast, a phenomenological investigation will need to address investigator bias (explicitness) and an emic perspective (vividness) as well as explicate a very specific phenomenon in depth (thoroughness). Investigators have the responsibility to clearly state study validity threats, prioritized criteria, and specific techniques employed. Influencing this decision is the research question, study design, and philosophical stance of the investigator (Koch, 1994).

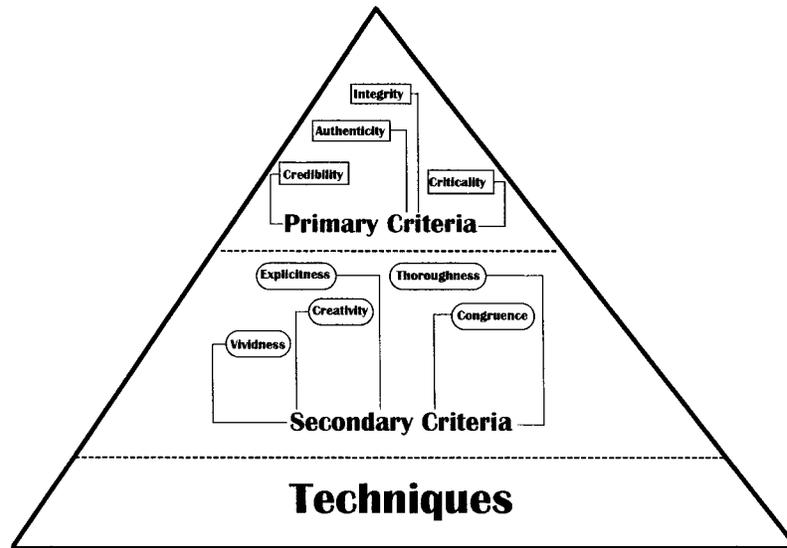


FIGURE 1: Contemporary Synthesis of Validity Criteria in Qualitative Research

Credibility and authenticity. Early on, Lincoln and Guba (1985) identified credibility as an overriding goal of qualitative research, reflecting the relativistic nature of truth claims in the interpretivist tradition. Assuring credibility refers to the conscious effort to establish confidence in an accurate interpretation of the meaning of the data (Carboni, 1995). Do the results of the research reflect the experience of participants or the context in a believable way (Lincoln & Guba, 1985)? Does the explanation fit the description (Janesick, 1994)? Thorne (1997) identified the need for assurance that interpretations are trustworthy and reveal some truth external to the investigators' experience.

Authenticity is closely linked to credibility in validity and involves the portrayal of research that reflects the meanings and experiences that are lived and perceived by the participants (Sandelowski, 1986). Because of the multivocality of an interpretive perspective, authenticity of the person, phenomenon, or situation become important criteria for validity. An attempt to remain true to the phenomenon under study is essential (Hammersley, 1992). Has the inquirer exhibited a high awareness of subtle differences in the voices of others (Lincoln, 1995)? Lincoln and Denzin (1994) cautioned that the involvement of the inquirer can influence the ability to speak authentically for the experience of others, which requires conscious attention to the influence of the inquirer. Has a representation of the emic perspective been accurately portrayed and at the same time accounted for the investigator's perspective (Maxwell, 1992)? Multiple, socially constructed, and sometimes conflicting realities may ultimately be exposed through attention to authenticity (Bailey, 1996).

Overall attention to credibility and authenticity speaks to what Maxwell (1996) referred to as descriptive and interpretive validity. Validity threats of distortion, bias, and inadequate portrayal of the participants/phenomenon are addressed, ultimately contributing to quality in qualitative research.

Criticality and integrity. The infinitely differing interpretations, assumptions, and knowledge background of investigators that can potentially influence the research process require a devout attention to integrity and criticality. Reflexivity, open inquiry, and critical analysis of all aspects of inquiry contribute to validity in qualitative research (Marshall, 1990). A systematic research design needs to be portrayed that demonstrates evidence of critical appraisal (Hammersly, 1992; Hinds, Scandrett-Hibden, & McAulay, 1990). Marshall (1990) specified the need to be critical in one's search for alternative hypotheses, explore negative instances, and examine biases. Ambiguities should be explored and recognized, and a variety of appropriate methods are suggested to be useful to check findings. Evidence should substantiate investigators' interpretations to guard against distortion or conjecture (Maxwell, 1996).

Integrity becomes important in critical reflection and analysis of qualitative research. The subjectivity of interpretive research values the investigator as a person who may interpret data uniquely (Johnson, 1999), yet integrity must be evidenced in the process to assure that the interpretation is valid and grounded within the data. If investigators are self-critical and seek integrity at each phase of inquiry, uncritical verificationism and dogma are potentially averted (Johnson, 1999). Integrity and criticality are represented through recursive and repetitive checks of interpretations (Ambert et al., 1995) as well as a humble presentation of findings (Thorne, 1997). Validity threats of investigator bias, not paying attention to discrepant data, or not considering alternative understandings, reflective of Maxwell's (1996) conceptualization of theoretical validity, are addressed. Ideally, knowledge claims made by investigators demonstrate integrity and criticality through a responsible and substantiated scientific process (Smith, 1990).

Secondary Criteria of Validity

Secondary criteria of explicitness, vividness, creativity, thoroughness, congruence, and sensitivity are additional guiding principles that contribute to the development of validity in qualitative research. Although these criteria are not as broad as the primary criteria and do not directly map with the primary criteria, they are important standards of quality identified in the literature.

With regard to explicitness, Lincoln and Guba (1985) specified that *auditability* is important in developing a defensible posture and refers to the ability to follow the interpretive effort of the investigator. Rodgers and Cowles (1993) specified that an audit trail of a variety of investigator-generated data must be consistently and conscientiously recorded. Accounting for methodological decisions, interpretations, and investigator biases is an important adjunct to research findings, allowing for insight into research judgements (Marshall, 1990; Sandelowski, 1986). In addition, explicit presentation of results provides evidence and support for inferences and conclusions drawn by the investigator (Ambert et al., 1995).

Vividness involves the presentation of thick and faithful descriptions (Geertz, 1973) with artfulness, imagination, and clarity. Presentation of rich data contributes to the ability to highlight salient features of themes (Ambert et al., 1995), portraying the essence of the phenomenon without overwhelming the reader with excessive detail (Sandelowski, 1986). Ideally, consumers of research are able to personally experience and understand the phenomenon or context described. The description

should be detailed enough for interpretation of the meaning and context to be vivid and visible (Burns, 1989; Popay et al., 1998). "Qualitative work should vividly color in the meanings, motivations, and details of what quantitative research conveys only in broader aggregates" (Ambert et al., 1995, p. 885).

Creativity is demonstrated in qualitative research through novel methodological designs to answer specific research questions, flexibility within the inquiry process (Chapple & Rogers, 1998), and imaginative ways of organizing, presenting, and analyzing data (Eisner, 1991; Patton, 1990). Creativity can enhance innovative findings and challenge traditional ways of thinking; however, all creativity must be grounded within the scientific process (Thorne, 1997).

Thoroughness in qualitative research refers to sampling and data adequacy as well as comprehensiveness of approach and analysis (Popay et al., 1998). This does not mean that findings are merely an exhaustive list of themes. Thoroughness implies attention to connection between themes and full development of ideas. Thoroughness has been previously identified as completeness (Eisenhart & Howe, 1992), consistency (Lincoln & Guba, 1985), and saturation (Leininger, 1994). The full scope of the phenomenon is explored and techniques are incorporated for checking data quality (Marshall, 1990). The research questions that are posed should be convincingly answered (Eisenhart & Howe, 1992; Thorne, 1997).

Congruence should be evident between the research question, the method, and the findings; between data collection and analysis; between the current study and previous studies; and between the findings and practice. Study findings should also demonstrate logical congruency as well as congruency with the philosophical or methodological perspective articulated by the investigator (Marshall, 1990). Burns (1989) identified the need and importance of methodological congruence and theoretical connectedness. Despite the elusiveness of generalizability in qualitative research, study findings should fit into contexts outside the study situation (Sandelowski, 1986).

Last, sensitivity as a validity criterion of qualitative research refers to research that is implemented in ways that are sensitive to the nature of human, cultural, and social contexts (Altheide & Johnson, 1994; Munhall, 1994). Multivocality of perspectives and voices should be reported (Altheide & Johnson, 1994). Ethical consideration in design and conduct of the research should be explicit. Lincoln (1995) also identified that sound "research serves the purpose of the community in which it was carried out rather than simply serving the community of knowledge producers and policymakers" (p. 280). Marshall (1990) agreed that participants of research should benefit in some way. Concern for human dignity and respect of participants ideally is demonstrated (Lincoln, 1995).

Techniques

Techniques contribute to validity in qualitative research as the methods employed in differing investigations to demonstrate or assure specific validity criteria. Qualitative research methodology requires a multitude of strategic choices, many of which are practical; however, the rationale for inquiry is not based on a set of determinate rules (Smith, 1990). Contextual factors contribute to the decision as to which technique will optimally reflect specific criteria of validity in particular research situations. Techniques can be "variously employed, adapted, and combined to achieve

TABLE 2: Techniques for Demonstrating Validity

<i>Type of Technique</i>	<i>Technique</i>
Design consideration	Developing a self-conscious research design Sampling decisions (i.e., sampling adequacy) Employing triangulation Giving voice Sharing perquisites of privilege
Data generating	Expressing issues of oppressed group Articulating data collection decisions Demonstrating prolonged engagement Demonstrating persistent observation Providing verbatim transcription Demonstrating saturation
Analytic	Articulating data analysis decisions Member checking Expert checking Performing quasistatistics Testing hypotheses in data analysis Using computer programs Drawing data reduction tables Exploring rival explanations Performing a literature review Analyzing negative case analysis Memoing Reflexive journaling Writing an interim report
Presentation	Bracketing Providing an audit trail Providing evidence that support interpretations Acknowledging the researcher perspective Providing thick descriptions

different purposes" (Wolcott, 1992, p. 27). Recognizing the ever-widening array of techniques from which to choose requires consideration of the purpose of the research and the background of the investigator (Wolcott, 1992). Justification of decisions regarding techniques and linkage of thought between technique, philosophy, and the research question must be evident (Sandelowski, 1986). Common techniques of qualitative research have been identified (see Table 2).

Summary

This synthesis of validity criteria in qualitative research reflects a contemporary reconceptualization of the debate and dialogue that have ensued in the literature over the years. Embedded within this proposed synthesis are the ideas that validity is essential to all scientific endeavors, that criteria can be identified that represent regulative ideals of interpretive inquiry, and that techniques can be used to strive toward the attainment of specified criteria. Qualitative investigators ideally consider validity issues throughout the process of inquiry, particularly in the planning and analytic phases. Findings subsequently need to be presented with an explicit articulation of the validity criteria of emphasis and the specific techniques employed, so that consumers of research can critique findings in a meaningful way.

TABLE 3: Assessment of Primary and Secondary Criteria of Validity

<i>Criteria</i>	<i>Assessment</i>
Primary criteria	
Credibility	Do the results of the research reflect the experience of participants or the context in a believable way?
Authenticity	Does a representation of the emic perspective exhibit awareness to the subtle differences in the voices of all participants?
Criticality	Does the research process demonstrate evidence of critical appraisal?
Integrity	Does the research reflect recursive and repetitive checks of validity as well as a humble presentation of findings?
Secondary criteria	
Explicitness	Have methodological decisions, interpretations, and investigator biases been addressed?
Vividness	Have thick and faithful descriptions been portrayed with artfulness and clarity?
Creativity	Have imaginative ways of organizing, presenting, and analyzing data been incorporated?
Thoroughness	Do the findings convincingly address the questions posed through completeness and saturation?
Congruence	Are the process and the findings congruent? Do all the themes fit together? Do findings fit into a context outside the study situation?
Sensitivity	Has the investigation been implemented in ways that are sensitive to the nature of human, cultural, and social contexts?

Specific questions to assess primary and secondary validity criteria have been summarized (see Table 3).

CONCLUSION

Specification of validity criteria in qualitative research has implications for both the research process and the research product. Past experience demonstrates the incompleteness of an overemphasis on process (science without art) as well as the potential for pseudoscience by an overemphasis on the research product (art without science). Researchers and consumers of research cannot become seduced by a catchy phrase or meticulous application of a systematic methodology. Attention to both process and product, art and science, contribute to validity and subsequently quality in qualitative research.

Quality in research is dependent on honest and forthright investigations (Marshall, 1990). Searching for alternative explanations and a self-critical attitude is imperative. Every study has biases and particular threats to validity, all methods have limitations, and research involves multiple interpretations as well as a moral and ethical component inherent in judgments (Marshall, 1990; Smith, 1990). What becomes most important is to determine the validity ideals of a particular study (criteria), employ the optimal methodological techniques, and to critically present the

research process in detail. Validity cannot be assumed, and presentation of research findings must invite the opportunity for critical reflection by consumers. The importance of explicating "how we claim to know what we know" (Altheide & Johnson, 1994, p. 496) is as essential as the claim to what we know. This contemporary synthesis of validity criteria in qualitative research facilitates the decision-making process for investigators and the evaluative process for consumers of research. Further development of validity criteria requires ongoing dialogue.

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