

Methodological rigour within a qualitative framework

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Submitted for publication 24 November 2003

Accepted for publication 7 June 2004

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TOBIN G.A. & BEGLEY C.M. (2004) *Journal of Advanced Nursing* 48(4), 388–396

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Aim. This paper discusses the literature on establishing rigour in research studies. It describes the methodological trinity of reliability, validity and generalization and explores some of the issues relating to establishing rigour in naturalistic inquiry.

Background. Those working within the naturalistic paradigm have questioned the issue of using validity, reliability and generalizability to demonstrate robustness of qualitative research. Triangulation has been used to demonstrate confirmability and completeness and has been one means of ensuring acceptability across paradigms. Emerging criteria such as goodness and trustworthiness can be used to evaluate the robustness of naturalistic inquiry.

Discussion. It is argued that the transference of terms across paradigms is inappropriate; however, if we reject the concepts of validity and reliability, we reject the concept of rigour. Rejection of rigour undermines acceptance of qualitative research as a systematic process that can contribute to the advancement of knowledge. Emerging criteria for demonstrating robustness in qualitative inquiry, such as authenticity, trustworthiness and goodness, need to be considered. Goodness, when not seen as a separate construct but as an integral and embedded component of the research process, should be useful in assuring quality of the entire study. Triangulation is a tried and tested means of offering completeness, particularly in mixed-method research. When multiple types of triangulation are used appropriately as the 'triangulation state of mind', they approach the concept of crystallization, which allows for infinite variety of angles of approach.

Conclusion. Qualitative researchers need to be explicit about how and why they choose specific legitimizing criteria in ensuring the robustness of their inquiries. A shift from a position of fundamentalism to a more pluralistic approach as a means of legitimizing naturalistic inquiry is advocated.

Keywords: reliability, validity, generalization, trustworthiness, triangulation, crystallization

Introduction

According to Kvale (1995), the concepts validity, reliability and generalization have virtually attained religious sanctification, almost reaching the status of a holy trinity, worshipped by all true believers in science. In this paper, we explore the 'trinity of truth' as a means of offering legitimization and demonstrating rigour in naturalistic inquiry. We identify the origins of the debate around validating qualitative studies, explore the idea of triangulation vs. crystallization, and propose a move towards the use of emerging criteria for assessing quality and robustness in qualitative research.

Legitimizing research

In recent discussions, the role of validity, reliability and generalizability has been questioned, and within a naturalistic (qualitative) paradigm the concept of an objective reality validating knowledge has been generally discarded (Kvale 1995). Debate about the relationship between rationalistic (quantitative) and naturalistic paradigms is often muddled and confused (Bryman 2002), and the clutter of terms and arguments has resulted in the concepts becoming obscure and unrecognizable (Morse *et al.* 2002). Difficulty arises because of a tendency to discuss philosophical and technical issues in the same context: 'Philosophical issues relate to questions of epistemology...technical issues bespeak the consideration of the superiority or appropriateness of methods of research in relation to one another' (Bryman 2002, p. 14). The former is theoretical and the latter intensely practical.

Although guidelines on the establishment of validity, reliability and generalizability have been vigorously debated across disciplines (Mays & Pope 2000), many who do not embrace the qualitative paradigm remain sceptical. It has been suggested that, despite the long history and undeniable contribution of qualitative research, opponents of these methods dismiss qualitative criteria as radical, non-rigorous and subjective (Denzin & Lincoln 2000b). This same critique also emerges from qualitative authors such as Van Maanen (1995), Smith and Deemer (2000) and Morse *et al.* (2002). It could be argued that this crisis arose as researchers moved from a detached outsider position to that of integrated insider; from the researcher using a research instrument to the researcher being the instrument (McCracken 1988).

Debate around the relevance and use in the naturalistic paradigm of the terms validity, reliability and generalizability has continued over 20 years (Guba & Lincoln 1981,

Sandelowski 1986, Mishler 1990, Lather 1995, Lincoln 1995, Morse *et al.* 2001). Much of current understanding of the difficulties associated with these concepts has emerged as researchers have striven for clarity of purpose in qualitative methodologies (Lather 1993, Altheide & Johnson 1994). Differences in epistemological perspectives between the two paradigms have been highlighted, particularly by qualitative researchers as they have endeavoured to establish arguments for rigour in their methodology (Bryman 2002). It has been suggested that concerns about rigour may be due partly to the fact that we are being drawn into a positivist, reductionist mode of thought and in the process are losing integrity in our own methodological positions (Aroni *et al.* 1999). It seems that, due to a long history of producing important findings, quantitative research has become the language of research rather than the language of a particular paradigm. Use of this language in qualitative research, and the need to 'prove' that an 'unbiased' approach has been used may stem from a desire for intellectual and scientific acceptance by the academic community.

Quality assurance criteria

Language is the basis on which philosophical beliefs are articulated and communicated. As language differs within philosophical perspectives, it is argued that the transference of terms across paradigms is inappropriate (Hamberg & Johansson 1999). Values, beliefs, epistemology and ontology of paradigms may not be comparable and may be semantically incompatible. This has led to a number of developments in qualitative inquiry, especially in the areas of quality and robustness of research; however, establishing a consensus on criteria for assessing quality of a qualitative study remains elusive. Indeed, some authors have questioned whether consensus can or will be achieved (Wainwright 1997, Sparks 2001, Seale 2002). As the field of qualitative inquiry is still emerging and being defined, what is needed is not consensus but a recognition of emerging criteria in the qualitative paradigm (Lincoln 1995).

Epistemological developments in qualitative research

The evolution of qualitative research has been discussed as a methodological journey. Writing on epistemological developments, Denzin and Lincoln (2000a) identify seven major moments or 'turns' in qualitative research (Table 1).

These turns offer a picture of epistemological, philosophical and methodological developments of qualitative research methods, and trace the epistemology of validity and reliability as concepts.

Table 1 Seven moments of qualitative research

Moments	Period	Focus	Output
1. The traditional period	Early 1900s–World War II	Offered valid, reliable and objective interpretations	Researchers wrote objective accounts which reflected the positivist paradigm
2. The modernist phase	Post-World War II–1970s and still present today	Social realism, naturalism and slice of life ethnographies	Formalization of qualitative methods. Rigorous qualitative analysis
3. The blurred genres	1970–1986	Symbolic interactionism, constructivism, naturalistic inquiry, positivism and postpositivism, phenomenology, ethnomethodology, critical theory, neo-Marxist theory, semiotics, structuralism, and feminism	Diverse ways of collecting and analysing empirical material. Computerization was influencing data management and analysis
4. Crisis of representation	Mid-1980s	Anthropological challenge, critical feminist theory Issues of validity, reliability and objectivity became once more unsettled and open to discourse	Writings became more reflective. Issues regarding gender, class and race emerged. Writing becomes a method of inquiry through successive stages of self-reflection
5. Postmodern period	Late 1980s–1990s	A struggle for making sense of the crises Action, participatory and activist-orientated research emerges	Struggle to represent the ‘other’. Reflections on the responsibility of social researchers strives to punctuate all texts
6. Postexperimental period	Late 1990s–new millennium	Fictional ethnographies, ethnographic poetry and multimedia texts	Researcher seek to connect writings to the needs of society
7. The future			

From Denzin and Lincoln (2000b, pp. 12–18).

Rigour

A major argument presented in the literature concerns the need for a new approach and to reject anything that might link qualitative inquiry to the positivist quantitative approach; hence, the rejection of the terms validity and reliability (Peck & Secker 1999, Whittemore *et al.* 2001). The reasons for rejection of these terms as pertaining to a quantitative paradigm and therefore not pertinent to qualitative inquiry have been clearly argued (Altheide & Johnson 1994, Leninger 1994), but this outright denunciation has been cautioned by Morse (1999), as it may result in qualitative research being rejected as a science. She points out that science is concerned with rigour and that if we reject the concepts of validity and reliability, we reject the concept of rigour. If we reject scientific enquiry, we are undermining the belief that qualitative research is a scientific process that has a valued contribution to make to the advancement of knowledge.

Rigour is the means by which we demonstrate integrity and competence (Aroni *et al.* 1999), a way of demonstrating the legitimacy of the research process. Without rigour, there is a danger that research may become fictional journalism, worthless as contributing to knowledge (Morse *et al.* 2002). However, in response to Morse’s caution, we suggest that qualitative researchers are not rejecting the concept of rigour, but are placing it within the epistemology of their work and making it more appropriate to their aims.

The need to incorporate rigour, subjectivity and creativity into the scientific process of qualitative research has fuelled debate over the issues of bias and the process of demonstrating validity (Johnson 1999). Slevin and Sines (2000) identify use of rigorous methods of assessing truth and consistency as a means of ensuring that their findings represent reality. However, Van Manen (1990), Smith (1993), Denzin and Lincoln (2000a) and Arminio and Hultgren (2002) have all challenged the concept of rigour, arguing that by its nature it is an empirical analytical term and therefore does not fit into an interpretive approach. This view is refuted by Aroni *et al.* (1999), who suggest that concern about the demonstration of rigour is due to a struggle for legitimacy in a discipline that is dominated historically by the positivist paradigm. The representation of reality is the means of legitimizing the research and demonstrating the researcher’s integrity (Slevin & Sines 2000). Rigour is the means by which we show integrity and competence: it is about ethics and politics, regardless of the paradigm. Lincoln (1995, p. 287) suggests that ‘the standards for quality in interpretive social science are also standards for ethics’. The attributes of rigour span all research approaches. It is the construction, application and operationalization of these attributes that require innovation, creativity and transparency in qualitative study. Use of the

term 'validity' changes somewhat as it translates the language of rationalistic to naturalistic paradigms. However, some writers have rejected the term completely and use others, such as trustworthiness, which is demonstrated through credibility, transferability, dependability, and confirmability (Lincoln & Guba 1985), peer debriefing, audit trail, member checks (Guba & Lincoln 1981), soundness (Marshall & Rossman 1989) and triangulation (Begley 1996b, Creswell 2002, Tobin & Begley 2002).

Goodness

Goodness is one application of rigour suggested by Smith (1993), Denzin and Lincoln (2000a), and Arminio and Hultgren (2002). They present the concept of goodness as a means of locating situatedness, trustworthiness and authenticity. This move towards goodness allows interpretive researchers to shift away from the shadow of empirical-analytical expectations (Arminio & Hultgren 2002). Goodness is not seen as a separate construct, but as an integral and embedded component of the research process (Mishler 1990). In this respect, the goodness of a study cannot be limited merely to a discussion in a methodology section, but the essence of goodness must be reflected by the entire study. Arminio and Hultgren (2002) recommend that there should be at least six elements in an interpretive study through which goodness is shown:

- Foundation (epistemology and theory) – this provides the philosophical stance and gives context to and informs the study
- Approach (methodology) – specific grounding of the study's logic and criteria
- Collection of data (method) – explicitness about data collection and management
- Representation of voice (researcher and participant as multicultural subjects) – researchers reflect on their relationship with participants and the phenomena under exploration
- The art of meaning making (interpretation and presentation) – the process of presenting new insights through the data and chosen methodology
- Implication for professional practice (recommendations).

These six elements of the research process that are embedded throughout a research study, are central to communication of the study and should be explicit in the written report (Arminio and Hultgren (2002). However, the presentation of goodness as a linear process may be misleading as it could be applied solely to the writing up of projects and thus would become a '*post hoc*' standard. Qualitative research is not linear, as often presented in methodological literature, but dynamic and interactive. The researcher is

constantly moving back and forth between design and implementation (Morse *et al.* 2002). Goodness therefore becomes an overarching principle of qualitative inquiry and an interactive process that takes place throughout the study.

Qualitative researchers can move away from the language of positivist concerns with validity and reliability and embrace a more illuminative approach when offering evidence of goodness. However, in doing so are we simply introducing another word that says the same thing? Arminio and Hultgren's (2002) suggested linear model of ensuring goodness appears to have similarities to other approaches that aim to highlight the robustness of a study. Are we in danger of introducing yet more confusion into the already turbulent waters of the validity debate? In embracing the latest 'fad' or newest terminology, are we becoming slaves to the consumerism of methodolatry (Janesick 2000)? Goodness may be viewed as developmental, leading to growth of understanding, surfacing of clarity, emerging of criteria (Lincoln 1995), and stretching of epistemologies (Janesick 1998). Whilst its origins might seem rooted in a need to defend our interpretative positions, it could be argued that there is a need to stand back, to take stock and examine our ontology, and to be judicious thinkers. In moving forward, we are not abandoning our held beliefs, or prostituting ourselves, as suggested by Aroni *et al.* (1999), but are refocusing our lens on the future (Hutchinson 2001).

Emerging criteria within the naturalistic paradigm

The 1980s saw the first main wave of qualitative literature, and the emergence of a new language for research. The introduction of Lincoln and Guba's ideas on trustworthiness provided an opportunity for naturalistic inquirers to explore new ways of expressing validity, reliability and generalizability outside the linguistic confines of a rationalistic paradigm. Lincoln and Guba (1985, p. 329) recognized that their criterion may be imperfect and that it 'stands in marked contrast to that of conventional inquiry [*positivist paradigm*] which claims to be utterly unassailable'. Their concepts of credibility and dependability were innovative and challenging, and they provided the initial platform from which much of current debate on rigour emerged. They refined their concept of trustworthiness by introducing criteria of credibility, transferability, dependability and confirmability (Lincoln & Guba 1985).

Credibility (comparable with internal validity) addresses the issue of 'fit' between respondents' views and the researcher's representation of them (Schwandt 2001). It poses the questions of whether the explanation fits the description (Janesick 2000) and whether the description is credible.

Credibility is demonstrated through a number of strategies: member checks, peer debriefing, prolonged engagement, persistent observation and audit trails (Lincoln 1995).

Transferability (comparable with external validity) refers to the generalizability of inquiry. In a naturalistic study, this concerns only to case-to-case transfer. Qualitative inquirers need to recognize that the comparable 'external validity' is substantially different in qualitative inquiry, as there is no single correct or 'true' interpretation in the naturalistic paradigm. Donmoyer (1990) argues that rejection of traditional perspectives of generalizability is required, as naturalistic inquiry has individual subjective meaning as central.

Dependability (comparable with reliability) is achieved through a process of auditing. Inquirers are responsible for ensuring that the process of research is logical, traceable and clearly documented (Schwandt 2001). Dependability can then be demonstrated through an audit trail, where others can examine the inquirer's documentation of data, methods, decisions and end product. Reflexivity is central to the audit trail, in which inquirers keep a self-critical account of the research process, including their internal and external dialogue. Auditing can also be used to authenticate confirmability.

Confirmability (comparable with objectivity or neutrality) is concerned with establishing that data and interpretations of the findings are not figments of the inquirer's imagination, but are clearly derived from the data.

The concept of trustworthiness has been challenged in the literature. Sparks (2001) argues that Lincoln and Guba's starting point was that of the conventional inquirer, and that their aim to develop parallel (comparable) criteria to replace the inappropriateness of the 'trinity of truth' is questionable. He refers to work by Smith (1993), Gallagher (1995), Bloor (1997) and Silverman (2000b) as highlighting the inconsistency of developing criteria that are parallel to positivist criteria, while rejecting the positivist paradigm. The concept of 'checking', as advocated by Lincoln and Guba (1985), is certainly antithetical to the epistemology of qualitative inquiry and reveals philosophical inconsistencies. Reflecting on their earlier positions and recognizing the critical comments, Guba and Lincoln (1994), and Christians (2000) address these imperfections by introducing authenticity as a fifth criterion.

Authenticity is regarded as a feature unique to naturalistic inquiry (Schwandt 2001). It is demonstrated if researchers can show a range of different realities (*fairness*), with depictions of their associated concerns, issues and underlying values. Demonstration of more sophisticated understanding (Guba & Lincoln 1994) and enlargement of personal constructions of the phenomenon being studied are referred to as *ontological authenticity*. The ability to

help people appreciate the viewpoints and constructions of others is indicative of *educative authenticity*. *Catalytic authenticity* is verified by stimulating some form of action, while the fifth marker of authenticity, *tactical authenticity*, is established through empowering others. As with their earlier criteria (Lincoln & Guba 1985), the developed ideas of authenticity are presented with a recognition that parallels with positivist criteria may 'make them suspect' and an acknowledgment of a 'need for further critique' (Guba & Lincoln 1994, p. 114).

Critiques by Silverman (2000a), Sparks (2001), Whittemore *et al.* (2001), and Morse *et al.* (2002) followed. Morse *et al.* (2002, p. 2) argue that there is a fundamental problem with the trustworthiness and authenticity criteria because they provide a *post hoc* strategy for evaluation of a study and avoid focussing on the process of verification during its conduct, thus running 'the risk of missing serious threats to the reliability and validity until it is too late to correct them'. They further suggest that the subtle move from constructive (during the process) to evaluative (*post hoc*) procedures has led to a situation in which there is little or no distinction between procedures that check validity during the course of inquiry.

One of the inconsistencies that was not addressed and still exists in Guba and Lincoln's work is the philosophical contradiction of member checking (Gallagher 1995, Silverman 2000b). A major critique offered by Smith (1993) challenges the appropriateness of procedures such as member or dependability checks when the philosophical idea of multiple realities has not been addressed. Smith and Deemer (2000) argue that attempts to establish criteria in the context of epistemological constructivism and ontological realism are unconvincing. It could be argued that this may lead to some confusion in recognizing the philosophical approaches adopted and might result in research which is fragmented and inadequately unpacked (Aamodt 1982). Baker *et al.* (1992) warns against this type of method slurring which, instead of adding to trustworthiness could contribute to lack of rigour.

Triangulation as verification

Triangulation is often presented as a means of addressing qualitative/quantitative differences. Various types of triangulation are described in the literature: data, investigator, theoretical, methodological (Mitchell 1986, Duffy 1987, Sohler 1988, Denzin 1989); unit of analysis (Kimchi *et al.* 1991); interdisciplinary triangulation (Janesick 1994); triangulation of communication skills (Begley 1996a); conceptual triangulation (Foster 1997); and collaborative triangulation (Tobin & Begley 2002).

In its early application, triangulation was seen as a means of combining rationalistic and naturalistic paradigms (Mitchell 1986, Duffy 1987). Combining qualitative and quantitative paradigms mirrors some of the issues discussed earlier about the merging of concepts of validity, reliability and generalizability. The difficulties with the 'trinity of truth' in the naturalistic paradigm were identified around the same time as inquirers embraced triangulation. Attempting to justify qualitative research by using triangulation may be another phase in the ongoing struggle for acceptance from the dominating scientific field. Certainly, Sandelowski (1995) believes that triangulation should only be used when data from one source are used to corroborate data from another, and when such convergent and consensual validity is valued.

The use of 'between method triangulation' has received much attention in the literature (Dootson 1995, Begley 1996b, Creswell 2002, Foss & Ellenfsen 2002). Jick (1979) cites the work of Campbell and Fiske (1959) and Webb *et al.* (1966) as some of the original nursing research that advocates the use of mixed methods. Their perspective was that, rather than being opposites, the mixing of paradigms might complement each other. Between method triangulation is advocated to 'circumvent the personal biases of investigators and to overcome the deficiencies intrinsic to a single-investigator, single-theory, or single method study, thus increasing the validity of the findings' (Kimchi *et al.* 1991, p. 365). Bouchard (1976) suggests that convergence or agreement between two methods strengthens the validation process, whereas Phillips (1988) cautions inquirers against blending methods, suggesting that the paradigms are epistemologically inconsistent. Tobin and Begley (2002) refute this perspective, suggesting that the belief that triangulation is only the blending of different methods of inquiry is a narrow one, and propose that researchers expand their use of less frequently employed types of triangulation.

Whilst it may be possible to mix methods, there is recognition that one paradigm may dominate (Dootson 1995). If real triangulation is to occur, each approach must be equally valued; if not, there may be problems when evaluating and presenting findings (Myers & Haase 1989, Aamodt 1991).

Triangulation as offering completeness

The need for validation is perceived as stemming from a positivist origin (Begley 1996b), and this may explain some of the dilemmas discussed above about transference of language across paradigms. The significant difference with methodological triangulation is that there is no such transference, as both methods are used in the same study. Therefore, it could

be argued that the language of both traditions must be used. Depending on the predominant beliefs of inquirers, their academic departments, or funding agencies, there may be a danger of one paradigm being seen as more important.

A difficulty may also occur when *confirmability* is seen as the sole purpose of using triangulation between or across methods. When the aim is to verify through confirmation, the underlying supposition is that confirmation is necessary to establish truth. Assumption of one single reality, and consequently a measure of accuracy as a means of validating this truth, is epistemologically unacceptable from a qualitative perspective (Cutcliffe & McKenna 1999). The view of triangulation as offering *completeness* gradually emerged in the literature (Jick 1983, Fielding & Fielding 1986, Redfern & Norman 1994). Completeness is important to qualitative inquirers, as it allows for recognition of multiple realities. Inquirers are thus not using triangulation as a means of *confirming* existing data, but as a means of enlarging the landscape of their inquiry, offering a deeper and more comprehensive picture.

The use of mixed methods continues to be advocated (Coyle & Williams 2000, Mactavish & Schleien 2000, Creswell 2002). Whilst the challenge for researchers may be to demonstrate thoroughness in their work, blindly incorporating mixed methods may lead to vague impressions and, rather than increasing robustness, may undermine it. Oberst (1993) argues that many who use triangulation fail to make explicit how this was achieved. There needs to be recognition of the epistemological cannons of approaches used if the work is to demonstrate a true mixture of perspectives. As with any decision in the research process, the option to incorporate triangulation must be carefully thought out and articulated.

Crystallization

Triangulation as a method of establishing completeness was critiqued by Richardson (2000), who argues that it carries the same domain assumptions of a fixed point or object that can be triangulated. She dismisses this fixed position and moves from plain geometry to light theory (Janesick 2000), proposing that we should not triangulate but crystallize. Recognizing that our world is 'far more than three sides' (Richardson 2000, p. 934), we are challenged to embrace the concept of crystallization. This enables a shift from seeing something as a fixed rigid two-dimensional object towards a concept of the crystal, which allows for infinite variety of shape, substance, transmutations, multi-dimensionalities and angles of approach. Whilst this is an inspiring image, there remains some concern with crystallization as a workable technique.

What is already known about this topic

- Reliability, validity and generalization are terms used in the positivist paradigm.
- Concern is expressed in the literature about use of such concepts to demonstrate rigour in naturalistic inquiry.
- Historically, triangulation in naturalistic inquiry appears to be used as a means of demonstrating confirmation and completeness.

What this paper adds

- Reliability, validity and generalization may not be the most appropriate tools for demonstrating robustness in naturalistic inquiry.
- Triangulation and crystallization are means of establishing completeness in naturalistic inquiry, rather than confirmation.
- The concepts of a triangulation state of mind and goodness are ways of ensuring the quality of naturalistic inquiry.

Little has been written on the concept of crystallization in qualitative research, and an example its operationalization and integration in a study has not yet been published. A major problem envisaged is that of complexity. Unless the concept is further explored and articulated, there is a danger that we will 'reinvent the wheel' and invent additional terms and definitions, leading to more confusion and ambiguity. If not clarified, the concept of crystallization may lead to blurred visions and deflexed understandings rather than new perspectives and insights.

Before the well-examined approach of triangulation is abandoned in favour of crystallization, researchers should consider the former's established benefits. The misconception that triangulation assumes one fixed rigid point with not more than three sides needs to be exposed. All definitions of the different types of triangulation state that it involves 'two or more' theories, methods, approaches, instruments or investigators providing data on the topic. The 'more' is limited only by resources available and can be so numerous as to constitute crystallization as portrayed by Richardson (2000). In early writings, when triangulation was described merely as a way of confirming findings, the idea of the 'one fixed rigid point' may have been accurate. More recently, researchers have written of the use of triangulation to provide completeness of findings by supplying 'a more inclusive view of (the participants') world' (Tobin & Begley 2002, p. 7) or by contributing 'an additional piece to the puzzle' (Knafel &

Breitmayer 1991, p. 229), mainly through maintaining a 'triangulation state of mind' (Miles & Huberman 1984, p. 235) throughout a study. All these statements imply the use of a number of different methods, approaches and points of view to obtain a more complete picture of a complex and diffuse phenomenon, rather than looking solely at three sides of a fixed point. For the future, regardless of whether the notion triangulation or crystallization is used, we need absolute clarity and coherence of descriptions; otherwise, our research may be vulnerable to charges that it lacks sound ontological and epistemological grounding (Tashakkori & Teddlie 1998).

Conclusion

It is clear from the literature that some disagreements remain about the demonstration of rigour in qualitative inquiry. Challenges towards validating or demonstrating rigour in the qualitative paradigm continue to be raised from the quantitative community and, as this paper has highlighted, questions are also being raised from within the qualitative community. This is to be encouraged, as debate will enable further clarity and ultimately lead to greater understanding and transparency. There is a need to avoid simplistic views of concepts such as robustness and triangulation as confirmation, and a requirement to demonstrate logical understanding of what we do, how we do it and, equally importantly, why we do it. We advocate a move from narrow methods of assuring rigour gleaned mainly from the positivist tradition to a more pluralistic approach as a means of legitimizing naturalistic inquiry. In particular, the concepts of a triangulation state of mind and search for goodness that should permeate a study from beginning to end are to be commended.

Acknowledgement

Gerard Tobin is supported by a Clinical Nursing Fellowship grant from the Health Research Board, Dublin.

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