

# **Do you see what I see? Enhancement of rigour in qualitative approaches to inquiry: A systematic review of evidence**

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## **Abstract**

### ***Purpose***

The purpose of this paper is to synthesise current literature on the conceptualisation of rigour within qualitative studies and to identify factors which contribute to the enhancement of rigour for the practical implementation of qualitative research.

### ***Design /methodology/approach***

This paper presents an interpretivist stance in line with a qualitative approach to research. A systematic review method was adopted to provide a structured and rigorous selection of relevant literature. Data was analysed using a thematic synthesis method, as outlined by Thomas and Harden (2008).

### ***Findings***

The results of the thematic synthesis identified seven descriptive themes in the literature: conceptualising rigour, conceptualising truth and value in knowledge generation, participant trust and communication of truth, rigour in research design and implementation, subjectivity, reflexivity and researcher identity, reader confidence and transparency and strategies for enhancing rigour. These descriptive themes were further developed into three analytical themes: ethical co-construction, methodological alignment and multi-perspective interpretation.

### ***Originality***

This paper presents an interdisciplinary exploration of the concept of rigour in qualitative research. The themes identified are applicable across fields and provide an original application of thematic synthesis.

Keywords: rigour (rigor), qualitative research, quality

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## Introduction

Although there is general consensus among researchers that there needs to be a means of ensuring quality within qualitative studies, there exists a lack of shared language to underpin consideration of factors and processes contributing to the quality of evidence presented in research reports (Armour *et al.*, 2009). Dixon-Woods, Shaw, Agarwal, and Smith (2004, p.223) stated that there is *'disagreement not only about the characteristics that define good quality qualitative research, but also on whether criteria for quality in qualitative research should exist at all'*. This argument against quality criteria within qualitative studies is driven by the recognition that traditional aspects of rigour have arisen within the positivist paradigm where researchers seek 'one truth' (Sale, 2008., Dixon-Woods *et al.*, 2004, Johnson, Adkins, and Chauvin, 2020). Tobin and Begley (2004, p. 389) cite concerns about the conceptualisation of rigour initially raised by Aroni *et al.* (1999) of *'being drawn into a positivist, reductionist mode of thought and in the process are losing integrity in our own methodological positions.'* Where studies do seek to establish criteria and approaches for evaluating and enhancing rigour in qualitative research, these predominantly focus on specific elements of the research design and evidence-gathering process (Rolfe, 2006; Meyrick, 2006). This research aims to reveal complex analytical themes from literature to provide a wider perspective of elements contributing to rigour in qualitative research.

The purpose of this paper is to synthesise current literature across different fields of research to explore conceptualisation of rigour within qualitative studies and to identify factors contributing to the enhancement of rigour to inform qualitative research. The research aims to:

1. define rigour in qualitative research
2. understand how rigour has been evaluated within qualitative research
3. explore what strategies have been found to influence rigour within qualitative research.

## Methodology

This paper aligns to the interpretivist paradigm and the research is underpinned by a process of social construction of knowledge (Kivunja and Kuyini, 2017). Within an interpretivist paradigm researchers aim to understand the subjective world of human experience (Guba and Lincoln, 1989), seeking to interpret multiple realities (Chalmers, Manley and Wasserman, 2005). There is an increasing acknowledgement that research within an interpretivist paradigm is subjective and value bound, where the researcher is part of what is being researched (Taylor and Medina, 2011). Therefore, within this study it is important to acknowledge that findings of the research have been influenced by the values and beliefs of the researchers as we sought to make sense of the data through interpretation and reasoning (Kivunja and Kuyini, 2017) and we have sought to represent this process transparently within this article.

## Data Collection

Systematic review is a well-established method for data collection, using an evidence-based source of research data, which when done properly should be transparent and repeatable (Boland, Cherry and Dickson, 2017). This systematic review summarises descriptive themes arising from the literature and aims to create new insights through meta-synthesis, where themes that go beyond the findings of the original articles are proposed (Thorne *et al.*, 2004). A form of meta-synthesis known as 'thematic synthesis' developed in health care by Thomas and Harden (2008) has been used in this study. The purpose of thematic synthesis is *'to generate abstract and formal theories'* from the literature, moving beyond a simple description of the literature, using data driven descriptive themes and theory driven analytical themes (Thomas and Harden, 2008, p. 7).

A literature search was carried out in July 2020 drawing on the full range of databases within EBSCO. The search terms used were: 'rigour' OR 'rigor' AND 'qualitative' [Boolean search in the

article titles]. For practical reasons we included only articles written in English, drawn from peer reviewed academic journals to ensure a baseline for quality. The total number of articles found from the initial search was 860 articles, which was reduced down to 743 after duplicates were removed.

The exclusion process across each review stage is detailed in Table 1:

Stage	Articles reviewed	Number of articles excluded
1	Review of the article titles of the 743 articles identified in the initial search.	535
2	Review of 208 article abstracts.	122
3	The full text articles were read for the remaining 86 articles.	39
Review	Following the exclusion process 47 articles remained and were analysed in the review.	-

Table 1: The exclusion process in article selection

Exclusion criteria:

Reliance on author's own opinion, with limited reference to literature or research evidence

Limited reference to rigour

Evaluating rigour of systematic reviews

Rigour in mixed methods

Collecting or evaluating quantitative data

Experimental design

Rigor mortis

Rigour in mathematics

Scientific rigour

Teaching of concepts of rigour

Academic rigour of courses

Evaluation of journal articles

Studies excluded on the basis of research field: e.g. neurobiology, accounting, drug therapy, political science, behavioural science, psychotherapy; bioethics, business, policing, strategic planning, geography and biology field studies, law.

The 47 articles included in the systematic review were drawn from a range of fields, including social work, health research, library and information services, interaction design, international development, counselling, education, sport and exercise and management research. The range of methodologies explored in the articles included: grounded theory, autoethnographic research, case study, action research, discourse analysis and focus group.

### **Data analysis**

For the initial phase of the data analysis a team of four researchers were randomly assigned a set of articles to read. A summary document was created for each of the articles which included author, date and title of the articles, a summary of the key themes emerging from the article in relation to rigour in qualitative research studies. NVIVO software was used to carry out coding of the articles to identify emergent themes related to the research aims. The analysis of the articles was carried out in three phases drawing on the thematic synthesis method of Thomas and Harden (2008):

Phase 1: Coding of text

Phase 2: Identification of descriptive themes

Phase 3: Analytical theme development through mapping of descriptive themes

## Findings

### Descriptive themes

The coding process generated seven descriptive themes:

- Descriptive Theme 1: Conceptualising rigour
- Descriptive Theme 2: Conceptualising truth and value in knowledge generation
- Descriptive Theme 3: Participant trust and communication of truth
- Descriptive Theme 4: Rigour in research design and implementation
- Descriptive Theme 5: Subjectivity, reflexivity and researcher identity
- Descriptive Theme 6: Reader confidence and transparency
- Descriptive Theme 7: Strategies for enhancing rigour

Table 2 provides an overview of the sub-themes that were coded each of the descriptive themes:

Descriptive themes	Codes representing sub-themes related to rigour with key text references
Descriptive Theme 1: Conceptualising rigour	<p><b>Terms associated with conceptualising rigour in qualitative studies</b></p> <p>Trustworthiness (Morse, 2015; Stewart <i>et al.</i> 2017)            Truth (Cypress, 2017; Smith, 2018)            Authenticity (Cypress, 2017; Smith, 2018)            Credibility (Cypress, 2017; Kingsley and Chapman, 2013; Chiovitti, 2003)            Reliability (Cypress, 2017; Smith, 2018)            Validity (Cypress, 2017; Kingsley and Chapman, 2013)            Relevance (Fallman and Stolterman, 2011; Smith, 2013; Greckhame, 2014)            Accurate representation / accuracy (Cypress, 2017; Bochner, 2018; Ryan; 2019)            Precision (Cypress, 2017; Harrison <i>et al.</i> 2001; Smith, 2018)            Authenticity (Cypress, 2017; Smith, 2018; Morse, 2015)            Thoroughness (Chiovitti, 2003; Cypress, 2017; Im <i>et al.</i> 2004)            Legitimacy (Tobin and Begley, 2003)            Replication perspective (Nixon and Power, 2007; Porter, 2007)            Integrity (Greckhamer and Cilesiz, 2014; Barusch, 2011)            Robustness (Cypress, 2017; Porter, 2007)            Replicability (Dempsey, 2018; Morse, 2015)            Purposivity: evaluation of whether the research design aligns with aims and objectives of the research (Ryan, 2019)</p> <p><b>Types of rigour</b></p> <p>Methodological rigour (Armour, 2009; Cook, 2009)            Rigour in application of procedures / method (Cook, 2009)            Interpretive rigour (Cook, 2009)</p>
Descriptive Theme 2: Conceptualising truth and value in knowledge generation	<p>Nature of truth (Stewart <i>et al.</i> 2017, Hamilton 2020, Meyrick 2006; Rolfe, 2006; Barusch, 2011)            Applicability (Smith <i>et al.</i> 2013; Fallman and Stolterman, 2010)            Utility / usability of generated knowledge (Ryan, 2019; Porter, 2007; Stewart <i>et al.</i> 2017)            Value of generated knowledge (Stewart, 2017; Ryan, 2019)            Accurate portrayal of participants' experiences (Stewart <i>et al.</i> 2017; Hamilton, 2020; Ryan, 2019)            Complexity of evidence and mess in research data (Cook, 2009; Camfield, 2019; Rettke <i>et al.</i> 2018)</p>
Descriptive Theme 3: Participant trust and enabling communication of 'truth'	<p>Participants' ability to communicate effectively with the researcher (Rolfe, 2006; Stewart <i>et al.</i>, 2017; Ryan, 2019)            Impact of research design on participant responses (Kidd <i>et al.</i> 2000)            Impact of research context on insights generated (Stewart <i>et al.</i> 2017)            Building of trust between researcher and participants (Hamilton, 2020)            Participants as partners in knowledge generation (Smith, 2013)</p>
Descriptive Theme 4: Rigour in research design and implementation	<p>Complexity associated with researching social contexts (Maggs-Rapport, 2001)            Concept of 'mess' in action research (Cook, 2009)            Engagement with complexity through researcher immersion (Rettke, 2018)</p>

	<p>Alignment of research methods with research questions / aims (Penn and Lloyd, 2007; Armour, 2009; Hamilton, 2020)</p> <p>Systematic approach to rigour embedded in the research design (Johnson <i>et al.</i>, 2020)</p> <p>Flexibility in the research design to enable dynamic adjustments to enhance rigour (Kane, 2008; Cypress, 2017)</p>
<p>Descriptive Theme 5: Subjectivity , reflexivity and researcher identity</p>	<p><b>Subjectivity</b></p> <p>Researcher bias (Rettke <i>et al.</i> 2018)</p> <p>Power imbalance (between researcher and participant) (Jakobsen. 2012)</p> <p>Distance between interpreter and subject (Cook, 2009)</p> <p>Active seeking out of subjectivity (Bradbury-Jones, 2007)</p> <p>Balance between prolonged engagement and distance (Kidd <i>et al.</i> 2000; Cook, 2009)</p> <p><b>Reflexivity</b></p> <p>Self-interrogation to identify internal conflict and paradox (Bradbury-Jones, 2007)</p> <p>Critical and reflective practice (Bradbury-Jones, 2007)</p> <p>Recognition of subjectivity (Darawsheh, 2014)</p> <p>Continual self-critique (Rettk <i>et al.</i> 2018)</p> <p>Enhances transparency (Darawsheh, 2014)</p>
<p>Descriptive Theme 6: Reader Confidence and transparency</p>	<p>Reader confidence (Hayes, 2016)</p> <p>Participant communication of truth to the researcher (Rolfe, 2006; Stewart <i>et al.</i> 2017)</p> <p>Credibility achieved by generating confidence (Barusch, 2011)</p> <p>Reflexivity enhancing reader confidence (Darawsheh, 2014)</p> <p>Openness (Barusch, 2011)</p> <p>Accountability (Barusch, 2011)</p> <p>Explicit sharing of philosophical approach and values Ryan (2019)</p> <p>Narrative transparency (Trainor and Graue, 2014)</p> <p>Transparency enhanced by reflexivity (Darawsheh, 2014)</p> <p>Transparency facilitated by systematicity (Meyrick, 2006)</p>
<p>Theme 7: Strategies for enhancing rigour</p>	<p>Prolonged engagement (Armour, 2009; Barusch, 2011)</p> <p>Peer review / debriefing (Armour, 2009; Barusch, 2011)</p> <p>Member checking (Armour, 2009; Barusch, 2011)</p> <p>Persistent observation (Barusch, 2011)</p> <p>Triangulation (Barusch, 2011; Melrose, 2001)</p> <p>Crystallization (Stewart <i>et al.</i> 2017)</p> <p>Negative case analysis (Barusch, 2011)</p> <p>Contradictory cases (Dempsey, 2018)</p> <p>Reflective journal (Bradbury-Jones, 2007)</p> <p>Achieving consensus - participatory action research (Langlois, 2014)</p> <p>Creating an audit trail of researcher decisions (Stewart <i>et al.</i> 2017)</p> <p>Systematic analysis grounded in epistemological and theoretical assumptions (Greckhamer, 2014)</p> <p>Embeddedness of the researcher the research process (Cook, 2009)</p> <p>Alignment of approaches to rigour with research paradigm (LeRoux, 2017)</p>

Table 2: Sub-themes identified through coding informing generation of descriptive themes

### *Descriptive Theme 1: Conceptualising Rigour*

The term ‘rigour’ has been adopted by many researchers when considering the quality of research. Terms commonly associated with the conceptualisation of research quality are presented in Table 3. Tobin and Begley (2004) listed a range of researchers such as: Van Manen (2020); Denzin and Lincoln (2000) and Arminio and Hultgren (2002) who have challenged the use of the term ‘rigour’ within an interpretivist paradigm, advocating the incompatibility due to its origin within a positivist paradigm.

<b>Components of the conceptualisation of research quality as ‘trustworthiness’ within an interpretivist paradigm (Lincoln and Guba, 1984)</b>	<b>Equivalent construct for conceptualising rigour within a positivist paradigm</b>
Truth (credibility, accuracy) and value	Internal validity
Applicability (transferability, currency)	External validity
Consistency (dependability)	Reliability
Neutrality	Objectivity

Table 3: Conceptualisations of rigour within interpretivist and positivist paradigms (Rolfe, 2006; Maher, Hadfield, Hutchings and de Eyto, 2018; Dempsey, 2018)

Cypress (2017) advocates the need for a consensus in the interpretivist research community, leading to consistent terminology and agreed approaches for conceptualising and evaluating rigour within qualitative inquiry. The debates among qualitative researchers on this issue fall broadly into two camps. The first, where rigour within a naturalistic paradigm is viewed from a ‘replication perspective’ in which the traditionally positivist terms validity and reliability are reconceptualised (Sparks, 2001, cited in Nixon and Power, 2007). The alternative view of rigour from a ‘parallel perspective’ takes the form of creation of an alternative conceptualisation of rigour within an interpretivist paradigm, for example ‘trustworthiness’ (Lincoln and Guba, 1995, cited in Barusch *et al.*, 2011). Table 3 illustrates alignment of elements of trustworthiness: credibility, transferability and dependability, with the concept of rigour traditionally associated with a positivist paradigm.

*Descriptive Theme 2: Conceptualising truth and value in knowledge generation*

Research aims to generate new knowledge that can develop understanding within a field of study (Rolfe, 2006; Cook, 2009), which is evaluated in terms of ‘truth’ as a marker of rigour (Stewart, Gapp and Harwood, 2017; Hamilton, 2020). Truth within qualitative enquiry has been associated with the authentic portrayal of participants’ experiences or perceptions (Stewart *et al.* 2017; Hamilton, 2020; Ryan and Ruddy, 2019). Thick and detailed data is often sought in the pursuit of truth within qualitative research (Barusch *et al.*, 2011 and Hamilton, 2020), taking the form of deep insight into particular phenomena, with detailed insights into the processes undertaken to reach the conclusions drawn (Barusch *et al.*, 2011). Stewart *et al.* (2017) consider the generation of useful knowledge which is applicable to wider practice or transferable to different contexts of knowledge when conceptualising ‘truth’, proposing consideration of usability and generalisability of knowledge generated through research.

Meyrick (2006, p. 801) proposes taking the view of ‘*guarding against error rather than falling into the philosophical quagmire of definitions of truth or who owns the truth*’. Rolfe (2006) highlights the difficulty associated with a view that there exists a single, universally agreed, external truth due to each person’s individual perspective that acts as a lens, informed by past experience and personal perspective. This leads to a view of the existence of many interpretations of “truth” that need to be taken into account when constructing evidence within a qualitative study: that of the reader, the participants and the researcher, all of which may vary and be influenced by their previous experiences (Rolfe, 2006; Meyrick, 2006; Barusch *et al.*, 2011).

*Descriptive Theme 3: Participant trust and communication of truth*

Smith, Schmidt, Edelen-Smith and Cook (2013) argue that rigour is enhanced in qualitative research through empowering participants to become partners in knowledge generation, allowing for both participants and researchers to contribute to developing rich data which leads to expanding insights into phenomena. Within much qualitative research the generation of evidence-based knowledge will be dependent on an participants’ ability to communicate effectively with the researcher (Rolfe, 2006; Stewart *et al.* 2017; Ryan and Ruddy, 2019). Clear communication between participant and researcher enables a shared understanding to be established (Dempsey, 2018), which is influenced

by the research design and skill of the researcher (Stewart, *et al.* 2017). Davies and Dodd (2002) explore rigour in interviewing, where it is proposed that rapport between interviewer and participant facilitates trust, enabling those being interviewed to '*feel comfortable about articulating their opinions, feelings, thoughts and experiences*' (p.283).

Unearthing of 'truth' is dependent on a number of factors, such as the research methods employed, the context and the participants involved in the study (Kidd and Parshall, 2000; Rolfe, 2006; Stewart *et al.*, 2017). The methods utilised during the data collection process may influence the 'truthfulness' of participants' responses. Kidd *et al.* (2000) for example highlight the potential impact of perceived pressure to conform on the ability of participants to express their own perceptions of 'truth' within a focus group discussion where coercion from other participants is possible. In addition, the researcher may inadvertently influence participants' ability to respond truthfully due lack of trust between participant and researcher or incorrect interpretation of evidence (Kidd *et al.*, 2000). It is also necessary to acknowledge that conceptions of truth are dependent on the specific research context being explored as the participants' experiences and perceptions will vary depending on the situation they are in (Stewart *et al.*, 2017). For an enquiry to lead to high quality insights, Maggs-Rapport (2001) and Ryan and Ruddy (2019) highlight the importance of conclusions remaining evidence based and being built on faithful representation of participants' experiences.

Within a quantitative approach, it is often considered necessary to maintain distance from participants to ensure the researcher's own subjectivities are not influencing the data analysis process, to reduce the effect of the researcher on participant's accounts (Kidd *et al.* 2000; Cook, 2009). Davies and Dodd (2002) raised the potential negative impact of distance between participant and research within the context of interviews perceiving it as a barrier to articulation of participants' opinions, feelings, thoughts and experiences, which could be bridged through building of trust. The need for careful attention to participants' insights, sufficient time for unhurried discussion and trusting relationships were identified by Hamilton (2020) as necessary to enable the gathering of rich data in the form of thick description when researching underrepresented minority populations. For qualitative research to truly reflect the 'social reality of the participants' (Maher *et al.* 2018, p.3), collection of rich data in the form of thick description is necessary (Hamilton, 2020). To achieve this, confidence of participants needs to be gained by the researcher through building trusting relationships with the researcher (Barusch *et al.*, 2011, Morse, 2015; Hamilton, 2020).

#### *Descriptive Theme 4: Rigour in research design and implementation*

Complexity characterises the study of social contexts, taking the form of actions, routines, decision-making and interactions between participants and context, where knowledge exists at an unconscious and conscious level and is situated within that context (Maggs-Rapport, 2001).

Researchers implementing qualitative approaches seek to engage with the complexity of interactions taking place within the research context (Harrison, *et al.*, 2001). Cook (2009) explored the concept of 'mess' within action research, which was conceptualised as uncertainty in the direction of the research design, suggesting that reporting of research needs to acknowledge and debate the existence of 'mess'. This conception of 'mess' can be aligned with an attempt to engage with the complexity of emerging evidence within a qualitative study. Engagement with complexity within a qualitative study is achieved through an immersive approach (Rettke, *et al.*, 2018), involving close researcher interaction with participants, often within the research context, which aims to enhance the depth of meaning that the researcher constructs (Cypress, 2017), to enable an 'insider perspective' to be gained (Dempsey, 2018).

Rigour in qualitative enquiries is associated with appropriate alignment of the research methods with research questions or aims (Penn and Lloyd, 2007; Armour *et al.*, 2009; Hamilton, 2020). Within a qualitative study there is a need to maintain a balance between systematicity to ensure rigour (Meyrick, 2006) while allowing for flexibility to respond to the unstructured nature of qualitative enquiry (Greckhamer and Cilesiz, 2014; Hays, Wood, Dahl and Kirk-Jenkins,

2016). Angen (2000, cited in Tuckett, 2005) asserts that the credibility of qualitative research depends on researcher skill and Stewart, *et al.* (2017) conceptualise this skill in both research design and implementation. The significance of researcher skill is exemplified in the context of interviewing, where the researcher needs to be an effective communicator, attuned through active listening to participants (Morse, 2015). A holistic approach to ensuring the rigour within qualitative studies has been proposed by several researchers (Chiovitti and Piran, 2003) where rigour remains a constant focus throughout the research process (Kane, Lloyd, McCluskey, Ridell, Stead and Weedon, 2008; Cypress, 2017). Flexibility associated with the qualitative enquiry process requires application of methods to be dynamic and to enable adjustment where needed to facilitate enhancement of rigour (Kane *et al.* 2008; Cypress, 2017). The research design cannot satisfy the criteria for rigour alone (Hays *et al.* 2016; Maher *et al.* 2018) and strategies engaged with for the enhancement of rigour in research design and implementation need made visible to the reader (Rolfe, 2006). Barusch *et al.* (2011) propose that accountability and transparency can be built into the research enquiry process (see Descriptive Theme 6).

#### *Descriptive Theme 5: Subjectivity, reflexivity and researcher identity*

Kane *et al.* (2008) highlight the role of the researcher in continually assessing the rigour of the study, adapting their practice accordingly. A complicating factor within qualitative studies is the subjective role of the researcher in the conceptualisation of truth (Rolfe, 2006; Barusch *et al.*, 2011; Stewart *et al.*, 2017). Maintaining a balance between interacting with and ensuring distance from participants needs to be considered with regard to the potential paradigmatic and theoretical stance of the researcher to influence the analysis and presentation of the data (Kidd *et al.* 2000; Cook, 2009). Subjectivity refers to the influence of prior experiences, pre-conceived ideas and prejudices on researcher actions and interpretations (Darawsheh, 2014; Rettke *et al.*, 2018). These subjectivities can influence all areas of the enquiry process from generating the initial questions, to data collection, analysis and the drawing of conclusions through interpretation of evidence (Bradbury-Jones, 2007; Darawsheh, 2014). Researchers may view their findings through a lens of prejudice, based on their previous knowledge and experiences and thus, conclusions drawn may be influenced by subjectivity (Darawsheh, 2014 and Rettke *et al.*, 2018). Within quantitative research designs subjectivity is considered to undermine the ability of the researcher to demonstrate that research is reliable and accurate as the researcher's biases may impact on the findings (Bradbury-Jones, 2007; Darawsheh, 2014; Rettke *et al.*, 2018).

Researchers hold conflicting views regarding whether subjectivity should be embraced as part of qualitative research (Rettke *et al.* 2018). Fereday and Muir-Chochrane (2006) highlight the necessity for researchers to assess the impact of their subjectivities on the rigour of qualitative enquiry. Subjectivities are particularly problematic when they remain implicit, where the researcher is not aware of the impact their prior experiences and ontological stance are having on the research process. Johnson *et al.* (2020, p.145) assert that due to '*the creative, interpretative and contextually bound nature of qualitative studies...any researcher biases not adequately addressed, or errors in judgement can affect the quality of the data and subsequent results*', highlighting the need for researchers to maintain self-awareness throughout the research process in an attempt to distinguish potential subjectivities and biases (Rettke *et al.* 2018).

Darawsheh (2014) considers the significance of reflexivity to facilitate engagement with researcher subjectivity, enabling transparency and ongoing enhancement. Reflexivity refers to the process of ongoing critical self-reflection by the researcher to gain awareness of potential subjective influences such as: underlying beliefs or feelings; the impact these may have on the research process; and how practice can be adapted to mitigate against potential barriers to the rigour of the research (Rettke *et al.*, 2018). Cypress (2017, p. 259) defines reflexivity as active engagement by the researcher in '*critical self-reflection about their potential biases and predispositions that they bring to the qualitative study.*' Reflexivity facilitates the process of situating the researcher at every stage in the research process, scaffolding their engagement in continuous self-reflection (Lambert *et al.*,



2010, cited in Darawsheh, 2014). Despite the growing emphasis on reflexivity within qualitative research, Rettke *et al.* (2018) raise the issue of limited appearance of accounts of reflexivity in research publications, compounded by the issue of lack of shared understanding of how reflexivity can be implemented to enhance rigour (Darawsheh, 2014).

*Descriptive Theme 6: Reader confidence and transparency*

Presentation of qualitative studies in a manner that is comprehensible and interpretable to the intended reader is essential for the findings of the study to be applied to transform practice (Rolfe, 2006; Cook, 2009). Hays *et al.* (2016) highlight the role of the reader in judging the quality of research findings, through evaluating the rigour of a study. The researcher needs to inspire reader confidence through presenting evidence to persuade the reader that the enquiry has maintained rigour throughout the research process (Rolfe, 2006). This may result in some complications, as the reader may not necessarily be knowledgeable about the factors that impact academic rigour and these factors vary across academic fields (Le Roux, 2017).

Rolfe (2006) presents the argument raised by Sandelowski (1993) that conceptualisation of quality in research in relation to ‘truth’ or ‘value’ is closely aligned with a positivist stance, with emphasis on transparency and auditability of the research process. The element of rigour of particular significance in considering the researcher-reader interface is Lincoln and Guba’s (1985) concept of credibility, also drawing on the constructs: applicability, accessibility and currency (Fallman and Stolterman, 2010). Rigour is enhanced through transparency in communication of every step of the research process in detail (Hays *et al.* 2016; Barusch *et al.*, 2011). Camfield (2019) proposes that strength of claims in qualitative data can only be judged where choices during data analysis are clearly documented through transparent and accessible reporting of evidence that can be interpreted by the reader, which enables the reader to evaluate the trustworthiness of the findings (Greckhamer and Cilesiz, 2014). Consequently, the researcher should demonstrate a reflective approach (Rolfe, 2006; Barusch *et al.*, 2011; Stewart *et al.* 2017), providing a rationale detailing and defending the choices made (Armour *et al.*, 2009; Greckhamer and Cilesiz, 2014; Hays *et al.* 2016), together with communication of insights into the researcher’s philosophical approach (Ryan and Ruddy, 2019).

Trainor and Graue (2014) highlight the ‘nonstandard’ nature of methods used in qualitative studies, which contributes to the need for transparency at three levels: methodological (insight into research), interpretive (the process of reasoning engaged with throughout the research) and narrative (how the participant world is recreated in the text). Inevitably attempts to represent complex actions and interactions through text are associated with simplification of the research design, implementation and interpretation of evidence (Anfara *et al.* and Harry *et al.* in Greckhamer and Cilesiz, 2014). The analytical process of construction by its very nature, presents a challenge to transparency within the research design (Camfield, 2019).

*Descriptive Theme 7: Strategies for enhancing rigour*

Table 4 presents strategies for enhancing rigour drawn from two literature reviews focussed on rigour in qualitative research:

- Hays *et al.* (2016): content analysis exploring rigour in a total of 68 qualitative research articles published in the journal of *Counselling and Development*, published between 1999 and 2014.
- Barusch *et al.* (2011): analysis of 100 qualitative research articles from the journal *Science and Social Sciences* published between 2003 and 2008.

Strategies for enhancing rigour	Percentage use of strategies in qualitative research studies
Sampling rationale provided	Barusch <i>et al.</i> 67% (n=67) Hays <i>et al.</i> 98.5% (n=67)
Triangulation	Barusch <i>et al.</i> 59% (n=59) Hays <i>et al.</i> 82.4% (n=56)

Problems/limitation identified	Barusch <i>et al.</i> 56% (n=56) Hays <i>et al.</i> 72.1% (n=49)
Detailed analysis / Complexity of analysis considered	Barusch, <i>et al.</i> 53% (n=53) Hays <i>et al.</i> 86.8% (n=59)
Theoretical framework discussed	Barusch <i>et al.</i> 50% (n=50)
Ethical considerations/ validation	Barusch <i>et al.</i> 44% (n=44) Hays <i>et al.</i> 85.3% (n=53)
Data triangulation	Barusch <i>et al.</i> 36% (n=36) Hays <i>et al.</i> data sources 89.7% (n= 61) data collection methods 64.7% (n=44)
Peer debriefing/ review	Barusch <i>et al.</i> 31% (n=31) Hays <i>et al.</i> 13.2% (n=9)
Member checking	Barusch, <i>et al.</i> 31% (n=31) Hays <i>et al.</i> 48.5% (n=33)
Theory triangulation	Barusch, <i>et al.</i> 18% (n=18) Hays <i>et al.</i> 61.8% (n=42)
Persistent observation	Barusch <i>et al.</i> 17% (n=17) Hays <i>et al.</i> 83.8% (n=57)
Thick description	Barusch <i>et al.</i> 16% (n=16) Hays <i>et al.</i> 98.5% (n=67)
Reflexivity	Barusch <i>et al.</i> 14% (n=14) Hays <i>et al.</i> 88.2% (n= 60)
Prolonged engagement Not applicable to interview research (Morse, 2015)	Barusch <i>et al.</i> 13% (n=13) Hays <i>et al.</i> 86.8% (n=59)
Audit trail	Barusch <i>et al.</i> 9% (n=9) Hays <i>et al.</i> 41.2% (n=28)
Theoretical saturation achieved	Barusch <i>et al.</i> 8% (n=8)
Negative/deviant case analysis.	Barusch <i>et al.</i> 8% (n=8) Hays <i>et al.</i> 11.8% (n=8)
External audit	Barusch <i>et al.</i> 7% (n=7) Hays <i>et al.</i> 41.2% (n=28)
Ontology/ epistemology specified	Barusch <i>et al.</i> 6% (n=6)
Quality introduction section	Hays <i>et al.</i> 100% (n=68)
Coherence	Hays <i>et al.</i> 66.2% (n=45)
Use of appropriate citations	Hays <i>et al.</i> 94.1% (n=64)
Integration of findings	Hays <i>et al.</i> 100% (n=68)

Table 4: Strategies for enhancing rigour within qualitative studies

Many of the strategies for enhancing rigour require a high level of researcher engagement in parts of the research process, for example prolonged engagement in the research context, persistent observation, reflexivity or generation of thick description (Barusch *et al.*, 2011 and Tuckett, 2005). In addition to the strategies for enhancing rigour listed in Table 4 the following were also found in other studies examined in this review:

- researcher journal to facilitate reflexivity (Bradbury-Jones, 2007);
- articulating mess (Cook, 2009);
- inter-rater reliability (Morse, 2015);
- achieving consensus (Langlois, Goudreau and Lalonde, 2014).

In addition to strategies for enhancing rigour, some articles present criteria for evaluating rigour in qualitative studies, for example the Quality Framework, that aims to cover all qualitative research disciplines (Meyrick, 2006).

## Analytical Themes

Phase 3 of the analysis generated three analytical themes drawing on the approach developed by Thomas and Harden (2008), and these are mapped to the descriptive themes in Table 5:

<b>Analytical Themes</b>	<b>Alignment to Descriptive Themes</b>
Analytical Theme 1: Ethical Co-construction	DT3 Participant trust and communication of truth DT2 Conceptualising 'truth and value in knowledge generation
Analytical Theme 2: Methodological Alignment	DT4 Rigour in research design and implementation DT5 Subjectivity, reflexivity and researcher identity DT 7 Strategies for enhancing rigour
Analytical Theme 3: Multi-perspective interpretation	DT1 Conceptualising rigour DT2 Conceptualising truth and value and knowledge generation DT6 Reader confidence and transparency

Table 5: Mapping of descriptive themes to analytical themes

### *Analytical Theme 1: Ethical co-construction*

Some researchers who oppose qualitative research approaches cite lack of rigour and researcher subjectivity as issues (Tobin and Begley, 2004). In quantitative research, distancing of the researcher from the participants is advocated with the aim of achieving greater objectivity in the research process (Scriven, 1997, cited in Cook, 2009). Within qualitative research approaches the researcher is integrated within the research process, becoming the instrument for evidence gathering, engaging with and interpreting the lived experiences of the participants (Tuckett, 2005; Trainor and Graue, 2014). Dempsey (2018, p. 378) refers to this as gaining 'insider perspective' and this is contrasted with 'distancing'. The role of the participant is considered by Cook (2009) within the context of collaborative or participatory action research, where participants are viewed as collaborators who provide their own insights into the research focus, with a resultant possibility of generating a myriad of complex insights. The potential for researchers to work in partnership with participants is exemplified by Cooke (2009) in the context of action research where research is done 'with people' rather than 'on people' to enable 'mutual sense-making' (p.287). This collaborative approach can be facilitated through establishing participative and democratic research communities (Cook, 2009), where researchers seek emotional and intuitive engagement with participants (Kingsley and Chapman, 2013). Barusch *et al.* (2011) explore the potential for co-construction of meanings with participants. Cook (2009) introduces the idea of engaging with research evidence from different perspectives, leading to 'multi-faceted reflections' where the participants themselves are given opportunities within the research design to inform 'new ways of seeing' (p.282).

Camfield (2019) proposes a close relationship between rigour and research ethics. The importance of considering power differentials is raised by Im *et al.* (2004), with a view to development of research designs based on mutual respect between researcher and participant. Heshusius (1994) conceptualised an ethically embedded, shared participatory approach '*achieved by relinquishing the need to control the research process*' (cited in Kingsley and Chapman, 2013, p. 564). Flexibility within qualitative research design is suggested as a means of empowering participants (Im *et al.*, 2004), for example, through enabling participants to lead the direction of the research through responding to their perceptions of what is important within the context being researched.

This paragraph explores themes beyond the scope of the articles identified in the original search in order to situate the analytical theme of ethical co-construction within the wider research

context. Ethical considerations in relation to rigour go beyond power relationships, encompassing themes such as safeguarding and risk to participants, reciprocity (giving back to participants) and the inter-related theme of justice (Van Brown, 2020; Louis-Charles, 2020). Mamo (2013) identifies aspects of justice in terms of *'equitable distribution of social goods, resources and opportunities, and a commitment to fostering empowered political participation'* (p.161). In contrast, ethics is viewed by Mamo (2013) as *'a rational and methodical application of values or principles for creating codes of conduct and moral courses of action'* (p. 161). Louis-Charles (2020) considers a justice approach to ethics within the context of post-disaster fieldwork; characterised by survivor agency and reciprocity. Taylor and Medina (2011) discuss 'authenticity criteria' focussed on the 'ethics of relationship' that can take the form of enabling participants to identify problems within their social context, learn more about their social world or to make improvements to their social situation through their involvement in research. These themes align closely with the concept of 'reciprocity' and Lather (1991, cited in Harrison, MacGibbon and Morton, 2001) associates empowerment of those being researched with an underlying aim of reciprocity within the research design, leading to generation of theory that emancipates and empowers the researched through enabling a collaborative approach to theorising.

### *Analytical Theme 2: Methodological Alignment*

The need for researchers to hold a clear philosophical perspective is proposed as an essential component of rigour in qualitative research (Im, Page, Lin, Tsai and Cheng, 2004). There is an inextricable relationship between the research approach within which the research design is embedded and the way in which rigour is conceptualised and evaluated (Fallman and Stolterman, 2010). Armour *et al.* (2009) and LeRoux (2017) provide insight into the necessity of strategies adopted to enhance rigour within qualitative studies to be aligned with the underpinning epistemology of the researcher. Stewart *et al.* (2017, p.7) highlight that *'the qualitative researcher is encouraged to give representation to their identity, as this is critical to the richness in interpretive social science (Ellingson, 2009; Ellingson 2012; Lambotte and Meunier, 2013).'*

To perform qualitative research rigorously, alignment of the research methods with the paradigms and values held by the researcher is proposed (Greckhamer and Cilesiz, 2014 and Le Roux, 2017). Trainor and Graue (2014, p. 267) highlight the significance of the researcher's paradigmatic stance in reflecting on the seminal insight presented by Bordieu (1990) that *'the culture of a given field shapes members' decisions about what is valuable, mediating practice and reinforcing institutional hierarchies'*. The strategies adopted by researchers to enhance rigour within different qualitative approaches in Table 6 illustrate alignment between the paradigms underpinning different research approaches and the strategies for enhancing rigour within the research design (Greckhamer and Cilesiz, 2014 and Le Roux, 2017).

Research approach	Sources	Strategies for enhancing rigour
Action research	Melrose (2001)	<ul style="list-style-type: none"> <li>- alignment of methods with the research paradigm;</li> <li>- negotiation of methods with the participants (vs imposing these);</li> <li>- transcript checking by participants;</li> <li>- self-reflective journals reflecting on changes and enhancement in participants' practice;</li> <li>- participant checking of researcher interpretations to ensure they are 'fair and faithful to the representations or stories and intentions of other participants' (p.170).</li> <li>- ensuring reports are comprehensible to intended audiences and communities of practice to inform enhancement in their practice.</li> </ul>
Case study	Kyburz-Graber (2004)	<ul style="list-style-type: none"> <li>- clear articulation of theoretical basis of the research</li> <li>- triangulation at the data collection and analysis stages</li> <li>- reasons for decisions in the research design process are documented</li> <li>- the writing of the research report involves a process of iterative review</li> </ul>
Grounded theory	Chiovitti and Piran (2003)	<ul style="list-style-type: none"> <li>- participants guide the inquiry process</li> <li>- theoretical construction generated are checked against participants' interpretations of the phenomenon</li> <li>- participants' actual words are used in the generation of theory</li> <li>- researcher's personal views and insights about the phenomenon are articulated</li> <li>- mapping of themes from literature to emergent theory arising from the research</li> </ul>

Table 6: Illustrative examples of strategies for enhancing rigour across different research approaches

### *Analytical Theme 3: Multi-perspective interpretation*

Analytical Theme 3 explores the interfaces between participant, researcher and reader when considering rigour within qualitative research. The qualitative researcher is conceptualised by Harrison *et al.* (2001) as mediator and facilitator, enabling the reader to enter the world of the participant. Nixon and Power (2007) reflect on an epistemological insight proposed by Sandelowski (1993) where rigour relates to a process of persuasion, facilitated by making the research visible rather than presenting a case for being 'right'. Porter (2007, p. 80) conceptualises 'active interpretation' of new knowledge by the researcher as interpreter and presenter, and the reader as receiver and evaluator of qualitative research findings. The transformation and transfer of evidence is conceptualised as a process of 'dynamic mediation' and the research report or article as '*a dynamic vehicle through which the researcher mediates between the participant and the reader*' (Porter, 2007, p.81). The reader can engage as an active participant in making sense of the research findings by engaging in the process of meaning making (Cook, 2009). Reader confidence is not guaranteed by the researcher striving for rigour through transparency, as lack of agreement regarding what counts as a rigorous approach can lead to research being considered high quality by one panel of readers but not by another (Stronach, 2007). Also, Bochner (2018) suggests that belonging to a particular research community can act as a barrier to a reader's openness to engaging with research that aligns with a research approach which conflicts with their ontological stance.

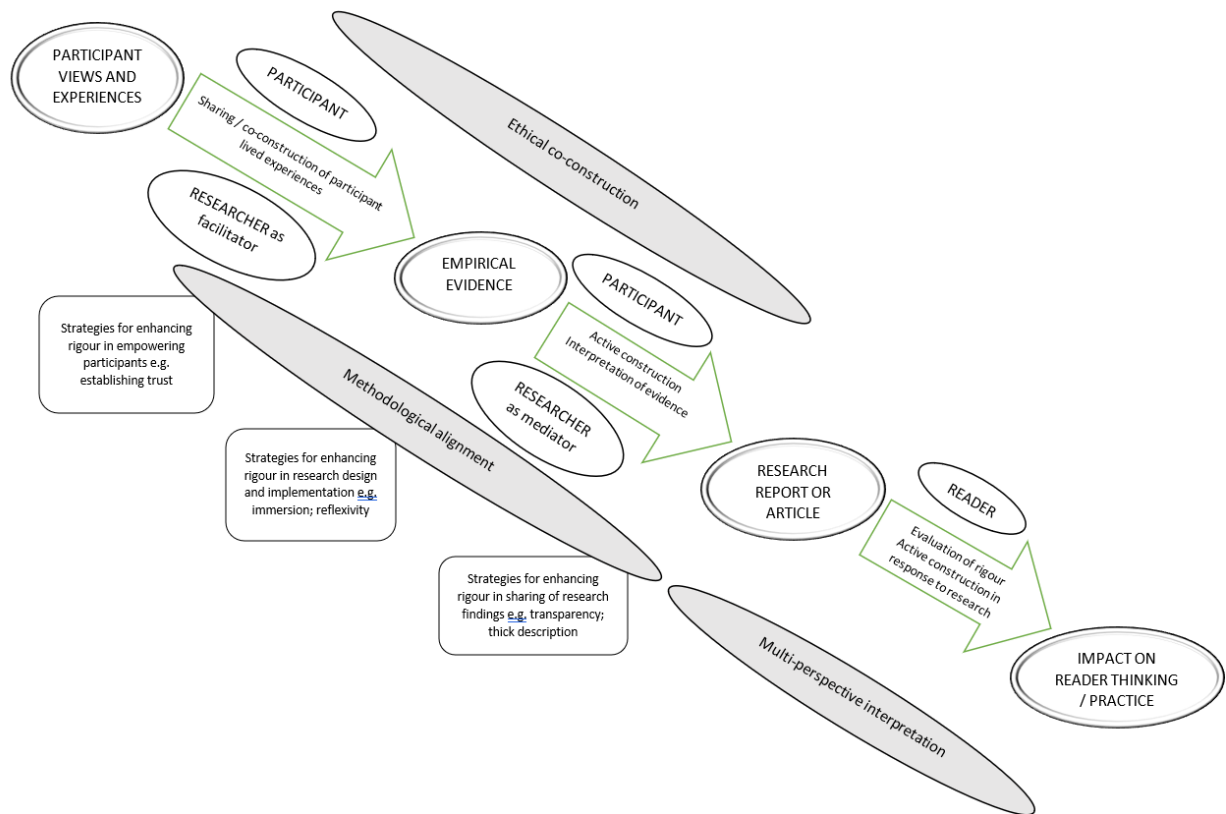


Figure 1: Visualising analytical themes within elements of the research process

## Conclusion

Tobin and Begley propose that despite there being shared attributes of rigour that cross the boundaries of qualitative research approaches, it is *“the construction, application and operationalization of these attributes that require innovation, creativity and transparency in qualitative study”* (Tobin and Begley, 2004, p.390). The evidence from this systematic review suggests that solely selecting a combination of strategies for enhancing rigour, even those that are carefully aligned with researcher epistemological stance, is not enough to ensure the rigour of qualitative studies. Instead, it is proposed that the inter-relationships between participant, researcher and reader need to be conceptualised, and this is presented visually in Figure 1. Understanding the role of the researcher as integrated within the research process (Tuchett, 2005; Trainor and Graue, 2014), leads to a view of the researcher as a mediator between participants and readers of the published research (Rolfe, 2006). As mediator, the researcher takes on the role of an enabler, empowering participants, so that their voices can be heard from within the context being studied (Harrison *et al.*, 2001). This aligns with Dempsey’s (2018) view of the researcher as an instrument immersed in the research process, facilitating ‘dynamic mediation’ between participant and reader (Porter, 2007, p.80). Barusch *et al.* (2011) highlight the influence of the researcher in the presentation of evidence: *‘all researchers write themselves into the text’* (p.12) where transparency enables the reader to evaluate the quality of the evidence and make judgements regarding the trustworthiness of the findings (Darawsheh, 2014). Therefore, considering rigour in terms of interfaces between participant, researcher and reader leads us back to the question asked in the title of this article: ‘Do you see what I see?’ It is proposed that to answer this question, the possibility of multiple perspectives of the ‘truth’ emerging from a qualitative study need to be considered, with rigour conceptualised as the extent to which the participants have been empowered in the research process to enable their experiences and views to be elucidated through an ethical and trustworthy process, and their ‘stories’ credibly and clearly told.

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