Transforming Research Methods in the Social Sciences

Case Studies from South Africa

EDITORS Sumaya Laher, Angelo Fynn and Sherianne Kramer

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Preface

This book was one of the more unusual undertakings made in our collective academic careers. The project to produce the book stemmed from a sense of frustration at the systematic restrictions to knowledge produced within the global South context. The book also has its roots in our experiences as emerging researchers and as the supervisors of emerging researchers where the gap between the manicured presentation of results in journal articles and the neat, systematic processes described in textbooks was often too difficult to bridge. From multiple conversations with other scholars, students and researchers in the social sciences, we had the sense that there was a need for a text that was freely available and demonstrated the realities of conducting specific forms of research in the global South context, one that would present original research conducted in our local context through the lens of methods.

Social science methods cover a wide variety of ontological, epistemological and political approaches. There have been a number of attempts over the years to create some form of taxonomy for the social sciences. However, the field continues to grow and evolve, generating new approaches and adapting existing approaches. Consequently, trying to structure a book seeking to present the scope of social sciences was particularly challenging. In this book, we have resorted to using the traditional frames of quantitative, qualitative and transformative methods to attempt to thematically group the various research approaches covered. However, the presentation of the chapters should not be viewed as a taxonomy for social sciences as many of them can and do cross the conceptual boundaries we have created to structure it. This book might be criticised for being uneven or for its inconsistent register across the various chapters. However, the variation between social science methods in practice represents a diversity of voices and approaches that are all best conveyed within the styles pertaining to their own research fields and methodological genres. We hope that this book adequately and authentically represents this diversity in the chapters selected.

While we tried to cover a broad array of approaches within the book, we do not claim that it is comprehensive or definitive. Rather, we see it as the first step in documenting and cataloguing the diversity of established and emerging approaches within the global South context. This book is simply the introductory chapter to, we hope, a larger body of work that will systematically transform how social science research is conducted within the global South. The final chapter of the book in particular provides a discussion of emerging trends that hold promise for the future of the social sciences, as well as critical issues we view as priorities for the field in general.

The availability of this book as open access also speaks to the future of knowledge production and dissemination. The ideal of freely accessible knowledge is gaining momentum across multiple social sectors, particularly in academia. The open access movements are discussed in detail in the first chapter of this book. However, free to the reader does not equate to free to produce. The popular

adage ‘there is no such thing as a free lunch’ can be seen as one of the primary inhibitors of widely produced open access work. The production of scholarly texts is time intensive and requires specialist knowledge acquired through years of experience by individuals. The costs are often carried by funders, institutions of higher education and government. We were prepared to undertake an extensive campaign aimed at lobbying academics, researchers and reviewers to freely give up their time, intellectual property and energy to work with us on this project. However, we were more than pleasantly surprised at the groundswell of support from a variety of established scholars who endorsed the idea of broadening access to knowledge within the global South. For this we are immensely grateful and humbled.

We hope that you will enjoy this book with its tapestry of case studies illustrating the various contexts within which social science research is produced. More so, we hope that the innovative methods used will inspire you to conduct your own research going forward.

Angelo Fynn, Sherianne Kramer and Sumaya Laher

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1 Research as practice: Contextualising applied research in the South African context

Sherianne Kramer, Angelo Fynn and Sumaya Laher

Introduction

Research is at its core concerned with knowledge production and dissemination. This chapter engages with the politics of research and knowledge production by outlining the ways that research is practised and 'made' in South Africa specifically and in the global South[1] more broadly. In addition, this chapter presents the implications of South African research politics for participation in global knowledge economies. Further, the chapter interrogates issues of open access and argues for the necessity of open access research resources to capacitate research in the global South. These arguments provide the frame for the relevance of the chapters in this book. Hence, this book is a response to two fundamental issues facing the social sciences in South Africa, namely the active production of knowledge relevant to the South African context and access to this knowledge beyond the spheres of university scholars with subsidised access to scholarly publications. As such, this book is both intentionally open access and context specific.

Throughout this chapter, and book, there are references to South Africa, developing contexts, and low- and high-income contexts, and we embed these references in broader discussions concerning global South and global North differences in terms of politics, economics, resources and cultures. However, this is not meant to imply that global North and South contexts always operate in opposition to each other. In fact, this book specifically aims to disrupt binary theorising and so would argue that elements of the global South are of course present in the global North and vice versa. Hence this book applies to global issues. Additionally, whilst comparison between the global North and South might imply that these are homogeneous contexts, we have tried to demonstrate as far as possible that both occupy constantly changing research landscapes with diverse political, economic and cultural issues and tensions that inform these landscapes. As such, discussions concerning global North and South contexts in this book should not be understood monolithically. Rather, both global North and South contexts should be treated as complex, dynamic and multifarious, and thus as both having quite complicated implications for research as practice.

Knowledge production and the political nature of research

The examination of research politics and who has access to the knowledge economy must be prefaced by a discussion of the context and modes of knowledge production. Here we refer to the mechanisms by which knowledge is selected, made and disseminated as well as the sociocultural norms that dictate what may or may not be considered as worthy and valuable knowledge.

Traditionally, knowledge has been produced by and disseminated within university and other higher education structures. Gibbons and colleagues (1994) use the term 'Mode 1' to describe research practices whereby universities hold 'the monopoly in providing training, credentialing, and knowledge production' (Jansen, 2002, p. 509). Contemporary modes of knowledge production have taken a more interactive and dynamic approach such that research is distributed more widely and is far more heterogeneous, reflexive, application-based and transdisciplinary in nature (Hessels & Van Lente, 2008). This 'new' mode of knowledge production was coined by Gibbons et al. (1994) as 'Mode 2'. In their book *The New Production of Knowledge*, Gibbons and colleagues (1994) distinguish between Mode 1 and Mode 2 knowledge-making mechanisms and argue that the transformation of research such that it is based on practice, overlaps disciplines and is produced by and within a variety of organisations is core to a number of modern research practices, including the globalisation and commodification of knowledge and the massification of higher education systems.

More recent postmodern attempts to establish the nature of Mode 2 knowledge production have focused on research quality, especially with regards to its ability to present itself as 'contextualised science'. Specifically, these postmodern depictions of Mode 2 are focused on how science must be socially aware, socially responsible and constantly engaged in conversation and an exchange of ideas with society. This results in a socially robust set of knowledge productions that includes non-academic and non-scientific participants in the research process, thus boosting research credibility and reliability (Nowotny, Scott, Gibbons & Scott, 2001). While Mode 2 knowledge production seems to certainly dominate the form and nature of contemporary science, criticism has been lodged against this nomenclature of knowledge. These critiques claim that while contemporary research may be increasingly applied, there are still scientific projects that are structured as pure basic research. In addition, the claim that research is transdisciplinary, that it is evolving to attain a universal framework, may be premature given that most journals and scientific projects are still discipline specific (Hessels & Van Lente, 2008). Notwithstanding these and other criticisms, the massification of higher education systems and increasing international competition for the production and dissemination of knowledge have certainly contributed to the demand for a shift in the nature, form and politics of research such that it more closely aligns to a Mode 2 model.

The shift to knowledge-producing systems that are widely socially disseminated has a number of international and local implications. For universities, these challenges relate to sharing resources with other kinds of institutions, learning to collaborate with partners that are not necessarily academic or scientific, and

working with funding and policy requirements that traverse disciplines and are diffused across applied contexts (Godin & Gingras, 2000; Jansen, 2002). This of course has repercussions for the way knowledge evolves, especially for postcolonial contexts such as South Africa.

The postcolonial politics of 'making' knowledge

The demand for accountable, socially relevant and contextually sound research has resulted in the global shift towards applied, transdisciplinary knowledge-making practices. In turn, traditional knowledge 'producers' such as universities and other higher education structures are collaborating with partners in the health, government, education and community sectors as a means to produce research that targets 'real world' social, economic and political issues (Waghid, 2002). Gibbons and colleagues' (1994) Mode 2 proposal for knowledge production makes for an appealing model for South African and other global South contexts as it offers the opportunity for developing contexts to become globally competitive whilst pooling resources through its transdisciplinary (and thus heterogeneous) structure. The outcome is a socially accountable and reflexive model of knowledge production that is localised to ensure that research is focused on social issues rather than on the traditional Mode 1 focus on individual academic interests (Winberg, 2006). This is significant because it allows South African research to remain locally focused whilst engaging in internationally endorsed modes of knowledge-making such that traditional, and often oppressive, global North research practices become undone.

Some of these practices, such as the exclusion of global South scholars from international journals, the privileging of English and other Eurocentric languages in journals and academic texts (Canagarajah, 1996) and the unequal distribution of scientific resources to the global South, are thus overcome through South African scientists' participation in Mode 2 models of knowledge production. This said, knowledge has become a commodity and its production is also attached to professional privileges (such as promotion) (Jazeel & McFarlane, 2010). Accordingly, research practice, at least in the global South, exists at the intersection of various tensions. These tensions play out in the struggle between various, and sometimes opposing, research objectives including the need to be socially accountable, the call for context relevance, funders' requirements, professional demands and expectations, global visibility and the moral appeal for research to contribute to social change and policy. Knowledge production, and specifically Mode 2 models of it, thus must take cognisance of particular issues in developing contexts so that these struggles and tensions are reduced. For Winberg (2006), the key to this balancing act is to focus on the transdisciplinary aspect of Mode 2 research practice.

Nowotny and colleagues (2001) call for socially robust knowledge-making practices. Winberg (2006, p. 161) argues that transdisciplinarity can achieve this through the use of 'appropriate technologies, environmentally sensitive production methods, [and] ethical exploitation of indigenous knowledge'. In addition, knowledge production in developing contexts should be achieved

through reflexive practices that endorse novel approaches to problem solving, deconstruct traditional research approaches and reconstruct transformative and localised frameworks for making knowledge. This reflexive method of knowledge production should be advocated in developing contexts such that students and young scholars are empowered with critical and reflexive research skills that ensure a transformative, thoughtful and context-driven yet internationally valuable research base. This, of course, has major implications in South Africa, where knowledge and those that make and use it are often a function of apartheid legacies such as uneven access to higher education facilities, unequal employment opportunities in research-based institutions and underrepresentation of previously disadvantaged groups in knowledge-making contexts (Waghid, 2002).

This book endorses research methodologies that subscribe to Mode 2 approaches. Rather than focusing on traditional research methods that are often rigid, applied to single disciplines, Eurocentric and based on individuals' academic interests, this book pays special attention to research methods that are ethical, reflexive, socially accountable, transdisciplinary, context specific and based on social needs, especially those in the developing world. In so doing, this book calls for a transformative approach to using research methods in making knowledge. This transformative approach, coupled with the open access nature of the book and the diverse nature of its authors, is key to the dismantling of oppressive practices in knowledge production, made possible by the global North foothold in the knowledge-making market and the inheritance of oppressive practices of systems such as apartheid.

Global inequalities in research practice and knowledge production

Research practice is, at least in global North models, mostly taught as if there is a neat linear movement from data collection to analysis and interpretation. However, South Africa is characterised by a range of culturally diverse communities that are in constant flux and are dynamic in nature. They are also usually typified by racialised tensions, gender inequalities, socioeconomic disparities and high levels of violence (Kramer, Seedat, Lazarus & Suffla, 2011). As a consequence, any research conducted in South African contexts is likely to be challenging with regards to access to resources for data collection purposes and issues related to power differentials between researchers and participants. In turn, research in the global South is often met with a variety of challenges and obstacles in early phases of the research process which makes the 'neat' linear movement to data analysis and interpretation both messy and unlikely. It is thus important to surface these issues at the outset of this book so that these South African-specific tensions are more easily understood in the context of later chapters.

Data collection begins with the practice of ethical procedures such as obtaining informed consent. Given that South Africa is characterised by linguistic diversity, there may be linguistic barriers between researchers and participants, whereby participants may not fully understand what they are consenting to. In

addition, there is a high percentage of uneducated people in South Africa and the African region, which implies that some participants may be illiterate and thus unable to read an information sheet or give written consent. This has obvious implications for the objective of ethical imperatives in research – the integrity, safety and protection of participants (Benatar, 2002). As such, the researchers in this book have explicitly shared the ethical considerations that they made in using their research methods, and the ways that they may have overcome particular ethical dilemmas related to working in the South African context.

Data collection in the context of the global South also presents a variety of challenges to researchers. Firstly, the use of both quantitative and qualitative instruments that are developed and interpreted by a professional group of researchers may be inappropriate or irrelevant in particular contexts (see Laher & Cockcroft, 2017). Even when Eurocentric or Americanised instruments are adapted and translated so that they are context appropriate, these adaptations are still conducted by researchers that are likely to be external to the community in which the participants are immersed (Murphy & Davidshofer, 2005). In addition, the way the researchers use the instruments and treat the participants may inadvertently locate this group as 'experts by virtue of their access to theory, resources and knowledge legitimating mechanisms' (Kramer et al., 2011, p. 513). This power dynamic is further exacerbated by the fact that very often researchers are external agents entering communities of interest and they very rarely are sufficiently immersed in the context (Homan, 2004; Potter & Kruger, 2001). The views of the researchers are thus often prioritised and the voices of interest to the research regularly remain silenced. It is therefore essential for researchers to sufficiently engage with their own ideological biases and assumptions (Benatar, 2002) and to simultaneously attempt to identify and mobilise the participants' voices, especially those that are disadvantaged and marginalised. In this way, South African research will refrain from replicating the oppressive practices of the past that so often filter into research practice in the country as a consequence of engrained apartheid legacies. Many of the chapters in this book use the call for context-based understandings of research methods as a means to interrogate these issues. This is especially achieved in the chapters on feminist approaches (Chapter 14), Photovoice methodologies (Chapter 22), ethnography (Chapter 16) and appreciative inquiry (Chapter 21), amongst others.

The aforementioned issues continue to be problematic once data are translated into findings and produced as knowledge for dissemination. Knowledge production in the global South often takes the form of what Grosfoguel (2011) refers to as 'imperial epistemology' – theory is produced by and positioned from a global North perspective, even when the subjects of the research are located in the global South. This has the tendency to reduce, minimise, misinterpret or misread the perspectives of those subjects being studied, thus further working to marginalise subjects in developing contexts whilst simultaneously reinforcing and privileging already dominant global North perspectives. This book hopes to challenge this narrative as it is written by and for South African and global South researchers with the objective of platforming both South

African-based perspectives on research and adaptations and innovations of research methodologies that are particular to developing contexts – in both theory and practice.

Of further concern is the issue of the role of the state and/or other funders in knowledge production. The relationship between the state and the scientific community is often contentious and centred on the debate on scientific autonomy in relation to the relevance of the scientific project to state goals or the greater social good. While it is beyond the scope of this chapter to fully elaborate on the nature and scope of the autonomy debate, the point made here is that the relationship between the state, as one of the primary funders of scientific research, and the scientific communities in South Africa must be unpacked in any consideration of knowledge production. The role of funders (state or otherwise) in the agenda setting and implementation of systematic scientific research has been widely discussed and debated (see Chu, Jayaraman, Kyamanywa & Ntakiyiruta, 2014; Mouton et al., 2008). Mouton et al. (2008) show that 42% of South African Development Community scientists surveyed (n = 600) sourced between 70% and 90% of their funding from overseas; however, only 6% of South African scientists reported similar funding proportions. South Africa has a number of central funding agencies, including the National Research Foundation, the South African Medical Research Council and the Department of Science and Technology, among others. The majority of research expenditure for the period 2004 to 2006 was in the natural and engineering sciences (48%), with social sciences and humanities drawing 31% of these funds (Mouton et al., 2008).

While there appears to be substantial local funder support for knowledge production in South Africa, scientific knowledge in Africa tends to be less visible on the international landscape (Mouton et al., 2008). There are a number of reasons contributing to the relatively low visibility of African research. A major contributing factor to the low visibility of research in the global South is that the majority of local journals, especially in the social sciences and humanities, in developing nations are not indexed in the large bibliographic indexes (Mouton, 2011; Mouton et al., 2008). This is largely due to an entrenched hegemonic definition of research methodologies that delegitimises indigenous research methods. Additionally, as a result of the power imbalance between global South and North accessibility to research funding and dissemination opportunities, global South research is once again marginalised, despite African-based research being able to offer novel, emancipatory and culturally sound research. Furthermore, the nature of academic publishing, with the associated paywalls and privileged access to knowledge housed behind costly journal subscriptions and highly technical language, remains largely inaccessible to the broader (non-academic) society.

Finally, the knowledge economy is typically premised on capitalist assumptions, with knowledge treated as a commodity. Knowledge is regularly disseminated, most often in English, through journal publications, books and book chapters that use a peer-review system most often based on Americanised standards and practices (Altbach, 2004). Most of these resources are now available

online. Whilst this ensures easy accessibility for those with internet use and those in higher education settings, the ownership of databases, journals and other academic resources by multinational knowledge corporations means that those without internet access, as well as those institutions, groups and individuals unable to pay for access, are unable to participate in the global knowledge economy (Altbach, 2004; Correa, 2000). By publishing this book as an open access resource, we hope to overcome some of the barriers and challenges that global North knowledge dissemination practices impose on global South contexts.

Open educational resources and removing the barriers to research

Suber (2003) takes the position that there are two primary crises that create barriers to research: the pricing limitation and the permission limitation. The serials' pricing crisis refers to the rising subscription costs of serials such as academic journals, where the cost of subscriptions posted by publishers poses severe limitations to access for institutions (Suber, 2003). Central to the pricing crisis is the argument that the cost of producing and distributing the texts that result from research is expensive and requires large infrastructure (Metz & Gherman, 1991; Vaughn, 2013). As far back as 1991, researchers argued that the objective cost increases did not account for the concomitant increases for serial subscriptions (Metz & Gherman, 1991). However, recent advances in digital technology domains have allowed for the large-scale reproduction and distribution of perfect copies of research outputs at virtually no cost. In response, traditional publishers have created what Suber (2003, 2012) terms the 'permission crisis'. The permission crisis is the result of publishers raising legal and technological barriers to limit how libraries, scholars, students and the public may access peer-reviewed, credible research outputs (Metz & Gherman, 1991). The legal barriers are ensconced within copyright law, licensing agreements and digital rights management, which limit access by unauthorised (non-subscribed) users (Downes, 2013). The open access movement is presented as the alternative to the paywall publication model currently dominating the academic sector. One of the criticisms of the current model of publication is the view that publishers undeservedly benefit from the donated resources of authors and editors who contribute their time and expertise to producing academically sound texts, while the publisher is seen to acquire the final work without contributing to the production costs (Fuchs & Sandoval, 2013; Suber, 2012).

Within the open access model of publication, authors retain the copyright to their work and are free to distribute, donate, archive as well as lend and copy digital articles on any terms to any user (Antelman, 2004; Metz & Gherman, 1991). Open access literature is defined by two essential properties: there are no costs associated with accessing the material; and the copyright holder has consented in advance to unrestricted reading, downloading, copying, sharing, storing, printing, linking and web crawling (Suber, 2003, 2012). The attribution of the original copyright remains with the authors, ensuring that they are recognised for the production of the work. However, the distribution of the work

may take place without the financial and legal restrictions typically associated with academic research outputs. The assumption here is that authors forego the royalties in return for greater impact through the widest possible dissemination of their work (Albert, 2006). A distinction is drawn between those texts and outputs produced by authors with the intention of monetising the knowledge produced and those texts which are published with the intention of reaching a wider audience free of restriction. Suber (2003) is at pains to point out that the aim of the open access movement is not to enforce strictly open access publication but to place the authority in the hands of the authors to decide whether a piece of work should be monetised or not.

We drew heavily on the sentiments expressed by Downes (2013) and Suber (2003, 2012) and the principles of the open access movement when deciding the final form of this text. The idea behind this book was to place control of the flow of knowledge back into the hands of the scholars and researchers who produced it. We also wanted to ensure that students, researchers and scholars would have full access to the knowledge produced by removing the paywalls typically used to restrict access to information to those who can afford it. Another motivation was to push back against the established trends in knowledge dissemination whereby authors who present significant results and who describe perfectly implemented methods are given preference. The research process is dynamic and complex, often marked by dead ends and false starts. Information on how and why the research process is challenged by various obstacles is also crucial to building the collective knowledge base, and we therefore strove to include book chapters that guard against this type of publication bias (see Chapter 2).

Publication bias

> We have a habit in writing articles published in scientific journals to make the work as finished as possible, to cover all the tracks, to not worry about the blind alleys or to describe how you had the wrong idea first, and so on. So there isn't any place to publish, in a dignified manner, what you actually did in order to do the work . . . (Feynmen, 1965, n.p.)

The quote by Feynmen was made during his 1965 Nobel lecture and illustrates one of the persistent issues facing researchers in the sciences – publication bias. There is a resurgence in the appreciation of the advantages of experimentation in the social sciences (Miguel et al., 2014). Governments and advocacy groups in particular are driving a shift toward more evidence-driven policy-making (Miguel et al., 2014). The increased support and funding towards these disciplines is accompanied by a heightened examination of the incentives, norms and institutions which govern and shape the practices in the social sciences (Ferguson & Heene, 2012). Publication bias, in particular, is highlighted as undermining the gains made by improved research design and is described as a dysfunctional reward system in which statistically significant and theoretically tidy results are more readily accepted (Miguel et al., 2014).

Ferguson and Heene (2012) point out that when scholars are under pressure to publish, they may decline to submit results that conflict with popular theories. Furthermore, a study conducted by Fanelli (2010) demonstrated that the more competitive and productive an academic environment is, the higher the likelihood that positive results will be reported. From our perspective, one of the negative implications of this is that the bias towards positive results not only makes replication unfeasible but also increases the difficulty for emerging researchers to enter the field successfully. As such, this book intentionally focuses on research methodologies as they are used, adapted and challenged in the context of South Africa and the global South. This is achieved by the various chapter authors drawing on original research as a means to transparently demonstrate both the successes and challenges of using particular methodologies in a contextually sound, albeit often dynamic and shifting, approach.

Research methods in this book

Social science scholars in South Africa utilise research methods in innovative ways in order to respond to the diversity present in the country's population as well as to the unique contextual circumstances in which we find ourselves. These methods often remain undocumented but, if exposed to a broader audience, they have the potential to contribute to the quality of research scholarship locally and abroad. The chapters in this book combine research method theory and its applications as a means to disseminate knowledge on best research practices for researchers, practitioners and students in South Africa specifically and in the global South more broadly. The chapters are compiled by experts in various research methods who have synthesised conceptual and application issues by using actual examples from their original research. Chapters also contain discussions on ethical considerations that would be relevant to people who might want to use the method in a similar global South context. The chapters encompass the more theoretical explications of research methods that are provided in existing books (see Babbie & Mouton, 2011; Terre Blanche, Durrheim & Painter, 2006; Wagner, Kawulich & Garner, 2012) but add further depth with the applied foci of each chapter. Hence the chapters move beyond an abstract description of research theory and methods to provide critical reflection and discussion on the application of methods in the South African and/or developing world context. The book is divided into three sections: quantitative methods, qualitative methods and transparadigmatic methods. We acknowledge that such a structure may reproduce the very politics of knowledge production which we interrogate. However, the sheer volume of contributions necessitated an arrangement that would be familiar to all and ultimately convenient.

Section One: Quantitative methods

This section includes eight chapters utilising methodologies that would typically be classified as quantitative. The first four chapters encompass the variety of contexts within which non-experimental methods are commonly employed. Hence,

Swart, Kramer, Ratele and Seedat (Chapter 2) provide a discussion of a large-scale study employing data from the National Injury Mortality Surveillance System and Statistics South Africa's most recent national Census (2011) to illustrate the use of correlational designs. This chapter is therefore also useful in explicating the use of secondary data for research. The authors do this by using an example of research on male homicide in South Africa. Cockcroft, Goldschagg and Seabi (Chapter 3) discuss the utility of longitudinal designs using research they conducted on noise exposure amongst primary school children. Makhubela and Mashegoane (Chapter 4) as well as Shuttleworth-Edwards (Chapter 5) present non-experimental designs within the context of psychometrics research in South Africa. Barnes's Chapter 6, on quasi-experimental research, locates the design within an applied behavioural health research context by focusing on an intervention for binge drinking amongst university students. Two chapters consider experimental designs but from very different perspectives: Sibeko and Stein (Chapter 7) discuss the utility of randomised controlled trials using a task-shifting intervention conducted at Valkenberg Hospital in the Western Cape, whilst Geffen and Pitman (Chapter 8) consider the use of a repeated-measures factorial design in exploring working memory interactions in earworms. This section concludes with the chapter by Finchilescu and Muthal on Q methodology (Chapter 9). This method is often described as qualiquantological and the authors demonstrate the utility of this method in exploring perceptions of academic misconduct amongst university students.

Section One could be described as characteristic of traditional research as practised in the global North. Reviewers of the book have questioned the transformative nature of these methods and whether quantitative, experimental methods have relevance in our contexts. As the editors, we stand firm that all methods have value. We also cannot support a narrow view of what exactly constitutes transformative methods in contexts like ours. Even traditional experimental methods, if used for societal change and development, are transformative. Furthermore, the quantitative studies illustrated in Section One demonstrate how the global North construction of quantitative methodology as rigid and standardised is disrupted in a global South context that, by virtue of the already mentioned diversities and complexities, demands a more flexible, adaptable and contextual quantitative approach to knowledge-making. The case studies presented in this section are illustrative of novel research in South Africa that has social relevance.

Section Two: Qualitative methods

Section Two includes nine chapters and begins with a systematic case study by Edwards (Chapter 10). Typically, single case study designs are located within the quantitative tradition. However, Edwards provides an interesting discussion on the way in which cases can transcend the typical qualitative–quantitative schism and become increasingly characterised by a mixed methods approach. Despite this, Edwards focuses his chapter more on the qualitative and narrative approach to case study research situated within the clinical context. Van Niekerk, Prenter

and Fouché (Chapter 11) take a different approach to case study research by presenting psychobiographical research as a method. They illustrate this using the life story of Christiaan Barnard. Maree (Chapter 12) discusses narrative research using the life design approach to career counselling as an illustration of the method. In Chapter 13, Howard-Payne interrogates the use of grounded theory as a method with her research on voluntary medical adult male circumcision for HIV prevention in South Africa. Kiguwa (Chapter 14) uses research on circumcision to discuss feminist approaches to research. Kramer presents the critical discourse analytic method using South African female-perpetrated sex abuse victim discourses in Chapter 15. Ethnographic approaches to research are presented in the chapters by Whitehead (Chapter 16) and Schmid (Chapter 17). Schmid uses her own experiences to provide insight into autoethnography as a method. Whitehead describes the relevance of ethnomethodology and conversation analysis using research that examines the use of racial categories in everyday interactions in South Africa. Bowman, Siemers and Whitehead (Chapter 18) adopt the genealogy method specifically as espoused by Michel Foucault to explore the history of industrial psychology in South Africa. More particularly, constructions of the South African mineworker are explored to illustrate the use of this technique.

As with Section One, these chapters illustrate case studies from diverse fields within the social sciences. The research is socially relevant, contemporary and has much to offer in terms of understanding the issues prevalent in global South contexts. The chapters by Maree and Edwards are interesting also in their diverse applications of narrative research that do not necessarily conform to the method as explicated in methods textbooks. Further, the researcher–practitioner boundaries are blurred in these chapters. They provide excellent examples of socially relevant research in contexts of practice. Likewise, the chapters by Howard-Payne, Kramer, and Bowman and colleagues demonstrate the value of qualitative research methods as they are able to be reimagined in the South African context. The application of a variety of methods (grounded theory, discourse analysis and genealogy, respectively) originally developed in global North contexts to very specific African issues of male circumcision, violence and migrant labour is testament to the flexibility and adaptability of these methods. Further, the sheer vastness of qualitative methods presented in this section is indicative of the diversity and range of approaches contemporary qualitative work has to offer in the social sciences.

Section Three: Transparadigmatic methods

Section Three consists of six chapters espousing methods that we describe as transparadigmatic and transformative. The methods in this section illustrate more so than the other sections how transformative methods are being used in the global South to disrupt traditional knowledge production methods to some extent. We argue that these methods borrow from traditional research methods but are more contextual and are often adapted to suit the assumptions and frames of the research studies that use them. Barnes's Chapter 19, on transformative

mixed methods, sets the scene for this section. Barnes argues that mixed methods research, when framed by a transformative paradigm, has the potential to contribute to a social justice agenda. In so doing, he highlights the critiques levelled at transformative methods as well as aspects to be considered by researchers wishing to employ this technique. Archer (Chapter 20) discusses an equally flexible method in Design Research using an evaluation of a feedback system for Foundation Phase teachers to demonstrate the utility of Design Research. Nel and Govender (Chapter 21) discuss the evaluation of a wellness programme as well as a case study from a therapeutic context through the lens of appreciative inquiry (AI). Kessi, Kaminer, Boonzaier and Learmonth (Chapter 22) demonstrate the transformative capacities of research methodologies by portraying Photovoice as a means to empower socially and economically oppressed groups living in marginalised communities. Nel and Govender's AI and Kessi et al.'s participatory methods demonstrate how the divide between social scientist and society can be bridged to widen access to the knowledge production process and, possibly, produce more authentic reflections and interpretations of societal processes and issues. Participatory research and action-based research as transformative methods are presented in Chapter 23 by Sanchez-Betancourt and Vivier. They describe the use of the community scorecard method, which focuses on local service provision and community participation. These chapters lead well into the final chapter by Laher, Fynn and Kramer (Chapter 24), which argues for the relevance of community-based approaches amongst the future trends in social science research.

Laher et al. interrogate issues of social relevance in relation to rigour and ethics in research. In so doing, they allude to the tension between traditional, accepted ways of knowledge production and newer, more contextual methods of research and knowledge production. The chapter argues for rigorous research across both positions but also interrogates the notion of rigour as defined in mainstream understandings. The chapter also argues that the indigenisation of knowledge production can coexist with mainstream understandings but researchers have the responsibility to undertake ethical and socially relevant research. In presenting these arguments, the chapter discusses future trends in social science research, particularly as they pertain to transformation in the field and indigenisation of methods for global South contexts. The role of technology in the future of social science research is also addressed. Hence, the chapter presents a montage of transformative methods beyond those described in the other book chapters.

Conclusion

In his 1987 text, Richard Miller argues that the social sciences have no overarching framework of empirical principles that encompasses all explanations in the field. Rather, he argues that there are particular frameworks for particular fields (Miller, 1987). This methodological pluralism is simultaneously viewed as a sign of the maturity of the social sciences and as a crippling fragmentation hindering

an integrated understanding of the human and social world. Divisions within contemporary social sciences are deep and complex and involve:

- divisions among the disciplines of anthropology, economics, history, political science, psychology and sociology;
- divisions among subdisciplinary fields where each discipline has grown into an increasing number of pigeonholed sub-frameworks that define courses, jobs and areas of inquiry; and
- methodological divisions where the argument between the proponents of the mathematical approaches to social sciences contends with those who operate within the analytic frameworks of natural languages (Gerring, 2001).

The fragmented nature of the social sciences and the associated ideological, disciplinary and subdisciplinary cleavages make any effort to provide a cohesive and coherent synthesis of the discipline exceedingly complex. This book is not an effort to provide a coherent framework for all social scientific approaches, but rather celebrates the diversity of approaches and acknowledges each methodological application as relevant and functional for the specific area of inquiry in which it is applied. Furthermore, the methods presented here provide an indication of how different areas of inquiry could be approached, but are not considered as the sole means of study for the question asked. Each author in the book brings a unique perspective to the application of social science methods within the South African context and, given the diversity of issues facing the South African researcher, they are viewed as part of the broader array through which we may better understand the difficulties and challenges of conducting research in this context. In this book, we highlight various approaches through which fresh knowledge and new perspectives may be generated to better serve broader society.

Note

1 The global South refers to countries that are treated as 'developing' contexts or 'less developed' contexts as per measures indicated by the Human Development Index and reported in the Human Development Report (UNDP, 2014).

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Section One

Quantitative methods

2 Non-experimental research designs: Investigating the spatial distribution and social ecology of male homicide

Lu-Anne Swart, Sherianne Kramer, Kopano Ratele and Mohamed Seedat

Introduction

Quantitative research primarily intends to make causal inferences concerning two or more variables of interest. This is largely achieved through experimentation. The more controlled the experimentation process, the better able researchers are to infer causality (Shadish, Cook & Campbell, 2002). Experimental control is accomplished using random assignment, variable manipulation and a comparative control group. However, when variables are pre-existing, they cannot be manipulated. Additionally, randomisation and participant assignment to control and experimental groups is not always possible and is sometimes unethical. In these situations, we use non-experimental research designs, which are typically descriptive and, at best, correlational (Sousa, Driessnack & Mendes, 2007). Whilst non-experimental research designs by themselves are unable to make any claims relating to causality, and thus suffer from poor internal validity, they are able to better generalise than their experimental counterparts and as such tend to have relatively stronger elements of external validity (Shadish et al., 2002).

Homicide research most often draws upon non-experimental methodologies given that it is not possible or ethical to randomise victims or to create control and experimental groups. This research usually takes the form of model testing correlational non-experimental designs as a means to examine and discuss a proposed model for particular predictor and outcome variables, most often arising from secondary data sources (Sousa et al., 2007). For example, we know that homicide tends to occur more regularly in particular geographical areas (such as specific countries, cities and neighbourhoods) than others. A large body of work from the United States has examined the spatial distribution of homicide, particularly at the neighbourhood level (e.g. Becker, 2016; Hannon, 2005; Kubrin, 2003; Mares, 2010; Wang & Arnold, 2008), and suggests that neighbourhood socioecological conditions, such as socioeconomic disadvantage, are key explanatory factors and could have important implications for violence prevention and control. This chapter presents a neighbourhood analysis of the spatial distribution and social ecology of male homicide in Johannesburg in order to demonstrate the utility of a non-experimental methodological approach. The

unit of analysis in this case study is the geographical area rather than the individual, and a multivariate analysis of secondary spatial data is used to determine the relationship between neighbourhood sociostructural characteristics and male homicide. The chapter thus demonstrates the value of a particular type of non-experimental ecological and multivariate spatial analysis for neighbourhood-level research. We begin with a brief overview of the theoretical approach and empirical evidence used to frame our case study.

Neighbourhood characteristics and homicide: Theory and empirical evidence

Violence is a serious problem in South Africa. The country's annual homicide rate of 31 per 100 000 reported in the *Global Study on Homicide 2013* is five times greater than the global average homicide rate of 6.2 per 100 000 (UNODC, 2014). An emerging body of research has emphasised the predominance of men, particularly young black men, as victims of homicide in the country (Kramer & Ratele, 2012; Matzopoulos et al., 2015; Norman, Matzopoulos, Groenewald & Bradshaw, 2007; Ratele, 2010), with the highest homicide rates reflected among men residing in urban locations (Sherriff et al., 2015). Neighbourhood socioecological conditions may be important contributors to the high levels of violence, and most notably homicide, in urbanised South African contexts (Swart, Seedat & Nel, 2016).

Social disorganisation theory is one of the main theoretical perspectives that has framed research on neighbourhood context and its relation to crime and violence (Bursik, 1988; Sampson & Groves, 1989). The theory stems from Shaw and McKay's (1942) work on juvenile delinquency in Chicago, which concluded that the causes of violent crime are located in the sociostructural context of neighbourhoods. Specifically, socioecological conditions, such as low economic status, racial or ethnic heterogeneity, and residential mobility, are argued to disrupt a community's formal and informal social control processes and, therefore, facilitate crime and violence. Contemporary descriptions of social disorganisation theory have introduced other sociostructural factors, such as family disruption, and have also focused on the role of community organisational processes, such as collective efficacy and informal social control, in mediating the effects of sociostructural factors on crime and violence (Sampson & Groves, 1989; Sampson, Raudenbush & Earls, 1997). Some versions of social disorganisation theory also integrate culture in their explanations of neighbourhood violence. In this regard, sociostructural conditions, and economic disadvantage in particular, are also assumed to limit a neighbourhood's capacity to develop and maintain basic community institutions that link residents, and especially young people, to wider social institutions (Peterson, Krivo & Harris, 2000). These advances in social disorganisation theory call for non-experimental research methods that take particular cognisance of specific contextual, cultural and sociostructural indicators of neighbourhood-level violence.

A substantial body of research in the United States has investigated the effects of key sociostructural measures of social disorganisation, such as socioeconomic

disadvantage, family disruption, population density and size, residential mobility, and racial composition, on homicide rates (e.g. Becker, 2016; Hannon, 2005; Kubrin, 2003; Mares, 2010; Peterson et al., 2000; Wang & Arnold, 2008). In general, these studies have found support for most of the structural measures of social disorganisation, with concentrated disadvantage having demonstrated the most consistent positive relationship with homicide rates in neighbourhoods in the United States (e.g. Hannon, 2005; Wang & Arnold, 2008).

Considering the sociopolitical history and current socioeconomic situation in South Africa, measures of social disorganisation theory may have relevance for understanding the spatial distribution of violence, and particularly of homicide, in the country. Despite efforts towards socioeconomic transformation since democratisation, there has been little growth and development in townships established under apartheid, which remain economically marginalised and racially segregated (Breetzke, 2012). Rapid urbanisation has also contributed to the development of informal settlements in cities, which are typically characterised by socioeconomic disadvantage, inadequate housing, limited facilities and high levels of overcrowding (SACN, 2011). Furthermore, apartheid laws and policies, including the migrant labour system and resultant urban influx, have also had long-lasting effects on family structure, with recent estimates indicating that while 90% of white South African children live with their parents, only about 50% of black children live with theirs (Amoateng, Richter, Makiwane & Rama, 2004).

With the above theoretical approach and empirical evidence in mind, we now turn to a demonstration of the utility of a particular non-experimental type of ecological and multivariate analysis for examining neighbourhood-level characteristics and their implications for the social ecology of male homicide. We do so by drawing on a case study which builds on the aforementioned emerging body of research by having examined the spatial distribution of male homicide victimisation in the city of Johannesburg between 2001 and 2005 in order to determine whether neighbourhood differences in sociostructural characteristics were associated with male homicide levels.

Case study: Spatial distribution and social ecology of male homicide in Johannesburg neighbourhoods

As we were interested in establishing the relationship between sociostructural characteristics and homicide levels as they exist in neighbourhoods across Johannesburg, a non-experimental research design was necessary for our study. Although not as powerful as an experimental research design in establishing a causal relationship, non-experimental research offers an alternative when the manipulation of explanatory variables or random assignment is not feasible or desirable (Belli, 2009). In addition, true experimental research designs are often impractical and difficult to implement in violence studies in global South contexts given the lack of resources. Further, true experimental research requires

experimental and control groups, presenting obvious ethical implications for the study of violence and the already problematic nature of South Africans having unequal access to resources. Most importantly, though, the element of control and the clinical nature of true experimental research often undermine the ability of the research output to capture the complex nature of the social structure (Lum & Yang, 2005) – one of the key interests of this particular case study. As such, we constructed neighbourhood variables for a non-experimental analysis by using secondary data from the National Injury Mortality Surveillance System (NIMSS) and Statistics South Africa's most recent national Census. We then estimated a multivariate regression model that adjusted for spatial autocorrelation to determine the relationship between neighbourhood sociostructural characteristics and male homicide.

Dependent variable: Male homicide counts

The dependent variable for the analysis was the number of homicides among male victims aged 15 years and older that occurred in Johannesburg between 2001 and 2005. The number of homicides was pooled across a five-year period to add stability to the estimates and to ensure adequate homicide counts to allow us to perform a multivariate analysis at the neighbourhood level. Male homicide data were obtained from the NIMSS, which captures epidemiological information on injury-related deaths based on medico-forensic investigative procedures at state medico-legal laboratories (Donson, 2008). The NIMSS began collecting injury data in 1999 at selected sites across the country as part of a collaboration between the South African Medical Research Council (SAMRC), the Centre for Scientific and Industrial Research, the University of South Africa (Unisa), the national Department of Health and the South African Police Service that housed the forensic laboratories at the time. Currently, the NIMSS is coordinated by the SAMRC–Unisa Violence, Injury and Peace Research Unit (VIPRU) and is part of a collaboration with the national and two provincial (Gauteng and Mpumalanga) departments of health. The inclusion of national governing bodies in the coordination of this project ensures continued ethical practice. It also emphasises the importance of homicide research in the context of South Africa so that homicide research becomes an ethical enterprise in and of itself.

During data collection, the medical practitioner and forensic officers at the participating laboratories complete a form for every death, which records information on victim demographics; time, scene and place of injury; and external cause and apparent manner of death (homicide, suicide, accidental, undetermined) (Donson, 2008). The form is completely anonymous and allows no identifying information concerning the deceased subject to be captured, thus presenting very few ethical implications. The data are then captured into a computerised database that is sent to the SAMRC–Unisa VIPRU at the end of each year, where all of the databases from the participating laboratories are cleaned and merged. Although the NIMSS has had full coverage of all injury-related deaths for the city of Johannesburg since its inception, for this study we focused on male homicides between 2001 and 2005 to coincide with Census 2001, the most recent available Census data at the time. The data obtained from the NIMSS

included victim demographics (sex and race), weapon or method used, scene, and geographical location (suburb) where the homicide occurred. The use of secondary data of this type is advantageous given that it is cost-effective, resolves issues relating to ethics and provides a large data set that is likely to be representative and is less likely to be biased due to issues relating to response styles and other data-gathering issues (Sørensen, Sabroe & Olsen, 1996).

Between 2001 and 2005, the NIMSS registered a total of 6 445 male (≥ 15 years) homicides for Johannesburg. Of these homicides, 1 173 (18.2%) were excluded from the analysis because of incomplete information on the suburb or residential neighbourhood where the homicide occurred. Similar to patterns reported in other South African research (e.g. Kramer & Ratele, 2012; Ratele, Swart & Seedat, 2009), of the 5 272 male homicide cases analysed in this study, most victims were black (*n* = 4 691, 89.0%), aged 15 to 29 years (*n* = 2 408, 45.7%) and 30 to 44 years (*n* = 2 152, 40.8%), and most were killed by firearms (*n* = 3 708, 70.3%).

Spatial distribution of male homicide in Johannesburg's neighbourhoods

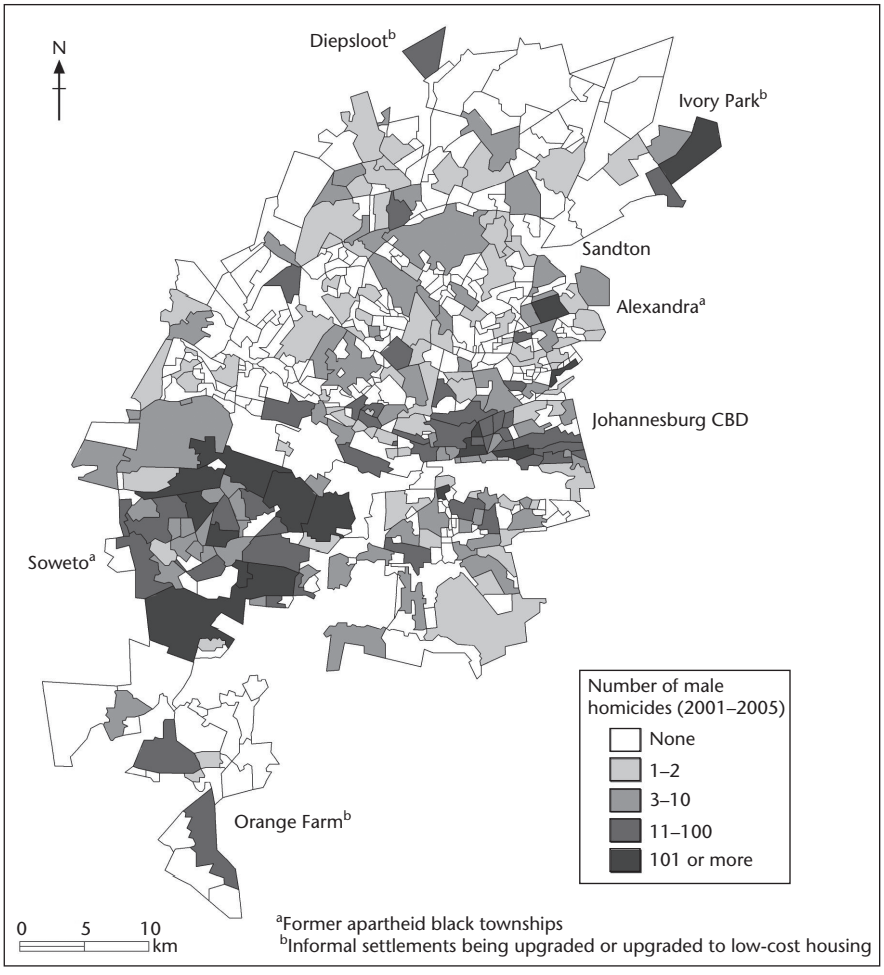
Each of the 5 272 male homicides was matched to a residential neighbourhood (*n* = 508) and geocoded to a base map shape file.[1] The residential neighbourhoods were based on subplace names provided by Statistics South Africa's Population Census 2001. Of the 684 neighbourhoods provided by Census 2001, 84 were excluded as they consisted of nature reserves, industrial areas, parks, hospitals, universities, recreational areas and areas with residential populations of less than 200. Another 132 Census subplaces were combined to comprise 40 residential areas because the homicide data lacked sufficient detail on neighbourhood extension and zone numbers. For example, Diepkloof Zones 1 to 6 were combined into one subplace. The final number of residential neighbourhoods included in the study was 508.

Figure 2.1 shows the spatial distribution of male homicides across Johannesburg neighbourhoods from 2001 to 2005. The majority (*n* = 283, 55.7%) of the 508 neighbourhoods had no male homicides over the study period. Eighty-four (16.5%) of the neighbourhoods had one or two male homicides, 79 (15.5%) had between three and ten male homicides, 47 (9.4%) had between 11 and 100 male homicides, and 15 (2.9%) had between 101 and 532 male homicides. Therefore, a disproportionate number of male homicides were concentrated in relatively few neighbourhoods, particularly the areas in former apartheid black townships, informal settlements on the outskirts of the city and the inner city of Johannesburg.

Explanatory variables: Neighbourhood characteristics

Eleven variables were constructed from Statistics South Africa's Census 2001 community profiles (Statistics South Africa, 2003) to reflect neighbourhood differences in socioeconomic disadvantage, housing and density, demographic composition (race, citizenship, age), family disruption and residential mobility. The list of explanatory variables was informed by social disorganisation theory and the type of data available from Census 2001. Following the way previous

Figure 2.1 Number of male homicide victims per neighbourhood, Johannesburg (2001–2005)



Source: Authors, redrawn by Janet Alexander

studies have constructed socioeconomic disadvantage (e.g. Breetzke, 2010b; Kubrin, 2003; Land, McCall & Cohen, 1990; Strom & MacDonald, 2007; Wang & Arnold, 2008), poverty (the percentage of households earning less than R9 600 annually), unemployment (the percentage of persons unemployed in the 15–64-year age group) and low educational attainment (the percentage of residents who have not completed high school) were included in the measures of socioeconomic disadvantage. In addition, the percentage of households living in informal dwellings and household density (number of residents per number of household rooms, excluding kitchen and bathroom) were included in the study as measures of inadequate and overcrowded housing conditions.

For the other explanatory variables, the percentage of black residents was used as a measure of racial composition, the percentage of non-citizens was used to capture ethnic composition, and the percentage of persons aged between 15

and 29[2] years was used to measure the youth population. Two measures were selected to represent family disruption, namely the percentage of female-headed households and the percentage of persons divorced aged 15 and older. Although previous studies tend to use the percentage of single-parent households, this information is not provided by the South African Census data and therefore we used the percentage of female-headed households. Finally, population turnover (the percentage of persons aged five and above who changed residences in the past five years) was used to measure residential mobility.

Table 2.1 provides the descriptive statistics for the 11 neighbourhood variables. The sociostructural variables varied considerably across the neighbourhoods in our study. For example, in the 508 neighbourhoods, the percentage of those living in poverty ranged from 0% to a maximum of 88%; the percentage of unemployed from 0% to 58.3%; the percentage of households in informal dwellings from 0% to 97.8%; and the percentage of black residents ranged from a low of 1.5% to a high of 100%.

Table 2.1 Descriptions of the 11 explanatory variables used in the factor analysis together with mean values and ranges for the 508 residential areas of Johannesburg

Indicator	Description	Mean	Min.	Max.
Socioeconomic disadvantage				
1. Poverty	Percentage of households earning less than R9 600 annually	22.21	0.00	88.00
2. Unemployment	Percentage of persons unemployed in age group 15–64 years	13.57	0.00	58.30
3. Low educational attainment	Percentage of persons with less than Grade 12 aged 25 years and older	49.13	11.50	94.12
Housing and density				
4. Informal dwelling	Percentage of households living in informal dwellings	9.50	0.00	97.79
5. Household density	The number of residents per the number of household rooms (excluding kitchens and bathrooms)	.79	.32	3.81
Demographic composition				
6. Race	Percentage of black residents	45.90	1.49	100.00
7. Non-citizenship	Percentage of non-South African citizens	4.66	0.00	31.13
8. Youth population	Percentage of persons aged between 15 and 29 years	27.63	4.58	68.86

continued

Indicator	Description	Mean	Min.	Max.
Family disruption				
9. Female-headed household	Percentage of female-headed households	37.12	0.00	71.43
10. Divorced	Percentage of persons divorced aged 15 and older	5.14	0.00	14.96
Residential mobility				
11. Residential mobility	Percentage of persons aged five and over who have changed residences in the past five years	29.79	1.20	82.17

Source: Authors

As is typical in this type of research design, measures of socioeconomic structural conditions tend to be highly correlated, posing the risk of multicollinearity in the multivariate modelling process. Accordingly, we examined the bivariate correlations between the dependent and explanatory variables, presented in Table 2.2. The interpretation of the analytic output reveals that the three measures of socioeconomic disadvantage were significantly correlated with male homicide in the expected direction (positive), indicating that in Johannesburg poor neighbourhoods had more male homicides. Of the housing measures, informal dwellings were not significantly associated with male homicide, while household overcrowding was significantly positively associated with male homicide. These measures of socioeconomic disadvantage and inadequate housing were also all highly correlated with each other. Of the demographic measures, both the percentage of black and the percentage of youth were significantly positively associated with male homicide, while the percentage of non-citizens was not significantly related to male homicide. Accordingly, in the city of Johannesburg, neighbourhoods with a high concentration of black residents and neighbourhoods with larger proportions of youth (15 to 29 years) had more homicides. Furthermore, both the percentage of black and the percentage of youth were significantly positively correlated with each other and with all of the measures of socioeconomic disadvantage and inadequate housing.

In contrast to expectations concerning the two measures of family disruption, the percentage of female-headed households was not significantly associated with male homicide, while the percentage of divorced residents was significantly negatively correlated with male homicide. Therefore, Johannesburg neighbourhoods with higher proportions of divorced residents had less male homicide. Table 2.2 also shows that neighbourhoods in Johannesburg with higher concentrations of divorced residents had higher concentrations of female-headed households, higher levels of educational attainment and lower levels of socioeconomic disadvantage (low household income and unemployment), which may account for the negative correlation between divorce and male homicide.

Table 2.2 Correlations for male homicide and neighbourhood characteristics in Johannesburg (2001–2005)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Male homicides	1	.170**	.256**	.166**	.070	.205**	.262**	–.021	.300**	.002	–.187**	–.153**
2. Low household income		1	.846**	.807**	.721**	.746**	.664**	–.263**	.471**	.026	–.494**	–.318**
3. Unemployment			1	.805**	.677**	.710**	.782**	–.382**	.574**	–.065	–.512**	–.363**
4. Low educational attainment				1	.614**	.765**	.643**	–.318**	.439**	–.101*	–.516**	–.409**
5. Informal dwellings					1	.549**	.570**	–.179**	.289**	–.089*	–.408**	–.172**
6. Household overcrowding						1	.651**	–.238**	.565**	–.120**	–.496**	–.204**
7. Black							1	–.177**	.596**	–.150**	–.630**	–.172**
8. Non-citizenship								1	–.139**	–.004	–.104*	.396**
9. Youth (15 to 29 years)									1	–.215**	–.437**	.035
10. Female-headed household										1	.355**	–.091*
11. Divorced											1	.238**
12. Population turnover												1

Source: Authors

Notes: * $p < .05$ ** $p < .01$

The measure of residential mobility, namely the percentage of residents that had moved in the past five years, was also significantly negatively correlated to male homicide. This variable was also strongly negatively correlated with all of the socioeconomic measures, indicating that neighbourhoods in Johannesburg with high levels of residential turnover were more socioeconomically resourced.

As the sociostructural measures were highly correlated with each other, following Land and colleagues' (1990) recommendations, an exploratory factor analysis (principal component) using orthogonal rotation (varimax with Kaiser Normalisation) was conducted across the 11 contextual indicators to decrease instances of multicollinearity and to ensure that statistical inferences were not affected by high correlations between the explanatory variables. A three-factor model was derived that explained 73% of the cumulative variance (Table 2.3).

Table 2.3 Pattern matrix from the factor analysis with factor loadings for each contextual indicator

	Factor 1	Factor 2	Factor 3
Household income less than R9 600	**.900**	–.223	.072
Unemployed aged 15–64 years	**.881**	–.306	–.068
Household density	**.834**	–.122	–.128
Black	**.828**	–.047	–.246
Low education aged 25+ years	**.817**	–.354	–.078
Informal dwelling	**.763**	–.103	.029
15–29-year-olds	**.650**	.150	–.354
Live in dwelling for less than five years	–.147	**.847**	–.049
Non-citizen	–.139	**.772**	.052
Female-headed household	.011	–.029	**.918**
Divorced aged 15+ years	–.558	.141	**.566**

Source: Authors

Note: Numbers in bold represent the highest loading of each variable on one factor.

Factor 1 accounted for 50.4% of the variance among the three factors and consisted of the percentage of households with an income less than R9 600 per annum, the percentage of unemployed residents, household density, the percentage of black residents, the percentage of residents with a low education, the percentage of residents living in informal dwellings and the percentage of 15- to 29-year-olds. Given that this factor primarily consisted of poor economic and housing conditions, it was labelled 'concentrated disadvantage'. Unlike patterns demonstrated by previous studies (Land et al., 1990; Strom & MacDonald, 2007; Wang & Arnold, 2008), the variable 'female-headed households' did not load on this factor. Instead, the percentage of residents aged 15 to 29 years loaded on this factor, indicating that in areas with high levels of socioeconomic disadvantage, there were also high concentrations of youth.

Factor 2 accounted for 13.2% of the variance among the factors and consisted of the percentage of residents living in a dwelling for less than five years and the percentage of non-South African citizens, and accordingly was labelled

'residential mobility'. Factor 3, labelled 'female-headed households', accounted for 9.3% of the variance, and consisted of the percentage of female-headed households and the percentage of divorced residents. These three neighbourhood factors comprised the explanatory variables in the non-experimental multivariate analysis that follows.

Neighbourhood characteristics and male homicide: Multivariate analysis adjusting for spatial autocorrelation

Given that most neighbourhoods had zero or low homicide counts, and our design was non-experimental by nature, we used a negative binomial regression model to examine the relationship between the three neighbourhood sociostructural characteristics and male homicide. When analysing spatial data, it is also important to take into consideration that the units of analysis are interrelated (Bernasco & Elffers, 2010). In other words, neighbourhoods are spatially dependent, so the level of homicide in a neighbourhood is likely to influence the levels of homicide in adjacent neighbourhoods (Morenoff, Sampson & Raudenbush, 2001). If the spatial processes operate and are ignored, regression analysis may lead to false indications of significance (Messner et al., 1999). Accordingly, a base map shape file for all of the neighbourhoods and a data table of the number of homicides for each neighbourhood were joined in GeoDa™* to test for spatial autocorrelation. Following the procedures outlined by Anselin (2005), a spatial weights matrix was constructed based on rook contiguity (neighbours were defined as sharing a common border), followed by the computation of a spatially lagged variable based on the predicted values of the dependent variable (male homicide counts). A significant spatial pattern was observed for the dependent variable (Moran's $I = 0.1370$; $p < .01$) and therefore we added the spatial lag variable to the regression model to control for spatial autocorrelation.

Because the analysis used homicide count data, we added the natural logarithm of the population at risk as an offset variable with a fixed coefficient to the regression model to control for the variation in the size of the population at risk across neighbourhoods. This procedure converts the counts of homicide into the equivalent of a rate for each neighbourhood, and serves to standardise the regression model (Osgood, 2000). Thus, the final regression model consisted of the three neighbourhood factors, the spatial control and the natural logarithm of the population at risk (i.e. males aged 15 years and older) as an offset.

Table 2.4 presents the standardised coefficients and the standard errors for the negative binomial regression model explaining male homicides in 508 Johannesburg neighbourhoods. As shown in the first column of Table 2.4, all three of the neighbourhood factors – concentrated disadvantage, residential mobility and family disruption – were significantly related to male homicide. Concentrated disadvantage, in particular, had a profound positive impact ($\beta = .717$, $p < .001$), with one unit of concentrated disadvantage, holding all other variables constant, corresponding to a 105% increase in the overall rate of male homicide (percentage change = $100 \times [\exp(.717) - 1]$). Residential mobility also had a positive impact ($\beta = .192$, $p < .001$), with one unit change in residential mobility leading to a 21% increase in overall male homicides. Family disruption,

in contrast, was significantly negatively related to male homicides (β = –.303, p < .001), with a unit increase in this factor being associated with a 26% decrease in overall male homicides. Table 2.4 also reveals that spatial autocorrelation was significantly associated with male homicide distributions across neighbourhoods. However, the coefficient for spatial autocorrelation was negative, indicating a spatial clustering pattern where high-homicide neighbourhoods bordered low-homicide neighbourhoods.

Table 2.4 Negative binomial regression results for neighbourhood characteristics on male homicide, Johannesburg (2001–2005)[a]

Variable	Male homicide
Concentrated disadvantage	.717***
	.0726
Residential mobility	.192***
	.0510
Family disruption	–.303***
	.0645
Spatial lag	–.007***
	.0019
Intercept (constant)	–5.595***
	.0636
Likelihood ratio Chi-square	170.521***

Source: Authors

Notes: [a] Entries are unstandardised coefficients (β) followed by standard errors.

*** $p < 0.001$

Discussion and conclusion

This chapter presents a case study using secondary data to demonstrate the utility of non-experimental methods in South African research by modelling the effects of the neighbourhood sociostructural context – specifically concentrated disadvantage, residential mobility and family disruption on male homicide in the city of Johannesburg. Research that targets neighbourhood-level covariates of male homicide through the use of non-experimental techniques such as the advanced regression models demonstrated in this chapter is unique in that it offers an alternative approach to data collection, ethical considerations and analysis. Analytically, the inclusion of a natural logarithm in the regression model allowed us to draw on count data. This has massive implications for how we can manage standard ethical requirements. Homicide counts were population-based, anonymous and collected blindly. Thus, beyond ethical clearance from governing bodies, this type of research allows for administrative- and resource-'light' studies that are able to span entire decades and populations with little need

to engage in the often substantial costs and resources that good ethical practice requires. This has obvious implications in the context of a developing and resource-competitive landscape such as South Africa's.

The use of our non-experimental model and design had several other implications. In terms of the actual case study, although all three explanatory measures were significant, only two were in the expected direction, and therefore the study provides partial support for social disorganisation theory. The loading of the percentage of black residents on the factor of concentrated disadvantage also points to the persistent racial socioeconomic inequalities and residential segregation that contribute to levels of violence and homicide among men in urbanised South African contexts. However, contrary to social disorganisation theory, the results also revealed that Johannesburg neighbourhoods with greater concentrations of family disruption have lower levels of male homicides. It is important to note that while divorce together with female-headed households was significantly negatively correlated with male homicide in the regression model, the correlation between female-headed households and homicide was non-significant at the bivariate level. As alluded to by Breetzke (2010a), in the South African context a female-headed household does not necessarily imply a single-headed household and may comprise a variety of family structures, including extended family households (Amoateng et al., 2004). At this point it is important to note that the application of non-experimental methodologies that target neighbourhood-level covariates of male homicide in the South African context is likely to present with fundamentally different results from countries characterised by less diversity, violence and socioeconomic strain. It is thus important to apply methodologies in a contextually sound and appropriate manner that takes cognisance of specific South African characteristics (such as non-nuclear family structures) that will likely impede on the way the analysis is treated during both the analytic process and output stages.

One of the main limitations of the above case study is missing or incomplete information on the neighbourhood where the homicide occurred, which also resulted in a considerable number (n = 1 173, 18.2%) of male homicides being excluded from the analysis. This clearly points to the need to improve the quality and detail of information on the geographical location of homicides and other injury events that is currently collected by the NIMSS. This speaks to broader issues related to research practice in South Africa and other global South contexts. Whilst non-experimental designs and multivariate regression models such as the ones drawn upon in this chapter are generally robust and able to account for count data, rare events (such as homicides), spatial influences and missing data, the lack of research-related resources and quality information in our secondary databases still impedes our ability to make definitive claims. This also means that our analyses and outputs are unlikely to be as 'clean' and as easily explicable as they might be in more developed contexts in the global North.

Another limitation of the study is its cross-sectional design. Using longitudinal designs in non-experimental research often provides richer data and thus overcomes some of the non-experimental limitations such as restrictions concerning research claims (Blundell & Costa Dias, 2000). Additionally, correlational

designs cannot take into account the changes in neighbourhood structure over time. The city of Johannesburg has experienced significant growth due to factors such as urbanisation, natural population growth and migration, and longitudinal studies are required to capture the changes in neighbourhood sociostructure and their influence on homicide levels.

Finally, non-experimental methods are generally unable to make causal claims (Shadish et al., 2002) and thus conclusions cannot be made as to whether the neighbourhood characteristics are linked to male homicide in any causal way. Using homicide data effectively means that it is neither ethical nor possible to randomise, manipulate variables and exert control through experimentation (Sousa et al., 2007). Neighbourhood predictors are pre-existing variables and attempting to manipulate these (e.g. an impoverished versus non-impoverished condition) is an ethical and practical impossibility. Despite the limitations, the use of complex and robust analytic regression models can alleviate some of these design-related challenges. In the example presented in this chapter, the results are able to make a case for interventions that target neighbourhood-level covariates of male homicide such as concentrated disadvantage and residential mobility, and which strengthen the mediating influences of social cohesion, community ties and equitable relations.

Non-experimental research is particularly useful in studying the social ecology or neighbourhood context as sociostructural conditions are examined as they exist, without control and/or manipulation, and the design thus offers alternative approaches to data collection, ethical considerations and analysis. The fine-tuning of the advanced regression models and increased quality control of both secondary neighbourhood and victim data will go a long way in supporting this research design and the analytic requirements that these types of non-experimental studies necessitate. It is our hope that the case study provided in this chapter will stimulate future methodological work that is able to enhance our understanding of 'hard to study' variables, such as the spatial distribution of violence and homicide in South Africa.

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Notes

1 Based on the Municipal Demarcation Board City of Johannesburg Metropolitan Municipality map, June 2009.

2 Although the South African National Youth Policy defines youth as between the ages of 14 and 35 years, the term 'youth' is a broad concept that encompasses young people at different stages of development, and the specific age group that defines 'youth' varies across cultures and countries. The United Nations defines 'youth' as between the ages of 15 and 24 years, while the World Health Organization's *World Report on Violence and Health* defines youth as between the ages of ten and 29 years (Mercy, Butchart,

Farrington & Cerdá, 2002). As the focus of our study was on male homicide, we chose to define 'youth' as between the ages of 15 and 29 years since this age band was more aligned with the *World Report* definition of youth, and because the highest homicide rates in South Africa are typically reported for this age group (Matzopoulos et al., 2015; Norman et al., 2007).

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3 Longitudinal designs: The RANCH-SA study

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Introduction

Longitudinal research designs are commonly employed within the social sciences. Typically, such designs are used where the focus is on stability and change: for example, in developmental, social and cognitive psychology. Longitudinal designs are predominantly defined by the element of time, since the emphasis is on data collected at different time points, generally from the same participants. In this chapter, we describe and critique the main longitudinal research designs, together with factors that may impact on the quality of data and suggestions for how to counter these. Illustrative examples of longitudinal research are drawn from our project, the Road and Aircraft Noise Exposure on Children's Cognition and Health in South Africa (RANCH-SA) study (Cockcroft, Seabi, Goldschagg & Greyling, 2013; Seabi, Cockcroft, Goldschagg & Greyling, 2012, 2013; Seabi, Goldschagg & Cockcroft, 2010a, 2010b).

The RANCH-SA study took advantage of a naturally arising experiment when the old Durban International Airport was decommissioned and a new airport built in a different location. In this project, we were interested in whether air traffic noise exerted a noticeable impact on school children's reading comprehension, attention and working memory. A control sample was drawn from children attending schools within the same sociodemographic context, but who were not exposed to aircraft noise. Data were collected from the same participants in wave 1 (when the airport was operational) and waves 2 and 3 (when the airport had been closed). Environmental sound levels of aircraft taking off and landing over the noise-exposed schools were measured prior to the airport's closure. Follow-up measurements were made on later visits to schools when the airport was decommissioned (Cockcroft et al., 2013; Seabi et al. 2010b; Seabi et al., 2012, 2013). We refer to this study throughout the chapter to provide practical examples of theoretical issues related to longitudinal research designs.

Theory and purpose of longitudinal design

Longitudinal research is different from cross-sectional and correlational research in terms of design, the data yielded and the methods of analysis used (Menard,

2002, 2008). While cross-sectional research is useful for determining the direction of relationships between variables through correlations, it cannot establish causal patterns. In contrast, longitudinal research, if carefully designed, can address questions concerning causation.

A key feature of longitudinal research is that data are collected at two or more points in time. Another feature of such designs is that the participants from whom data are collected at time one are the same participants from whom data are collected at time two, and at further time points. There may be some addition or deletion of participants over time (discussed later) but the intention is to retain the same participants for the duration of the study. Consequently, the analysis of the data will entail a comparison between these time points. This enables the detection of change or difference from one time point to another, and for causal patterns to be determined. For example, the RANCH-SA study entailed the collection of data across three time points/waves: year one when the airport was operational, year two when the airport had been decommissioned and year three as a follow-up. In all years, the same children were assessed, commencing when they were in Grades 4, 5 and 6 and concluding when they were in Grades 6, 7 and 8. Thus, the RANCH-SA study had both cross-sectional and longitudinal components in its design (Cockcroft et al., 2013; Seabi et al., 2010a, 2010b; Seabi et al., 2012, 2013).

Longitudinal research may be descriptive, explanatory or both. Descriptive longitudinal research seeks to illustrate how a phenomenon changes over time. In such research, the researcher attempts only to describe the form of change over time (e.g. whether it is linear or non-linear). In contrast, explanatory longitudinal research attempts to identify the underlying cause of the change process through the use of one or more predictor variables. Both descriptive and explanatory aspects are important to consider when conceptualising longitudinal research. It is usually necessary to first have an accurate and detailed description of the change trend before attempting to explain it. Therefore, before the first wave of data is collected, it is valuable to conceptualise the form of change in the variables of interest and then to formulate the theoretical causes of change in those variables. In addition, the nature of the relationships among independent, dependent and/or mediating variables must be carefully specified. This requires precision about which variables are expected to change or why they are changing (Ployhart & Vandenberg, 2010). Such information would be based on a thorough review of available literature in the area. In our study, we had to theorise about why and how noise may affect different elements of cognition in school children. Thus, we had to know about typical developmental trajectories of memory, reading comprehension and attention in children in Grades 4 to 8. Then, we had to hypothesise about how noise may change these trajectories and indicate the nature of that change. We also had to consider how the particular demographic characteristics of our sample (e.g. 44% came from low socioeconomic backgrounds, all attended English-medium schools, 49% spoke English as their mother tongue, 45% spoke English as a second language, 40% were female) could impact these developmental trajectories (Cockcroft et al., 2013; Seabi et al., 2010b; Seabi et al., 2012, 2013).

Types of longitudinal design

Menard (2008) describes four basic longitudinal designs, discussed below.

Total population design

In this design, the total population is measured at each time point of the study. An example of this type of design is Census data collection. The population members may change slightly over time because of attrition (participant drop-out) and addition (new participants joining the population). However, if the time points between data collection are not too long, the majority of participants will generally stay the same.

The next three designs are subsets of the total population design as they use samples drawn from the total population. The difference between the remaining three designs is in the extent to which the same or comparable participants are measured or studied from one time point to the next (Menard, 2008).

Repeated cross-sectional design

Here the same data are collected at two or more time points from different but comparable participants. For example, if the RANCH-SA study had instead collected data in each year from children at different noisy and quiet schools in Grades 4 to 6 who were similar to the original group in terms of home language, school language, socioeconomic status, age and gender, this would have constituted a repeated cross-sectional design. Such a design meets only one of the criteria of longitudinal research provided at the outset of this chapter, namely the collection of data at different time points. It fails to meet the criterion that such data be collected from the same participants, and so purists do not regard this as a longitudinal design (Menard, 2008; Nesselroade & Baltes, 1979).

Revolving or rotating panel design

In this design, data are collected from a sample of participants either retrospectively or prospectively for several time periods; then some participants are dropped and replaced with new participants (hence 'revolving'). The revolving aspect deals with potential attrition and threats to validity resulting from repeated measurement in prospective studies, or with periods of extended recall in retrospective studies. Retaining a core set of participants over several measurement time points allows for short-term measurement of change, and separate, as well as comparative, analyses of each set. Replacement of the group of participants that was dropped in a measurement period with a new but comparable group allows for analysis of long-term patterns of aggregated change, similar to the analysis in total population and repeated cross-sectional designs. Since some participants are subject to repeated measurement and others are not in such a design, comparisons are permitted that can show whether the repeated measurement may be producing bias in the data. For example, the development of rapport and trust between researcher and participant over time may facilitate the disclosure of information that did not occur at the first measurement point. Alternatively, the knowledge that participation requires the completion of long and tedious tests may result in lowered motivation and cooperation at

the second and subsequent measurement points, which may be reflected in data differences (Ployhart & Vandenberg, 2010).

Longitudinal panel design

If participants are not replaced and data are collected over several time points, the research is using a longitudinal panel design. There are two types of longitudinal panel designs, retrospective and prospective. In a prospective panel design, data collection occurs at two or more time periods, where each time period entails a series of measurements. Researchers who take a strict view of longitudinal research argue that this is the only true longitudinal design, as it allows for both intra- and inter-individual changes to be measured (Menard, 2008). The RANCH-SA study employed a prospective longitudinal panel design, since data were collected at three separate time points, using the same participants (from noise-exposed and quiet schools); the same measures of reading comprehension, attention, working memory and annoyance reactions to noise were administered at each point (Cockcroft et al., 2013; Seabi et al., 2010a, 2010b; Seabi et al., 2012, 2013).

Prospective panel designs have several strengths, including that they allow for data to be collected concurrently with the event under investigation; they allow for continuous measurement of events and changes that would be too difficult to measure in retrospective studies; and prospective constructs, such as goals and aspirations, can be measured and their actualisation later on can be determined. Limitations of this type of design include participant attrition and/or non-response; repeated data collection from the same participants may affect their responses, making them less representative of the typical individual; they are expensive in monetary and human resource terms; and they require long time periods (from years to decades) (Scott & Alwin, 1998). Although this type of design is most effective for studying causal relationships, it is important to remember that not all relationships are causal. Causal relationships are quite difficult to determine due to a variety of extraneous and confounding variables that exist in a given sociocultural environment. This means that unless a true experimental design is used, causality can only be inferred, never proven (Singer & Willett, 2003). Despite these limitations, prospective longitudinal designs are still regarded as ideal, since they are the most reliable and valid way of collecting longitudinal data.

In retrospective panel designs, data collection may occur only once at a single period, but the data are collected for two or more periods (prior to, or during, the period in which the data are collected). For example, commonly in such designs, participants are asked to recall episodes and events from their lives (hence 'retrospective') and are then also assessed at the time of data collection. Since data are collected at one period only, retrospective panel designs are generally less expensive and time consuming to undertake than prospective designs. Some limitations of this design are the fallibility of human memory (i.e. respondent recall) and selection biases (since only survivors are interviewed) (Scott & Alwin, 1998).

Other longitudinal designs are generally variants of these four designs – for example, the accelerated longitudinal design. In the latter design, several age cohorts are sampled, and then longitudinal data are collected for each cohort.

The aim is to study age-outcome trajectories for a broad age span over a relatively short duration of months rather than years (Menard, 2008). The particular design that is used has implications for the types of data analyses that are possible, an issue taken up later in this chapter.

Factors that may affect the quality of longitudinal data

Prior to designing a longitudinal study, it is important that the researcher is aware of issues that can impact negatively on the quality of the data collected. By outlining these, it is hoped that researchers will be able to make well-informed decisions about ways of minimising their effects.

Attrition and non-responding

Attrition (also referred to as panel mortality), or the loss of randomly assigned participants or data following the first wave of data collection, is inevitable in longitudinal research with human participants. A particular type of non-response can affect data quality in several ways. The first is through the reduction in sample size, which becomes a particular concern for studies with small subgroups within the population. If cell sizes become too small, the types of analyses that can be performed are restricted (Laurie, 2008). Secondly, attrition can affect the generalisability of findings if the remaining participants differ in some way from those who dropped out, as this would produce a final sample that is not representative of the originally sampled population. This is referred to as differential or systematic attrition and can lead to attrition bias (Gustavson, Von Soest, Karevold & Roysamb, 2012; Laurie, 2008).

While attrition in longitudinal studies tends to be random, particular groups have been identified that are more likely to drop out, such as younger individuals who are more geographically mobile (Laurie, 2008). Other causes of attrition in longitudinal studies are due to inability to contact participants and/or refusal to participate in subsequent waves of the research. The frequency of data collection may also affect attrition. While it is easier to keep in touch with participants over short time periods, this also escalates the costs of the study and reduces the longitudinal inferences that can be drawn from the data. Also, participants may experience fatigue through repeated interviewing/testing. The length, complexity and format of the measures that participants have to undertake, as well as how relevant the content of those measures is to participants, are also factors in attrition (Gustavson et al., 2012).

Several methods have been proposed for reducing attrition. One is the use of refreshment samples – new, randomly sampled respondents who are given the questionnaire/measurements at the same time as a subsequent wave of the panel – which offer information that can be used to identify and adjust for potential bias due to attrition (Deng, Sunshine Hillygus, Reiter, Si & Zheng, 2013). Ensuring that additional contact details of next of kin are collected besides those of the

participants will help with tracking should they move away during the course of the data collection. Regular keeping-in-touch exercises with the participants, through a phone call, email or letter, help to maintain a sense of belonging. These exercises include thanking respondents for their participation and informing them of the study findings. Laurie (2008) provides a set of additional ways in which attrition can be minimised in longitudinal survey panel designs. These include refusal conversion, which refers to instances where participants who have initially refused to continue participating are contacted again at a later period to determine whether anything can be done to encourage participation (i.e. to convert their refusal to participate into acceptance). The reasons for refusal to participate are varied, such as being too busy, disliking the interviewer, interview questions and/or tests, and some of these can be adjusted. Another method of encouraging participation and reducing attrition is to use incentives. However, there are mixed views about their effectiveness. Most evidence suggests that some incentive is better than none, and that monetary incentives given unconditionally in advance of the interview/testing are most effective in increasing responding (Laurie, 2008). If participants have to travel in order to participate, it seems morally appropriate to reimburse their travel expenses. A concern when using incentives is that poor-quality data may be collected from less cooperative participants who would not have participated if no incentive had been offered. In the RANCH-SA study, monetary incentives were inappropriate and financially unviable. Instead, we provided each participant with refreshments during data collection, as well as a small token in the form of a pen.

Since attrition is unavoidable in longitudinal studies, the best way to deal with it is to always report the total number of randomised participants who complete and who do not complete the study's protocol. Usually, attrition is reported as a simple descriptive statistic (e.g. percent total attrition) on the presumption that lower rates imply better science. This is because best-evidence behavioural interventions require retention rates of 70% or higher in each component (e.g. experimental and control) for an intervention with positive outcomes to be considered meaningful. Attrition does not necessarily signal bias, nor does it confer methodological flaws (Amico, 2009). The primary concern in evaluating threats caused by attrition is the extent to which participants or their data are missing due to random or non-random factors. There are multiple causes for missing data: participants may complete some but not all of the measures; some may complete the measures but leave out certain sections; and some may not complete any measurements at a given time point. It is useful, when reporting attrition, to distinguish between loss occurring because of discontinuation of participants and loss because of requested withdrawal, non-compliance to participation in the treatment/experiment, or failure to obtain data from assessments/measures despite continued service use (in intervention-type studies). For randomised controlled trials, assessments of differential attrition should focus on loss of participants in the treatment component relative to loss in the control component. Our RANCH-SA study suffered a fairly high attrition rate. During the first wave of data collection, a cohort of 732 learners (mean age 11.1 years) participated. A second wave took place a year later after the relocation of the

airport and 650 of the original participants were retained. The third wave of data collection occurred the following year with a significantly reduced sample of 378 participants (mean age 13.1 years). There was high attrition of participants in the third wave because the participants had moved from primary to high school (i.e. new schools) and some principals did not grant permission for their schools to participate in the project. In addition, there was bad weather on the assessment day, which resulted in many learners staying home.

Respondent recall

Respondent recall can be a challenge in retrospective studies as it relies on the accuracy of participants' memories, and inaccuracy in recall increases as the length between the event and the recall increases. Other factors that influence the accuracy of respondent recall are the saliency of the to-be-recalled event to the participant and the frequency of occurrence. Consequently, when designing a retrospective longitudinal study, the lengths of recall time should ideally not be too large. Other techniques for improving respondent recall include the provision of a landmark event to clearly mark the beginning of the recall period and a double-question bounded recall procedure, where participants are first asked to recall events for a longer time period (e.g. the previous eight weeks), and then for the time period of interest (e.g. previous four weeks) (Grotpeter, 2008).

Sample size

An inadequate sample size can limit the utility of the data collected. The appropriate sample size for a longitudinal design may be determined by using a target (usually set at 95%) for the power of a statistical test to be applied once the sample is collected, or by using a confidence level to determine how accurate a result is likely to be and what the degree of certainty or error would be. With quantitative longitudinal designs, generally the greater the sample size, the greater the chance of identifying a statistically significant result. However, very large samples also carry dangers in that minute deviations from the null hypothesis can emerge as statistically significant, even if they have no practical significance. It is important, therefore, to calculate the minimum number of participants and time points needed in order to answer the research question(s), and to have some idea of the kind of change from the null hypothesis required to be practically important, before commencing the study. In planning a longitudinal study, it is critical to estimate the power of the study to detect certain effects, such as treatment effects in intervention studies, as studies with low power cannot be repaired after the data collection. The possibility of a 30% attrition rate over time should also be considered when calculating the optimal sample size (Amico, 2009; Laher & Botha, 2012).

Number and spacing of measurement points

Another factor that may affect the quality of longitudinal data is the number and spacing of the repeated measurements. The minimum number of repeated measures for a longitudinal design is reported to be three (Chan, 1998). A limitation of two time point studies is that any change from time one to time

two is by default linear, making it impossible to determine the form of change over time. With a difference between two times, it is not possible to determine whether change was consistent or delayed, or whether it plateaued and subsequently changed. The second limitation to using only two time points is that true change and measurement error are confounded. One may erroneously conclude that there was a true change between time one and time two, when measurement error may have depressed scores at time one and raised them at time two (Rogosa, 1995; Singer & Willett, 2003).

Secondary data

Many longitudinal studies use secondary data. This eliminates the cost of data collection, but introduces other issues concerning the variables and how they were measured and coded in the database, which limits the types of questions that can be asked of the data. For example, the database may be based on interviews or tests that are different from those that the researcher would ideally have used. The other issue is that the researcher has no control over the quality of the captured data.

Threats to reliability and validity

When tests of psychological constructs are used in longitudinal studies, the reliability of those constructs should be considered. This refers to the extent to which consecutive measurements of this construct yield the same result, given that the underlying score on the construct has not changed (Cronbach, 1984). Every score contains a true score as well as a certain amount of error, which may include bias (i.e. systematic error, such as an intelligence test that consistently underestimates all tested individuals' IQ by 15 IQ points, thus reducing the validity of the measure but not its reliability) and random error, which is not consistently due to over- or underestimation (and which reduces both validity and reliability). An example of the latter would be a person's IQ score that reflects cognitive ability, administrator effects (such as experience in administering the test), environmental factors (noise, room temperature), personal qualities (how the participant is feeling that day), as well as the participant's familiarity with IQ tests (test wiseness). The aim of research is to maximise true score variance relative to error variance. While some biographical variables can be measured with high levels of reliability, such as participants' highest completed grades, birth dates and gender, other variables cannot always be measured with the same level of reliability, such as attitudes, perceptions and socioeconomic status (due to the highly variable ways in which this construct is measured). For example, in the RANCH-SA study, socioeconomic status was assessed by the percentage of participants who were eligible for free meals at school (44%), since there is a significant correlation between the free school meal ratio and a range of Census indicators representative of socioeconomic status (Cockcroft et al., 2013; Seabi et al., 2010b; Seabi et al., 2012, 2013; Stansfeld et al., 2005). In South Africa, the criterion for a child to be eligible for a free school meal is that the child's caregiver receives a government social grant.

As with socioeconomic status, measures of cognitive ability may have a large error component. Multi-item measurement is advised where a large error component is anticipated, as with the cognitive measures used in the RANCH-SA study.

Since these errors are presumed to be due to random factors, they should cancel each other out, and thus multi-item measures will give a more reliable estimate of the participants' true scores on these cognitive abilities than single-item measures would (Menard, 2008).

Longitudinal designs are vulnerable to several threats to validity, such as sample selection, attrition, construct operationalisation and regression to the mean. Some of these have already been addressed. In terms of construct operationalisation, the difficulty is that it may be possible to operationalise the same construct in different ways across the lifespan. Whenever the way in which a construct is measured changes in longitudinal research, there is no certainty whether the change results from change in the actual construct being measured or from change in the measurement of the construct. When conducting lifespan studies, the same measurement may not be valid at different life stages. For example, if we continued the RANCH-SA study into adulthood, we would need to change the measures of reading comprehension, memory and attention from those appropriate for children and adolescents to those appropriate for adults. Thus, it is important to be aware that the change of measurements in itself may induce a change in performance. For this reason, longitudinal research emphasises consistency of measurement whenever possible, and caution when measurement occurs over periods of rapid developmental change, such as infancy, early childhood and adolescence (Rogosa, 1995).

Longitudinal data analysis

Prior to undertaking any analyses, it is important to understand how missing data can be dealt with, since attrition is inevitable in longitudinal data collection. The practice of simply replacing missing data with the mean is not recommended as it distorts the relationship between the missing variable and other variables in the analyses. While somewhat better, conditional mean imputation (i.e. imputing the mean for similar individuals) is also problematic as it fails to account for the variation in the predicted value within the subgroups defined by the variables used to group observations. Foster and Krivelyova (2008) and Muthén, Kaplan and Hollis (1987) discuss a range of useful techniques for dealing with missing data, such as imputation, partial deletion and interpolation.

The ensuing analytic tools used for longitudinal research will depend on the data that have been collected, the sample characteristics, as well as the particular research questions that the study set out to answer. Consequently, there are many quantitative and qualitative analytic techniques that can be utilised, but it is beyond the scope of this chapter to detail all of them. Below, we provide an illustrative example of the statistical analyses of data from a longitudinal panel design with an experimental and control group, drawing on our experience from the RANCH-SA study.

The first stage in analysing longitudinal data is to provide a basic description of it, generally derived from the descriptive statistics – for example, describing the typical performance of each sample at each time point, often in terms of

means, standard deviations and frequencies. Thereafter, analyses focus on comparisons of differences both within (intra-individual) and between (inter-individual) groups. In terms of intra-individual comparisons, separate analysis of the control group can allow for typical developmental trajectories to be studied. Such an investigation would compare the performance of the control group at each wave of the study. These data, together with existing research, would allow for a priori hypotheses about the direction of these developmental trajectories to be established. Inspection of individual and overall developmental patterns may also contribute to the choice of analytic models. In such a single-group analysis, it is valuable to first explore whether the control population exhibits any of the post-intervention changes in trajectories that are hypothesised to be due to treatment/experimental conditions. For example, in the RANCH-SA study, we first had to determine the trajectory of reading comprehension, attention and working memory for the control (non-noise-exposed) group, across the three waves of the study (i.e. did these improve, deteriorate or remain stable?), before we compared this group's performance with that of the noise-exposed control group (Cockcroft et al., 2013; Seabi et al., 2010b; Seabi et al., 2012, 2013). If such changes are found for the experimental group alone, they are more clearly attributable to the treatment and not to developmental issues. Thus, the experimental group should also be analysed separately. Here, the basic trajectory form (linear, non-linear) may be investigated. The treatment/experimental condition may induce curve shapes different from those in the control group. Change within each group may be qualitative and/or quantitative and determining this would depend on how the data were collected and measured. Event history analysis is a useful set of techniques for describing, analysing and predicting the timing of qualitative change (see Menard, 2008, for detail).

After the within-group comparisons have been conducted, between-group analyses are performed where the control and experimental groups are compared. For example, in the RANCH-SA study, the main research question was whether or not aircraft noise has an impact on reading comprehension. Statistically significant differences were found between the experimental and control groups on reading comprehension ($F(1) = 8.416$, $p < .004$, $d = 0.17$) and working memory ($F(1) = 12.731$, $p = .001$, $d = 0.23$), in favour of the control group (Cockcroft et al., 2013; Seabi et al., 2013). Evidence that reading comprehension was affected by the air traffic noise came from a significant improvement in the reading comprehension of the children attending the noise-exposed schools in the two years following the closure of the airport (Seabi et al., 2012, 2013). Historically, such between-group comparison methods in longitudinal designs include multiple regression analysis and analysis of variance. These methods have advantages, including the ability to examine potential interaction effects. A subsequent question in the RANCH-SA study was whether aircraft noise and home language interact to influence participants' performance on reading comprehension. A statistically significant interaction was found ($F(1) = 25.621$, $p = .0001$), with a large effect ($d = 0.95$), suggesting that the negative effect of noise on reading comprehension was worse for second-language English speakers (Seabi et al., 2012). However, these methods of difference testing have limitations as they only

analyse mean-level changes and treat random differences between individuals as error variance. Variants of the traditional longitudinal designs described earlier may contain nested data structures, often in the form of various panel designs, which are effectively analysed using hierarchical linear modelling, mixed effects modelling, random effects modelling or random coefficients modelling. These longitudinal data analyses are based on statistical procedures that combine the various nested components. For example, an expected trajectory over time may be created in which the expected values are maximum likelihood estimates and formal tests of these hypotheses are run. Longitudinal structural equation models (SEMs), such as latent curve analysis and latent variable SEM, are also valuable. These formalise theoretical ideas into statistical models against which the data are compared to determine which provide the best fit (McArdle, 2012).

Other analyses include time series analyses, which are generally used with aggregated data from many participants at many time periods – for example, a school's performance on tests of literacy and numeracy over a five-year period. This type of analysis may be used with data from a total population design. The simplest of these analyses track changes over time in a chart with percentages or absolute change depicted between data points (Menard, 2008). The causes or correlates of these depicted changes are typically analysed with linear regression models.

In the social sciences, the data are often psychological self-report measures, rater-captured measures or psychological tests of a range of human functions, such as attention, memory, reading comprehension, personality, emotions, attitudes and perceptions. When the timespan of the study covers many years or involves participants who are experiencing rapid changes (infants and adolescents), the continued validity of these measures over time is important (as discussed earlier). The tests that were designed to tap reading comprehension in our sample of Grades 4 to 6s are unlikely to measure this construct in the same way in the same sample when they reach Grade 10. The problem of the changing relationship between measures and the latent variables underlying those measures is linked to measurement/factorial invariance. Factorial invariance is evident when the factor structure remains the same across multiple time points (or multiple populations). Confirmatory factor analysis is most commonly used to investigate factorial invariance (Millsap & Cham, 2012).

Thus, there is a range of techniques for analysing longitudinal data, a few of which have been described. The choice of analytic technique should be informed by the research design, sampling characteristics and research questions.

Qualitative longitudinal research

Longitudinal research is typically associated with quantitative studies, and this is seen in the considerably larger literature devoted to quantitative than to qualitative longitudinal research (Holland, Thomson & Henderson, 2006; Saldana, 2003). However, qualitative longitudinal studies are equally important, as they may uncover 'why' and 'how' questions that quantitative studies cannot always

address, or they may uncover interesting data that quantitative studies may ignore as statistically non-significant. In the social sciences, qualitative longitudinal designs often follow an ethnographic approach, with attention to the investigation and interpretation of the process of change over time in social contexts. Such designs aim to capture the interplay between time and sociocultural context, offering a nuanced understanding of phenomena that evolve slowly, such as the personal experience of illness (Carduff, Murray & Kendall, 2015).

As with quantitative designs, their qualitative counterparts involve at least two waves of data collection over an extended period (typically a year or longer) using the same participants. The theoretical approach (e.g. grounded theory, phenomenology) that guides the research question(s) and which informs the data collection and analysis is what defines the study as qualitative rather than quantitative. While quantitative longitudinal research focuses on data from groups or aggregations of people, qualitative longitudinal research tends to focus on specific individuals. Thus, there are fewer participants than in quantitative designs as the focus is on generating rich, detailed information. This feature makes qualitative longitudinal research just as time and resource intensive as quantitative longitudinal research (Saldana, 2003).

Qualitative longitudinal research allows participants to reflect on the presence or absence of changes experienced since the previous interview. In this sense, qualitative longitudinal data are iterative, so that follow-up interviews often draw on what was learnt previously to understand what has changed about specific events, periods or feelings in order to tell a story over time (Carduff et al., 2015). To ensure that reliable data are captured, care should be taken that the interviewing style is not too repetitive or that respondents become conditioned to particular questions over time.

Ethical issues in longitudinal research

Several qualities of longitudinal designs introduce ethical complexities. These relate to the prolonged duration of the data collection, the often assertive methods used to achieve and maintain high follow-up rates, issues related to compensation for participation, and the potential ambiguity regarding the relationships between researchers and participants (Lessof, 2016; Scott, 2005). Since longitudinal studies rely on repeated follow-up of participants, often over long periods, researchers generally go to great lengths to retain participants. Respect for participants must be maintained, no matter how pressured researchers feel to maintain high follow-up rates. Contacting participants in a manner beyond the scope of what was provided in the consent form – for example, by asking a school or business to help locate a participant – would be ethically inappropriate and violate confidentiality and privacy, unless the researcher has specifically asked permission to use those routes should the participant be unavailable at subsequent waves of the study. In this regard, care must be taken to avoid disclosing either the names of other contact persons or the nature of information provided by these individuals or organisations. Any cross-communication may only be

done with the permission of the participant. When participants cannot be found using the original tracking data, alternative methods such as the use of public domain records and databases may be useful. The ethics of using such databases have not been well documented, and it is best to include this approach in the informed consent. During the initial informed consent, participants must be fully informed of the methods and intensity of follow-up procedures that will be employed, and notified of their importance to the study; and researchers should be sensitive to the timing of each point of contact, and, if it is not ideal for the participant, should arrange a more convenient time. Participants have the right to terminate their involvement in the study at any point, and researchers are obliged to accurately and clearly communicate the effect that disengagement will have on the participant in a manner that is not coercive (Lessof, 2016).

Incentives are often used in longitudinal studies to encourage participants to return, and to pay for their time and any costs that they may incur, such as travel expenses. Researchers should be aware that, particularly when working in low socioeconomic contexts, a high level of compensation could be a source of hidden coercion. However, this needs to be balanced with evidence that a cash incentive produces higher rates of follow-up contact and generates higher levels of satisfaction related to participation. Participants often view cash as a more valued, dignified and convenient form of payment for their time than alternatives, such as food or gift vouchers. Consequently, the cash amount should be reasonable compensation for the participants' time and effort, and not excessive (Cottler, Compton & Keating, 1995).

Another ethical issue particular to longitudinal studies is that it is often difficult for researchers to maintain neutrality when they are in regular contact with participants over long time periods. The purpose of neutrality is to ensure the objectivity and integrity of the data. By expressing disappointment, disapproval or other emotions, the researcher may inadvertently shape the information that a participant provides, particularly in interview data. Balancing a non-judgemental attitude with appropriate levels of interest and concern is important in determining a participant's willingness to participate over the duration of a longitudinal study (Lessof, 2016).

What is considered best practice in ethical research can change over the duration of a longitudinal study. For example, technological developments for data capture, analysis and linkages to administrative data may raise new ethical questions that were not foreseen at the outset of a study (Lessoff, 2016; Scott, 2005). Consequently, informed consent procedures should be repeated at each wave to account for such developments.

Conclusion

The purpose of longitudinal research is to describe and explain patterns of change. Quantitative studies attempt to establish the direction and magnitude of relationships between variables, often with a focus on the causal nature of such relationships (Menard, 2002, 2008). Thus, the emphasis is on change

within participants over time (growth trajectories), and often also on differences between participants, commonly a control and experimental group (Bollen & Curran, 2006; Singer & Willett, 2003). Qualitative longitudinal studies aim to capture the rich, graduated interplay between time and sociocultural context, which evolves slowly (Holland et al., 2006). Planning and implementing longitudinal studies requires careful consideration of many factors, such as the phenomenon under investigation, sampling, measurement intervals, potential threats to validity and reliability, appropriate choice of data analysis, as well as cost and duration of the study. Longitudinal studies introduce ethical issues pertaining to the boundaries between participants and researchers due to the long-term nature of contact, the type of compensation given for participation, and the appropriateness of methods used to trace participants. One of the primary applications of the findings of longitudinal studies is in policy development, evaluation and change. For example, results from the RANCH-SA study may be used to inform urban planning laws regarding the location of airports relative to centres of learning.

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4 Establishing factorial validity of the Rosenberg Self-Esteem Scale

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Introduction

South Africa, as with many other developing countries, is a consumer of psychological tests that have mainly been developed in the West. All too often the tests are yet to be standardised for the South African multi-ethnic populace. Good psychometric properties are not spatially and even temporally transferable. Using a psychological measure in a different context requires that a prior validation process be undertaken to deal with potential test bias and to circumvent undesirable social, economic and personal consequences with serious ethical undertones (Claassen, 1997). Regarding social and economic consequences, one need not recount the role of social scientists, including psychologists, in addressing the 'racial' question in South Africa, where psychological measures were used to bolster ideologies rather than objectively reflect the nature of the phenomenon under study (Louw & Danziger, 2000; Makhubela & Mashegoane, 2016).

It is not surprising that post-apartheid politicians in South Africa sought to curtail the hitherto unchecked use of tests and their subsequent abuse in decision-making. Section 8 of the Employment Equity Act (No. 55 of 1998) requires, amongst other things, that a test possess demonstrable validity and lack of bias for it to be used to make important decisions. Thus, validation, at least in terms of the law, takes centre stage in test use. Validation generally connotes evaluation of the psychological measure for its context-specific psychometric properties and suitability, before it is relied on for making decisions. The process is much more complex than back-translating the instrument and finding equivalent terms and phrases for original and special terminology. Scale validation ought to include evaluating the measurement equivalence (these terms are defined later) of the measure between the source and recipient groups.

There is serious risk of maleficence or, at the least, measurement error in using an instrument created in another country with the South African population without revalidating it. Psychological concepts can be understood distinctively across cultures, and construct-irrelevant variance in test performance (arising from a source such as group membership) is also possible (Xu & Tracey, 2017). The validation process of psychological measures is performed within a framework of models concerning the underlying trait (occasionally compared

among groups), and associated psychometric procedures and interpretations (Dimitrov, 2010). This involves, among other processes, the structural aspects of the construct, and justifiable relations between the construct and associated external criteria.

An instrument can be validated by means of different methods, including factor analytic procedures. This chapter focuses on the use of factor analysis (i.e. exploratory factor analysis [EFA], confirmatory factor analysis [CFA] and multigroup CFA) in the validation of a psychological measure, procedures to investigate internal relations among observed measures used to operationalise a theoretical construct domain (i.e. structural validity) and whether the factor loadings, intercepts and error variances of such a latent construct are equal across groups (i.e. measurement invariance, or MI). The concept of factor analysis is introduced, and then an example of the analysis is provided using data from South Africa. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a popular measure of global self-esteem, is validated with a South African sample to illustrate these methods. The reader is referred to a number of decision-making procedures that accompany the use of factor analysis in the test validation process.

Factor analysis as a validation method

Validity theory has substantially evolved over the last century in response to the increased use of assessments in society. This evolution has seen a shift to contemporary validity theorising and practice which, while still considering it necessary to demonstrate all types of validity, nevertheless regards predictive, concurrent and content validities to be fundamentally provisional (Dimitrov, 2010; Messick, 1995) and construct validity as the 'whole of validity from a scientific point of view' (Loevinger, 1957, p. 636). Practitioners wishing to investigate the construct validity (i.e. demonstration that a test actually measures the concept it purports to measure) of an instrument have the following statistical procedures at their disposal: interscale correlations, factor analysis and item response theory (Rasch model). Factor analysis, the focus of this chapter, has two main classes, namely EFA and CFA.

While there seems to be a general grasp of convergent and discriminant validity methods, confusion abounds among social science researchers as to which factor analytic method to use to answer which question and under what conditions. Many psychology practitioners in South Africa have little, if any, formal EFA and/or CFA instruction, leading to inadequate and curious use of the methods (e.g. Mthembu, 2015). This chapter elucidates some of the presumptions and uses of the techniques. It also pays special attention to multigroup confirmatory factor analysis (MGCFA), a special method of executing CFA, because this critically important aspect of construct validity has not received widespread use in South Africa. MGCFA is now considered the yardstick for determining the extent to which measures are equivalent for different groups (Chen, 2008). This is done

using a study on the RSES. This study examined the dimensionality and cross-cultural utility of the RSES in a relatively diverse sample of South African students. Notwithstanding the extensive application of the RSES across diverse cultural groups in southern Africa (Westaway, Jordaan & Tsai, 2015), studies are yet to settle the factorial validity and MI of the scale across groups of respondents.

We tested for the factorial validity and MI of the RSES across black (n = 579) and white (n = 291) university students. The analysis was conducted using both the Statistical Package for the Social Sciences (SPSS) version 23.0 and Analysis of Moment Structures (AMOS) version 23.0 (Arbuckle, 2014) software. EFA was examined using the principal axis factoring (PAF) method of estimation, while CFA employed the maximum likelihood (ML) estimation method to test the factor structure.

Exploratory factor analysis

The first step in the RSES study involved conducting the EFA. This technique, also referred to as common/principal factor analysis, has traditionally been used to explore the latent structure of a set of observed variables or of an area of functioning as examined by a particular measure, without hypothesising a predetermined structure (Schmitt, 2011). The approach also assists researchers to develop a structural theory: to determine the number of constructs underlying a set of items or observed variables, choose good measures of a construct/factor and define the content or meaning of latent constructs/factors. A related but distinct data extraction/variable reduction method is principal component analysis (PCA). Both PCA and EFA belong to the same family of analytical procedures, namely factor analysis (cf. Tabachnick & Fidell, 2007), leading to a misunderstanding. While PCA and EFA are at times mistakenly thought to be similar statistical methods, the former approach focuses on the analysis of all the variance of the observed variables/items, as opposed to the latter's focus on only the common/shared variance among items (Schmitt, 2011). It has generally been accepted that under certain circumstances the differences between the two approaches are inconsequential and, as such, practitioners can choose either of the two. For example, in instances where the communalities of PCA and EFA are all close to one, analysis tends to yield similar structural outcomes. Nonetheless, each retains its specific role in test validation, as noted.

Determining sample size

There has generally been a difficulty in determining empirically derived sample-size requirements for factor analysis. It is common knowledge that factor solutions derived with relatively small sample sizes tend to be unstable and difficult to replicate (MacCallum & Tucker, 1991). The following rule-of-thumb sample-size guidelines have been proposed: participant-to-parameter ratio; subject-to-variable ratio (10:1; Nunnally, 1978); absolute minimum sample required (a sample of not less than 100 participants and preferably more than 200;

Izquierdo, Olea & Abad, 2014); and variables-to-expected-factors ratio (Cattell, 1978). These heuristic sample-size estimation methods should be used with circumspection.

While it is generally accepted that sample-size requirements depend on the number of parameters in the model, it should also be noted that aside from the sample size, the degree of communalities and the extent of factor overdetermination are critical predictors of the precision and power of factor solutions (MacCallum, Widaman, Zhang & Hong, 1999). The total sample size for this study was 870 university students. This sample size was determined using various sample-size estimation criteria (Gaskin & Happell, 2014; MacCallum et al., 1999). Inaccurate sample-size estimations for factor analysis often lead to the over- or underselection of respondents. This not only has an impact on the dependability of the factor solutions produced but could also result in scientific and ethical consequences (i.e. inconclusive results, inaccurate interpretations of findings or statistically significant results, albeit with negligible clinical significance) (Gaskin & Happell, 2014).

Choosing the number of factors to extract/retain

Amongst conventional factor extraction methods, the Kaiser-Guttman criterion (eigenvalue > 1.00; Kaiser, 1960) and Cattell's (1966) scree plot test are the most regularly used methods for retaining the number of factors in factor analysis and are default settings in many statistical analysis programs. The former tends to miscalculate the number of dimensions to retain (O'Connor, 2000), while the latter is subjective (e.g. eye-balling eigenvalues plot for the elbow). Instead, the literature (O'Connor, 2000) favours the use of both parallel analysis (PA) and the minimum average partial (MAP) (Horn, 1965; Velicer, 1976) methods due to their precision, psychometric integrity and negligible inconsistency of the results (Zwick & Velicer, 1986). PA (Horn, 1965) focuses on the number of factors that explain more variance than on the factors resulting from random data.

Velicer's (1976) MAP test attends to the relative number of residual systematic and unsystematic variance in a correlation matrix after extractions of increasing numbers of factors. Procedures and scripts for running these methods are available for SPSS, the Statistical Analysis System (SAS) and R (O'Connor, 2000). Researchers also have new methods such as the Hull method (Lorenzo-Seva, Timmerman & Kiers, 2011) and Ruscio and Roche's (2012) comparison data (CD) at their disposal (although more empirical evidence is still needed on their utility). It is recommended that a combination of the traditional and more advanced procedures works better and that the factors produced must be interpretable and make theoretical sense (also see Zygmont & Smith, 2014). In our study, PA and MAP suggested that one component should be retained. For instance, Velicer's MAP test revealed that a one-factor solution resulted in the lowest average squared correlation of $r^2 = 0.19$.

Choosing a data extraction method

Various data extraction procedures have been proposed to aid in the estimation of common factor analysis models. These methods include unweighted least

squares method, PAF, the ML method, alpha factor analysis, image factor analysis and generalised least squares method. Researchers need to select extraction procedures judiciously and in keeping with their objectives, because these methods produce different solutions (Gaskin & Happell, 2014). Extraction procedures vary in the assumptions that undergird them: aims, characterisation of uniqueness and mechanisms for calculating commonality values and factor scores (MacCallum, Browne & Cai, 2007). In this study the PAF method of estimation was chosen to examine the factor solution of the common/shared variance only, rather than the whole correlation matrix.

Selecting a factor rotation method

After extraction, the retained factors are normally rotated to simplify the factor solution and render it more interpretable. Unrotated factors tend to be ambiguous and indiscernible. Rotation seeks to attain optimal simple or parsimonious structures that are easier to interpret. A simple structure relates to a small number of factors that explain most of the observed variance in a larger set of items. Factor rotation can either be oblique, allowing solutions with correlated factors, or orthogonal, keeping factors uncorrelated. Within EFA, oblique rotation uses methods such as direct oblimin, quartimin and promax procedures, while orthogonal uses procedures such as varimax, quartimax and equamax (Thompson, 2004). The following rotation methods should be considered when aiming to allow for cross-loadings in the analysis: 1) larger cross-loadings: CF-equamax or CF-facparsim; and 2) fewer cross-loadings: geomin or CF-quartimax (Schmitt, 2011). Both rotations are default options in most statistical analysis programs. Safe to say the choice of rotational method depends largely on what rotation method is established within a particular field of study and the objectives of the analysis. For our study on the RSES, rotation was not necessary since only one factor was extracted.

Evaluating factor loadings

Factor loadings within EFA are considered to be meaningful and practically significant when > 0.30, although loadings > 0.40 are more preferable (Kline, 1994; Tabachnick & Fidell, 2007). Another important consideration here is that factor solutions should explain a substantial percentage of the total variance of the measured variables (see Streiner, 1994). A minimum item loading of about 0.30 amounts to about 10% overlapping variance with other items with the same factor. Parsimonious factor structures are solutions with consistently high communalities, item loadings > 0.30, and without free-standing, low-loading and cross-loading items and factors with less than three items (Costello & Osborne, 2005).

While item communalities of ≥ 0.80 are deemed to be high (Velicer & Fava, 1998), communalities of around 0.40 to 0.70 (low to moderate) are typically accepted in social science research. Item communalities below 0.40 would suggest that more factors should be investigated or that the said item is not associated to other items. Items are said to cross-load if they load at ≥ 0.30 on more than one factor. Item cross-loading may be suggestive of problems related to

item construction or the hypothesised factor solution. Factors containing less than three items are mostly poor and unstable, whereas those with ≥ 5 significantly loading items are advisable (Costello & Osborne, 2005).

Consistent with the PA and MAP results, the EFA of the RSES in our study revealed variance discontinuities that suggested a single latent factor. Collectively, the results indicated that a one-factor solution was optimal. The one factor accounted for 33.59% of the variance, with an eigenvalue of 3.36. Table 4.1 presents the factor matrix with factor loadings.

Table 4.1 Factor matrix of the RSES

Principal factors	
	Self-esteem
Variance explained	33.59%
Eigenvalue	3.36
Item descriptor	**Loading**
RSES 1	0.63
RSES 2	0.63
RSES 3	0.60
RSES 4	0.60
RSES 5	0.58
RSES 6	0.54
RSES 7	0.48
RSES 8	0.45
RSES 9	0.30
RSES 10	0.30

Source: Authors

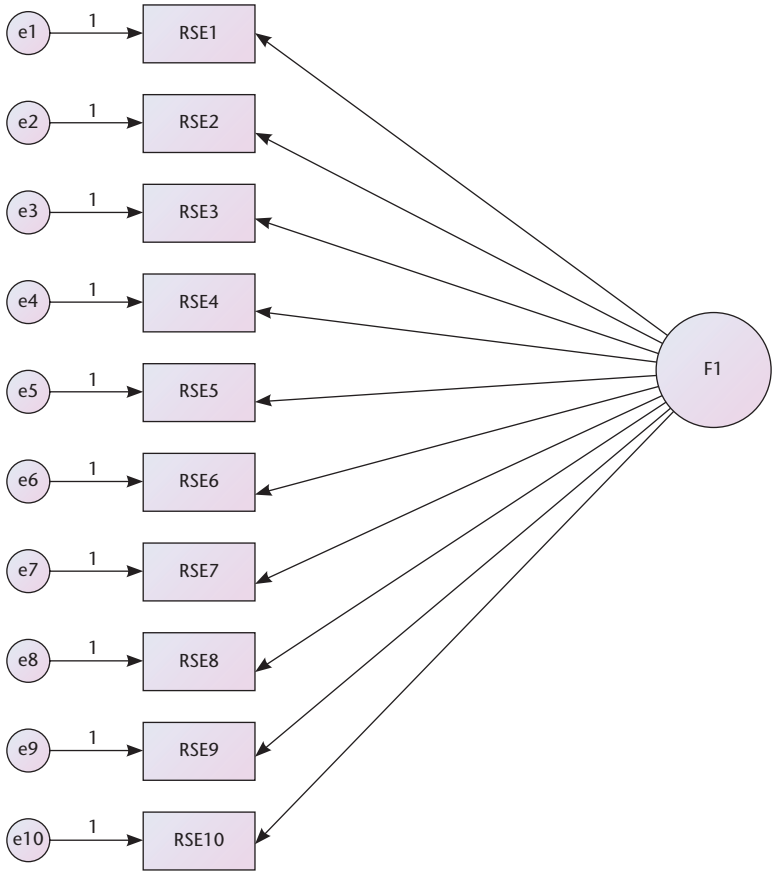
Confirmatory factor analysis

CFA manifestly hypothesises a latent structure (based on theory and/or empirical data) and tests its fit with the observed variance-covariance structure of the observed indicators. It also allows for the evaluation of relative fit of competing structural models (Schmitt, 2011). Construct validity is demonstrated if the dimensionality of the scale is consistent with the trait the instrument alleges to measure, is also consistent with theory, and the variable loadings are large (Dimitrov, 2010). In our study, the validity of the RSES factor structure that was derived empirically with the EFA was further tested with CFA. The factor solution is schematically portrayed in Figure 4.1.

Data quality and normality

Data derived from interval or quasi-interval scales (e.g. Likert-type scales) are usually necessary for the successful use of factor analytic methods. Tetrachoric

Figure 4.1 Hypothesised one-factor model



Source: Authors

(for dichotomous items) and polychoric (for polytomous items) correlations can also be used as input when working with Likert-type data instead of correlation matrices (Pearson correlation coefficients) (Gorsuch, 1974). Similarly, multivariate normality (reported, for example, using Mardia's multivariate skewness and kurtosis tests/estimates) is a mandatory requirement when using factor analytic methods, especially when using parameter estimation methods like ML. Robust alternatives, using the ML parameter estimates with standard errors and a mean-adjusted Chi-square test (MLM) and robust maximum likelihood estimator (MLR) (in programs such as LISREL, Mplus, EQS and lavaan), are available for use and provide the option of relaxing multivariate normality (Byrne, 2012; Muthén & Muthén, 2012).

Alternative estimation methods, like the robust weighted least squares (WLS) (WLSMV or WLSM estimator in Mplus and lavaan), are available for use with Likert-type data, while current versions of AMOS offer the Bayesian approach for such a task (Lee, 2007). Monte Carlo studies show that satisfactory solutions are difficult to achieve when violations of assumptions, such as a normal distribution, are not accounted for. In the instance that this occurs, most statistical

packages, like AMOS and EQS, have the option of bootstrapping or robust/corrected statistics (like the ones mentioned above) as a solution to this problem (Efron & Tibshirani, 1993). Bootstrapping is employed to obtain unbiased standard errors when multivariate normality is violated. A related issue is that of missing data. Because of the impact that missing data may have on the analysis, a method such as full-information ML should be used to correct for missing data (Jöreskog & Sörbom, 1996). Missing data could represent either sampling or measurement error and this might affect factor analysis results adversely, but this is entirely reliant on how these types of data are treated. Bootstrapping was used to obtain parameter estimates in the CFA of the RSES due to the multivariate non-normality of our data (i.e. Mardia's multivariate kurtosis = 695.81; *c.r.* = 680.78).

Sample adequacy

While five to ten participants per variable is a commonly utilised guideline in CFA, Jöreskog and Sörbom (1989) recommend ten participants per parameter estimated. The number of parameters estimated in CFA increases as more variables are added, thus making the model more intricate. As such, Jöreskog and Sörbom's (1989) suggestion is aimed at keeping models simpler when conducting CFA. Our research sample (N = 870) meets the recommended model-based sample-size estimation standards for CFA (Gagné & Hancock, 2006).

Examining model fit

ML estimation is a common estimation method to assess how well the specified model adequately represents the data. Practitioners have the following fit indices to evaluate for model adequacy: 1) absolute fit indices: based on how adequately the a priori/hypothesised model fits the data (Jöreskog & Sörbom, 1993); 2) comparative/incremental/relative fit indices: obtained by comparing the independence model to the hypothesised and respecified models; and 3) parsimonious fit indices: based on adjustments of absolute and comparative fit indices. Given the absence of consensus in the literature on preferred fit indices (e.g. Bentler, 1990; Hu & Bentler, 1995, 1999; Kline, 2005), it is prudent that several fit indices (absolute, comparative/incremental and parsimonious), modification indices, related expected parameter changes and residual error terms (Arbuckle & Wothke, 1999) be used to assess model fit.

Fit indices typically used to assess the goodness-of-fit of models include the Chi-square statistic to *df* ratio (x^2/df; absolute fit), the comparative fit index (CFI; relative fit), the standardised root mean-square residual (SRMR; absolute fit), the normed fit index (NFI; relative fit), the Tucker-Lewis index (TLI; relative fit), Akaike's information criterion (AIC; relative fit), expected cross-validation index (ECVI; relative fit) and the root mean-square error of approximation (RMSEA; absolute fit) along with its related 90% confidence interval. Models are accepted as providing good fit if $x^2/df < 1.5$, TLI and CFI ≥ 0.95, RMSEA < 0.06 and NFI ≥ 0.90 (see Bentler, 1990; Bentler & Bonett, 1980; Hu & Bentler, 1995; Kline, 2005). The AIC and the ECVI are evaluated to compare the relative fit of competing models; the lower the values on both indices, the superior the fit of the model to the data.

A word of caution regarding fit indices is that they may suggest that a model fits well, when in fact not all aspects of fit are good. Marsh, Hau and Wen (2004) warn against a strict adherence to cut-off criteria such as those of Hu and Bentler (1995), leading to incorrectly rejecting models that would otherwise be acceptable (type I errors). Researchers are expected to also take supporting theory into account when using fit indices. Modification indices (MI) or Lagrange Multiplier (LM) tests are also normally examined to identify the most significant and meaningful model modifications, and to improve the fit of the models that have poor fit (Hu & Bentler, 1995).

Goodness-of-fit statistics related to the test of our RSES structural model are shown in Table 4.2. Results revealed a well-fitting model to the data and all parameters were statistically significant and had the expected signs (Table 4.3).

Table 4.2 One-factor model of the RSES structure: Goodness-of-fit statistics

Model	One factor
χ^2	57.20
df	23
TLI	0.96
CFI	0.97
RMSEA	0.04
90% RMSEA CI	0.02, 0.05
SRMR	0.03

Source: Authors

Notes: χ^2 = Chi-square; *df* = degrees of freedom; CI = confidence interval

Table 4.3 Structural path coefficients for the data

Items	Coefficient (SE)	C.R.	Standardised coefficient	R^2
RSE 1	0.35 (0.03)	13.53	0.50	0.25
RSE 2	0.49 (0.03)	15.26	0.58	0.34
RSE 3	0.37 (0.05)	6.86	0.25	0.06
RSE 4	1.00		1.37	–0.79
RSE 5	0.52 (0.03)	17.86	0.61	0.38
RSE 6	0.57 (0.03)	18.66	0.66	0.43
RSE 7	0.29 (0.03)	10.62	0.39	0.15
RSE 8	0.31 (0.04)	7.34	0.29	0.08
RSE 9	0.45 (0.02)	18.22	0.63	0.39
RSE 10	0.44 (0.03)	15.74	0.58	0.33

Source: Authors

Notes: All path coefficients are significant at 5% level of significance; N = 870.

However, the R^2 associated to eight of the ten observed indicators show that the factor accounts for a considerable part of the variance (between 15.5% and 79.2%). Only items 3 and 8 had negligible R^2 (0.06 and 0.08), suggesting the likelihood that these items do not measure the same latent trait as the other eight (at least in this student sample). From these results, we concluded that the hypothesised model of the RSES structure adequately represented data for non-clinical South African university students.

Multigroup confirmatory factor analysis

Evidence of MI (the extent to which an instrument's items or subtests have equal meaning across groups of testees) is a prerequisite for the fair and ethical use of psychological tests and their test scores across groups. MI presumes that comparisons between groups are done on the basis of equivalence of the structure of the measure(s) being used. Relatedly, respondents from different groups should understand and respond to the items of the measure(s) in the same way, and there should be no systematic and artefactual way that their test scores differ on any items (i.e. construct-irrelevant variance). It is only when the measurement parameters (factor structure, factor loadings, indicator intercepts and residual [error] variances) are invariant across groups that the differences between them can be interpreted with some validity (Byrne, 2006). In essence, in this chapter we examine for the degree to which properties and interpretations of test scores of a particular trait generalise across groups of people (see Messick, 1995).

Although there are other approaches for examining multigroup invariance (e.g. EFA methods; Zumbo, Sireci & Hambleton, 2003), we prefer the robust MGCFA framework (Byrne, 2004; Cheung & Rensvold, 2002; Meredith, 1993), which addresses configural, metric and scalar invariance, as opposed to just the similarity of factor patterns across groups. Contrary to other approaches for invariance limited only to the analysis of covariance structures (COVS), the CFA procedure presented herein is based on the comparisons of mean and covariance structures (MACS) and this permits the examination of scalar equivalence through the comparisons of mean levels of factors (Chen, Sousa & West, 2005). Most Structural Equation Modeling (SEM) programs (e.g. EQS, AMOS, LISREL and Mplus) provide platforms to run the analysis, with the researcher having a choice of running the analysis manually or in an automated way.

The most preferred approach of MGCFA involves initially running a measurement model, in which baseline CFA models of the hypothesised factor model, established in the previous analysis stages, are first conducted. If this baseline model proves to be consistent with the data, analysis then proceeds to test the invariance of this model across subgroups, using a series of ordered steps (Byrne, 2006; Chen et al., 2005; Wu, Li & Zumbo, 2007). The initial model specified is for configural invariance: that is, the same factor structure is concurrently estimated for both groups without any equality constraints being set on the parameter estimates. If this model is established to be consistent with the data, the analysis proceeds to impose a series of stricter between-group constraints to examine for

factorial invariance. The second model (metric or weak factorial invariance) is then estimated in which the factor loadings are constrained to be equal between groups. This model allows differences in factor variances and error variances but forces equal loadings between groups. Results of this specified model remaining consistent with the data will, in addition to MI, also imply invariant between-group variance in the latent variables or attribute examined by the indicators.

The third model (scalar or strong invariance) further constrains the item intercepts to be equal between groups, consequently forcing equality of the variances/covariance matrices across the groups. The fourth model is residual variance invariance (strict factorial invariance), wherein the residual variances (uniqueness or measurement error), in addition to factor loadings and intercepts of latent variables, are constrained to be equal between groups. However, there are disagreements in the literature as to the necessity of this aspect of MI (Chen et al., 2005; Widaman & Reise, 1997). Table 4.4 illustrates a series of multigroup models, each constituting a gradually more constrained parameterisation than its precursor. These models are considered to be hierarchically nested.

Table 4.4 Steps for multigroup analysis

	Model	Constraint parameters
1.	Configural invariance	Similar factor structure across groups (no equality constraints imposed)
2.	Metric invariance	Same factor loadings constrained to be equal across groups
3.	Scalar invariance	Factor loadings and item intercepts constrained to be equal between groups
4.	Strict (residual) invariance	Factor loadings, item intercepts and uniqueness or measurement error constrained to be equal across groups

Source: Authors

MGCFA uses similar fit indices as the normal CFA. However, nested models are compared in sets by calculating the differences in their overall CFI and RMSEA estimates to examine for MI (i.e. Δ; difference value). While the χ^2 difference value ($\Delta\chi^2$) is also calculated, the literature (Cheung & Rensvold, 2002; Little, 1997; Marsh, Hey & Roche, 1997) suggests that the $\Delta\chi^2$ value is similarly sensitive to non-normality and sample size as the χ^2 statistic, thus questioning its reliability when it comes to offering evidence for invariance. Evidence of invariance is based on the following criteria: the multigroup model exhibits an adequate fit to the data, and the CFI and RMSEA values between models are negligible (ΔCFI ≤ 0.01 and when ΔRMSEA ≤ 0.015) (Chen, 2007; Cheung & Rensvold, 2002). In addition to the aforestated process pertaining to full MI, we also have partial MI – a less strict procedure for making group comparisons. Within the partial MI framework, only a limited portion of parameters in the model are constrained to equal across the groups, while others are left to vary (see

Vandenberg & Lance, 2000). The precondition for evaluating partial MI requires that configural invariance and partial metric invariance (whereby only minority parameters are allowed to differ between groups) be met, before proceeding with other levels of MI (Milfont & Fischer, 2010).

The MI results for our RSES study are as follows:

Baseline models: Tests of the hypothesised RSES structure (Figure 4.1) revealed a good fit to the data for both black ($\chi^2_{[21]} = 25.51$; CFI = 0.99; SRMR = 0.02; RMSEA = 0.02, with 90% CI = 0.00 to 0.04) and white ($\chi^2_{[21]} = 59.13$; CFI = 0.96; SRMR = 0.02; RMSEA = 0.07, with 90% CI = 0.05 to 0.10) participants. All parameter estimates were viable and statistically significant.

Tests for factorial invariance: Hierarchically nested multigroup models were tested across black and white university students, each comprising more restricted parameterisation than its precursor (Vandenberg & Lance, 2000). Results from the related tests for invariance are summarised in Table 4.5.

Table 4.5 Goodness-of-fit statistics for tests of invariance of the RSES structure for blacks and whites

Model and constraints	1. Configural invariance	2. Metric invariance	3. Scalar invariance
χ^2	127.71	193.58	915.92
df	44	53	77
CFI	0.95	0.93	0.57
SRMR	0.03	0.03	0.22
RMSEA	0.04	0.06	0.11
90% RMSEA CI	0.03, 0.05	0.05, 0.06	0.10, 0.12
Model comparison		2 vs 1	3 vs 1
Δ*CFI		0.02	0.36
Δ*RMSEA		0.02	0.05

Source: Authors

Notes: $p < .001$; χ^2 = Chi-square test; *df* = degrees of freedom; ΔCFI = comparative fit index difference value; ΔRMSEA = root mean-square error of approximation difference value.

In Table 4.5, tests of the hypothesised RSES structure, the configural model, revealed a good fit to the data for both black and white ($\chi^2_{[44]} = 127.72$; CFI = 0.95; SRMR = 0.03; RMSEA = 0.04, with 90% CI = 0.03 to 0.05) participants. All factor loadings were viable and statistically significant. This model serves as the baseline against which all remaining models are compared in the process of determining evidence of invariance. Furthermore, all MGCFA results for MI across race show that all the first two nested models represented a good fit to the data (CFIs = 0.93–0.95, SRMRs = 0.03, RMSEAs = 0.04–0.06). Model 2 (metric invariance), in which all factor loadings (i.e. measurement weights) were equally constrained, also represented a good fit to the data, but the resulting ΔCFI = 0.02,

while the ΔRMSEA value = 0.02. Moreover, the fit of the models deteriorated when we assumed equal variance in the factor loadings and item intercepts. The lack of satisfaction of metric invariance implies that items of RSES do not have equal salience across black and white participants. These results suggest that the RSES provides an assessment of self-esteem that is not equivalent across race groups in South African university students. The absence of MI indicates that practitioners should use the RSES with some caution given the lack of generalisability of the instrument's properties across race in university students.

Conclusion and implications

This chapter discussed procedures commonly used for studying the construct validity of assessment instruments in psychology. Its applications were illustrated by using self-esteem data from South African university students. EFA was done using PAF. MAP and PA methods suggested that only one factor could be extracted. Subsequently, a single-structure model was tested with the CFA, and it fitted the data well. This is the model that was used to illustrate the use of MGCFA to establish MI between whites and blacks in South Africa. Ensuring that the data are suitable for analysis, including the test of their normality, dealing with missing values and making sure that data are large enough, will make it possible that MGCFA will be conducted and its results can be relied upon to decide whether there is MI or not.

Methods like MGCFA offer potential solutions to the measurement bias problems of most of the psychological tests used in South Africa. Moreover, contemporary MGCFA approaches include procedures such as MACS that are on a par with other renowned approaches to examining for MI, like item response theory (IRT).

Continued use of tests that are clearly biased and lacking in fairness is a major problem in a multicultural context such as South Africa, and knowingly doing so constitutes an ethical dilemma in itself. The Employment Equity Act places the burden of proving test validity on test administrators. Consequently, South African practitioners have been amply warned, and methods of validating and improving the psychometric properties of measures circulating in the market have been suggested (Van de Vijver & Rothmann, 2004; Van de Vijver & Tanzer, 2004). Neglecting to implement on a wide scale the recommendations and suggestions of commentators is in itself incomprehensible.

The methods of validation described in this chapter assist test users to avoid the usual pitfalls of transporting tests and their accompanying constructs to a recipient context. Construct, method (instrument) and item bias are minimised, with reasonable prospects of eliminating them. Although some of the problems associated with cross- and multicultural use of tests may not disappear easily, at least they are dealt with sufficiently. As an example, scalar equivalence ensures the comparability of the measure in spite of the persistence of mean differences across groups.

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5 Using the WAIS-III to illustrate test norming strategies in multicultural contexts: A demographically stratified sampling design

Ann B. Shuttleworth-Edwards

Introduction

It is now widely accepted in the assessment literature that there is a need for relevant norms when applying cognitive tests in multicultural contexts, for fair and valid clinical assessment procedures (Lezak, Howieson, Bigler & Tranel, 2012; Strauss, Sherman & Spreen, 2006). The issue is particularly pertinent with respect to the South African population, which is characterised by extreme sociocultural and socioeconomic diversity, thereby presenting an ongoing research challenge that has long been grappled with in the local academic sector (Foxcroft, 1997; Laher & Cockcroft, 2014; Nell, 2000; Shuttleworth-Edwards, 2016; Shuttleworth-Jordan, 1996). Abundant research is now available that reveals substantial differences in psychometric test performance for individuals within the culturally diverse South African population, when tested on commonly employed psychometric instruments that are typically developed and normed on mainstream westernised populations in the United States (e.g. Ferrett et al., 2014; Shuttleworth-Edwards & Van der Merwe, 2016; Skuy, Schutte, Fridjhon & O'Carroll, 2001). The problem is particularly marked for those individuals whose language is other than English and/or who are from educationally disadvantaged backgrounds. The most common solution has been to develop local norms for these tests to facilitate legitimate assessment practices in the country.

The purpose of this chapter is to describe the conceptual framework on which norm-referenced cognitive tests (as distinct from personality tests) are based, including sources of test error and bias within culturally diverse contexts, and the manner in which these inform research in the area. The term 'cognitive' test is used with reference to tests of intellectual function, including the composite subtests that make up IQ tests, as well as stand-alone tests that focus on specific aspects of intellectual functioning. Various norming options are described and critically discussed, including countrywide population-based norms traditionally applied in IQ test development, and the contrasting demographically focused within-group norms. An example of a within-group norming study conducted in the South African context is presented, including the particular challenges involved in the implementation of the research, and the strengths and limitations of the application. Follow-up studies that have built on the basic research

model are alluded to, with a view to showing how a focused series of relatively small studies can serve cumulatively to establish a substantive database.

The meaning of a cognitive test score

A derived score on a test of cognition can have critical ramifications in the lives of individuals when used for placement or diagnostic purposes. Yet, the extent to which a test can accurately categorise individuals as having a disability or not, or, conversely, the degree to which a person can be considered to have normal or above-average ability, is a challenging task subject to many sources of error. This is true even in settings where the individual has the same demographic characteristics as the standardisation sample (Whitaker, 2015). However, it is much more complex in culturally diverse contexts such as South Africa, where many individuals do not fit the standardisation sampling characteristics (Nell, 2000). More specifically, this can be understood as follows.

A fundamental assumption underlying psychometric testing of cognitive functions is that an individual's true level of ability is measurable and can be reflected in the derived test scores. However, while attempting to capture true intellectual capacity on the basis of psychometric testing, the results may not fully represent that capacity, being subject to deviation depending on various sources of test error, including within-test error and between-test error. *Within-test error* refers to the inconsistencies in test results that may occur due to variations in test-taking conditions for an examinee. *Between-test error* refers to substantial variability in test results caused by systematic differences that occur between the overall results for a particular test. These sources of error may apply to individuals who match the demographic criteria of the sample on which a test was standardised (i.e. a westernised English-speaking individual completing a test developed and normed on an English-speaking sample). However, negatively biased error on both of these parameters is much more likely to occur when a relatively non-westernised individual completes the same test, as extensively delineated by a number of researchers (Claassen, 1997; Van de Vijver & Poortinga, 1997; Van de Vijver & Rothmann, 2004).

Within-test method bias occurs in conjunction with varying degrees of test-taking familiarity and sophistication (i.e. degrees of 'test-wiseness') that may occur between cultural groups in association with the *type* of educational exposure received, and when a test is undertaken by an examinee whose primary language is other than that for which a test was standardised. Between-test construct and item bias occurs because items in an instrument may not tap equivalent test constructs across cultural groups, and/or test items may not have the same meaning across cultural groups. Finally, and most importantly in terms of the theme of this chapter, between-test norming bias refers to the disparity between the results obtained on a test across different cultural groups as a cumulative consequence of both within-test method bias and between-test construct and item bias.

The overall effect is to create a distance between the true cognitive ability of a culturally disadvantaged examinee and the score yielded by a test developed and normed in a westernised culture. The bigger the difference, the more hazardous the task becomes of achieving a valid test interpretation for placement and diagnostic purposes. Erroneously low scores present high risk for false positive diagnoses of intellectual dysfunction where it may not exist, with associated high risk of inappropriate treatment and unsatisfactory placement recommendations. Clearly, the stakes are high when it comes to ensuring reliable test-taking practices, and the critical question arises as how best to proceed with assessment in diverse cultural contexts. In that regard it is unanimously agreed that relevant local norming is a necessary step to take (Ardila, 1995, 2005; Lezak et al., 2012; Nell, 2000).

Cognitive test norming solutions

Norming solutions for cognitive tests may occur on the basis of two diametrically opposed methodological approaches, which must be clearly differentiated (Strauss et al., 2006). These include *population-based norms* and *within-group demographically stratified norms*. Both have the aim of estimating ability on a particular test that as closely as possible reflects an examinee's true level of intellectual ability for a designated functional modality, relative to a given normative sample.

Population-based norms

Population-based norms for a psychometric test are designed to be as closely representative as possible of the general population for a designated country – for example, the United States, the United Kingdom or Canada. These data are usually collected on a very large sample that is proportionally representative of the population census for a country (in terms of demographic factors, usually including educational level, sex, geographical location and race group), and from which a single set of normative indications is produced. Typically, as exemplified by the Wechsler IQ test in its many versions, population-based norms of this type have been provided as part of the overall IQ test, including the most recent US Wechsler Adult Intelligence Scale (WAIS-III and WAIS-IV) standardisations (Wechsler, 1997, 2008), followed by the South African WAIS-III and WAIS-IV standardisations (Claassen, Knynauw, Paterson & Mathe, 2001; Wechsler, 2014).

The assumption underlying the production of such a unitary set of norms (the population-based norms) is that they will be generalisable to the whole population, with the added assumption that this is a relatively homogenous population. From a cross-cultural perspective, population-based norms in a country like the US, which aim to reflect the census distribution of cultural groups, are clearly open to substantial criticism in that clinically relevant indications for the minority groups in the sample will be obscured. Hence, researchers Heaton, Taylor and Manly (2003) have seen the need to produce a separate subset of

demographically corrected norms based on the US WAIS-III standardisation for the lower-scoring African American and Hispanic minority groups. Population-based norms will necessarily be confounded for the majority group as well by the inclusion of any disparate performance of minority groups, although clearly to a much lesser, and possibly not clinically relevant, extent. Therefore, Lezak et al. (2012, p. 169) suggest that despite their lack of definition, 'these "mixed bag" norms generally serve their purpose'. It is this type of clinical experience with the mainstream westernised population in the US that probably explains why the population-based norming tradition has been preserved to date for the norming of the Wechsler IQ tests, despite the fact that statistically precise norms are unattainable for any subgroup through this approach. The problem is massively amplified in the context of a country as racially and socioeconomically diverse as South Africa, rendering a unitary set of countrywide norms methodologically flawed and of minimal clinical value (Shuttleworth-Edwards, 2016).

Within-group norms

In contrast to population-based norms that attempt to provide broad, countrywide representation are within-group demographically based norms. These norms closely approximate the subgroup to which an individual belongs *within* a wider population, typically including much smaller sample numbers. Population-based norms combine the various subgroups into a unitary outcome, whereas the opposite goal applies to the within-group norms. Here the objective is to isolate the most relevant discrete groups for the core variables that might influence test outcome. The focus, therefore, is to produce more refined normative indications than are usually accessible from a population-based test standardisation for influential factors such as age, education and IQ level, type of education and cultural groups.

Within-group normative data taken from multiple disparate studies on commonly employed cognitive tests have been collated in two well-known neuropsychological texts to facilitate their accessibility and use in clinical practice (Mitrushina, Boone, Razani & D'Elia, 2005; Strauss et al., 2006). Data are included in these texts with subset sample numbers as low as single digits, and frequently as low as 12 or 15, although of course many studies have much larger sample numbers. The objective has been to provide indications of the differential test outcomes that occur in association with highly specific, influential demographic characteristics that are not available elsewhere: for example, norms for neglected outlying younger or older age groups; separate norms for all educational levels from zero to postgraduate attainment; and norms for culturally overlooked groups. Practitioners are then able to source the most appropriate norms they can find in terms of the demographic characteristics of a particular examinee for valid interpretation purposes. From this methodological standpoint, high specificity in terms of the core influential variables that can bias test performance is rated more highly than a study with very large sample numbers that is lacking in such demographic specificity (Mitrushina et al., 2005).

Therefore, in order to give due consideration to cross-cultural differences in cognitive test performance, a substantial body of within-group norming research has emerged on commonly employed cognitive tests, within the USA as well as in

South Africa (e.g. Andrews, Shuttleworth-Edwards & Radloff, 2012; Byrd, Sanchez & Manly, 2005; Ferrett et al., 2014; Fike, Knoetze, Shuttleworth-Edwards & Radloff, 2012; Manly, Jacobs, Touradjie, Small & Stern, 2002; Shuttleworth-Edwards et al., 2004; Shuttleworth-Edwards, Gaylard & Radloff, 2013; Shuttleworth-Edwards, Van der Merwe, Van Tonder & Radloff, 2013). Arising out of these cross-cultural norming studies, a critical observation has increasingly come to the fore: *quality* of education is a potent source of differences in cognitive test performance after controlling for age and level of education in both the American and the South African black populations. Taken overall, there is repeated confirmation of the significant heterogeneity of psychometric test performance both across and *within* the American and South African race groups in association with variations in *quality* of education, whether directly assessed on the basis of specific educational systems, or indirectly evaluated via differences in the substitute variables of acculturation and reading levels.

In South Africa, as a legacy of apartheid, there are two clearly distinguishable types of educational institution that can be considered advantaged or disadvantaged (Claassen et al., 2001). Advantaged educational institutions are the well-resourced, English-medium, government-funded and privately funded schools formerly reserved for white learners only; educationally disadvantaged school settings are the poorly resourced former Department of Education and Training (DET) township schools that were created in the apartheid era for attendance by black learners. Since the dismantling of apartheid, some black learners have been able to benefit from being schooled in the advantaged schools. Unfortunately, however, the majority of black South African learners continue to be schooled in the former DET/township schools, which are exceptionally poorly resourced, with high failure rates continuing to the present day (Claassen et al., 2001; Fleisch, 2007; Matomela, 2008; Van Wyk, 2015). Consequently, there is a *differential* background in terms of educational quality that occurs *within* the South African black population, and this has consequences for cognitive test performance, with disadvantaged individuals being at high risk for negative test bias in terms of English-language ability and levels of test-taking sophistication, as outlined above. Clearly, the countrywide 'mixed bag' method of deriving norms (i.e. population-based norms) is generally *not* a viable solution where there is such extreme sociocultural diversity. As Nell (1999) warns, the approach will result in a flawed set of normative data for the purposes of valid assessment practices. Therefore, a more finely honed within-group norming approach is recommended in this context (Shuttleworth-Edwards, 2016). Against this background, the methodological details and outcomes of a body of *within-group* norming studies conducted in the South African context are further examined.

Collecting within-group norming data in the South African context

When conducting research, a sequence of steps needs to be carried out: 1) reviewing the literature with a view to locating one's research within a clearly delineated

research paradigm in the literature, and identifying a research investigation that will fill a gap in the field; 2) delineating the method, including sampling and procedural aspects of the study; and 3) interpreting the results and evaluating the strengths and weaknesses of the study. A number of within-group norming studies have been conducted on the adult and child Wechsler IQ tests in the South African context using a similar methodological approach (Shuttleworth-Edwards, Gaylard et al., 2013; Shuttleworth-Edwards et al., 2004; Shuttleworth-Edwards, Van der Merwe et al., 2013). The first of these studies, on a young adult population (Shuttleworth-Edwards et al., 2004), is used to illustrate the basic principles and processes that were involved in order to conduct the study and to report on the research. It will be shown how the methodological aspects and results from a study such as this can lay the foundation for a series of additional adult and child studies, on the basis of which a meaningful body of scientific knowledge can be developed.

Step 1: Reviewing the literature

The first step in conducting any research study is to review the relevant literature on the topic. The manner in which this can be approached was exemplified in the preceding introductory review. First, the literature on cross-cultural challenges experienced and reported on within the literature in general needs to be examined, followed by a more specific examination of the particular challenges that pertain to the South African context. In a review of this type it is usually appropriate to move from broad-ranging, general discussion into the more specific aspect that will be the focus of the study. The conceptual framework of norm-referenced tests must be introduced, including a discussion of the test bias that will incur for non-westernised individuals when completing a test developed and normed on a mainstream westernised population. The argument progresses to the need for the development of local South African norms on commonly employed tests developed in the USA. Next it is necessary to be clear about what norming possibilities exist, and the utility of the possible methodological approaches that would be applicable within the South African context. As indicated, by means of clear definition, a unitary set of population-based norms is considered to have dubious clinical utility in a culturally diverse test arena, and finely honed within-group norms are proposed as the appropriate route forward.

Following on this, more specific motivation for the study in question needs to be supplied. The impetus behind the Shuttleworth-Edwards et al. (2004) study on the WAIS-III was that the only South African norming that had taken place up to that point was Claassen et al.'s (2001) population-based standardisation of WAIS-III (Wechsler, 1997). As noted, the product was a unitary, racially mixed bag of data, without any differentiation made for the quality of education received by the black participants in the sample. Overall, therefore, the outcome was predictably flawed (Nell, 1999). Accordingly, these shortcoming of the prior WAIS-III population-based standardisation provided the opening for finely honed within-group (rather than mixed-bag) norming research on the WAIS-III

that would investigate subgroups of the population *stratified* for the relevant influential variables.[1]

On the basis of such a powerfully argued motivation, the literature review should terminate with a clear statement of the aim of the study. Accordingly, in the case of the Shuttleworth-Edwards et al. (2004) research, the aim was delineated as follows: to collect normative data on the WAIS-III (Wechsler, 1997) for a South African population, stratified for the influential variables of race group, language of origin, and level *and* quality of education.

Step 2: Delineating the method

The method section is intricately linked to the aim of the study and must ensure that the investigative goal can be met. It requires a description of the sample, the procedural aspects, ethical considerations, the measures used and the type of data analysis to be employed.

Sample

A psychometric test norming study is necessarily a *quantitative* study that employs purposive sampling of participants with specified demographic characteristics, and implies an investigation into a *normal* (i.e. non-clinical) population. Therefore, in this instance the targeted sample needed to be one from which all individuals with a history of neurological or psychiatric disorder, learning disability and substance abuse had been excluded. These factors are termed 'exclusion criteria' to ensure that the data will not be confounded by disease factors that may have deleterious effects on cognitive testing. To further ensure a non-clinical population, only those individuals who had completed mainstream schooling without failing more than one grade, and who were living independently in the community, were included in the study.

Further, the sample needs to be stratified for a pre-planned set of demographic variables that are likely to have an effect on cognitive test performance, on the basis of which participants are approached and purposefully drawn into a sampling matrix, including age, race, home language, gender and level and quality of education. Country of residence and age were controlled for in the study, in that sampling was restricted to young 19–31-year-old adults resident in the Eastern Cape. The sample was stratified for two *levels* of education: graduates (those who had completed a three-year degree or diploma) and those who had completed Grade 12. The graduate and Grade 12 subgroups were further stratified for race and language of origin, as well as two levels of *quality* of education (advantaged and disadvantaged), to make up three groups for each level of education, totalling six subgroups: white English-speaking advantaged education graduate; black African first-language advantaged education graduate; black African first-language disadvantaged education graduate; Grade 12 white English-speaking advantaged education; Grade 12 black African first-language advantaged education; and Grade 12 black African first-language disadvantaged education. The total sample included 68 participants (N = 68), with approximately 11 or 12 in each subgroup (n = 11 or n = 12).[2]

Sex was controlled for in that there was an attempt to have a similar distribution of males and females in the subgroups. Language proficiency was broadly controlled for in that the Xhosa-speaking participants had to be either studying or working in English-language contexts, thereby ensuring a basic proficiency in English.

Procedure

All actions taken in order to conduct the research should be described in sufficient detail so that the study can be exactly replicated, and to enable external evaluation of whether or not the test findings can be considered scientifically robust. This includes a description of the measures used and the statistical analyses employed to obtain the results. It is essential that ethical issues that pertain to the study are considered. Prior to commencing this study, ethical clearance was obtained from the relevant university screening committees, and the participants signed consent for their voluntary participation in the study. In order to publish research, journals usually request ethical considerations to have been appropriately dealt with by the researcher(s) prior to embarking on the research.

For the purposes of a cognitive test norming study, a number of ethical considerations need to be met that typically apply in human research, including assurance that participation in the study is voluntary; that the participant may withdraw from the study at any stage; that the information gained will be de-identified and used for the purposes of group analyses only; and that the participants (or their parent or guardian in the case of a child or adolescent) will be required to sign informed consent having been fully briefed about their role in the study. If sampling from an organisation or institution is required, such as employees in a government department or children in a school, the relevant authorities need to be approached, briefed on the nature of the study, and formal approval gained in order to draw participants from that organisation. In addition to these regular ethical constraints, a cognitive norming study entails a number of particular ethical sensitivities, discussed next.

In order to gain a non-clinical population, medical histories must be requested of the participants; this information needs to be considerately managed and kept confidential. Similarly, the test results reflect on participants' abilities and demand sensitive management and secure filing. Participants are likely to be curious and possibly even concerned about their performance, especially if they believe that their 'IQ' is being evaluated. They should be informed in advance that individual results will not be made available or even known immediately, and, once calculated, are to be used for group analysis only. While the test taking itself is not expected to be harmful, the administrators of the tests will need to be sensitive to the presence of excessive test-taking anxiety or other signs of distress on the part of participants, and if necessary discontinue the testing. In cases where participants are from particularly disadvantaged educational backgrounds, test-taking familiarity may be severely limited compared with those from advantaged backgrounds. In some cases, this may be a source of considerable trepidation, requiring skilful clinical management. Importantly, the testers

should be individuals who have been formally trained in the ethical and clinical issues pertaining to the administration of psychometric tests generally, as well as the administration of the particular tests being targeted for the study. They should either be registered with the Health Professions Council of South Africa as a psychology practitioner, or they should be psychology postgraduate students who carry out the testing under the supervision of such a practitioner.

Measures in this study included 1) a demographic questionnaire that was completed by each participant in order to gain the relevant background data needed for exclusion and inclusion in the study; and 2) the WAIS-III (Wechsler, 1997), which was administered in English by in-training clinical psychologists, who had all been schooled in the use of the test by the coordinating researcher, a registered clinical psychologist. The test protocols were scored according to the standardised instructions, and the scoring was checked by at least two psychologists in order to ensure reliability of the data. The obtained scores were entered onto a spreadsheet in de-identified form to ensure the anonymity of the data, as per the assured ethical parameters of the study. Descriptive data in the form of test score averages and standard deviations were calculated and tabulated for each of the six subgroups. A clinician is able to compare a score obtained from a client with the average score reflected on the norm table, and by taking the standard deviation into account can estimate the extent to which the client is within the normal range or not.

Step 3: Interpreting the results and evaluating the research

Broadly, the results of the Shuttleworth-Edwards et al. (2004) study indicated that scores for the black African first-language and white English first-language groups with advantaged education were broadly comparable with the US standardisation, whereas scores for black African first-language participants with disadvantaged education were significantly lower than this, by around 20 to 25 IQ points. The lowering for graduates from educationally disadvantaged backgrounds was not as extreme as for educationally disadvantaged Grade 12s. A black Xhosa-speaking group with Grade 12 disadvantaged township education achieved a mean IQ score in the mid-70s (i.e. a borderline impaired range relative to the US standard of 100). This is a significant lowering of around 30 IQ points from the white English-speaking group, and a significant lowering of around 20 IQ points from the US norm of 100. Notably, however, a mean IQ score in the upper 90s, closely approximating the US norm, was achieved for the black Xhosa first-language group with Grade 12 advantaged Model C/independently funded education.

In evaluating this research, three limitations can be identified: the small subgroup numbers; the limited geographical location of the participants, who were largely Xhosa speaking and living in the Eastern Cape; and the fact that the graduate advantaged group included some Zimbabweans who were residing in the Eastern Cape but were not Xhosa speaking. However, it was considered that the insights achieved on the basis of the finely stratified normative data obtained through this methodological approach were of prime clinical relevance, and

could facilitate valid assessment practices in a way that was not possible on the basis of the South African population-based standardisation of the WAIS-III. Consequently, the method could be used as a stepping stone and template for additional normative research.

Concluding commentary

This chapter described the rationale for conducting demographically relevant, within-group norming research on commonly employed cognitive tests for valid clinical use within the South African context. The methodological template employed for the initial Shuttleworth-Edwards et al. (2004) WAIS-III study was described. Subsequently, using the same framework, the study was refined by the completion of another WAIS-III adult norming study that incorporated pure Xhosa subgroups to replace some graduate subgroups that had included a number of Zimbabwean participants (Shuttleworth-Edwards, Gaylard et al., 2013). The revised version of the study did not produce any substantive alteration in the results. Next, using the same within-group methodology, the investigation was extended downwards in terms of educational level to include Grade 7 children aged 12 to 13, also stratified for advantaged and disadvantaged quality of education (Shuttleworth-Edwards, Van der Merwe et al., 2013), who were tested on the Wechsler Intelligence Scale for Children–Fourth Edition (WISC-IV) (Wechsler, 2004). The child study produced a similar pattern of results between those with advantaged and disadvantaged education, as demonstrated for the adult research. For illustrative purposes, Table 5.1 collates the comparative IQ and Index scores taken from these two most recent adult and child studies, stratified for advantaged versus disadvantaged education, at three levels of education: graduate, Grade 12 and Grade 7.

In terms of the methodological considerations delineated earlier, the limitations of the small subgroup sample sizes that characterise all of these studies (as per Table 5.1) are counteracted for by the fine level of stratification in terms of age, and level *and* quality of education, and by virtue of the WAIS-III adult results being replicated in an age-related downward extension of the study with respect to the WISC-IV. Moreover, the direction of the findings is to be expected on empirical grounds, given the findings of other cross-cultural research in the literature, as cited above. Notably, the total sample number prior to stratification into subgroups is a fair size, totalling $N = 110$. The comparative results in Table 5.1 indicate that educationally disadvantaged individuals from Grade 12 and below are more at risk for low scores in association with a poor quality of education than the graduate group. These are the individuals for whom use of the US standardisation will be subject to the most extreme test-taking bias and associated culturally unfair test practices. Therefore, going forward, it is apparent that a more economical methodological route to employ would be to focus exclusively on obtaining normative data for those African first-language individuals from educationally disadvantaged backgrounds who have not obtained any tertiary education.

Table 5.1 WAIS-III and WISC-IV Index and IQ scores from two norming studies, stratified for race, first language, and level and quality of education

		Advantaged		**Disadvantaged**
Shuttleworth-Edwards, Gaylard et al. (2013)	Index/IQ	White South African	Black South African	Black South African
		English (*n* = 14)	Xhosa (*n* = 11)	Xhosa (*n* = 12)
		Mean (SD)	Mean (SD)	Mean (SD)
Graduate	VCI	124.29 (8.41)	116.36 (10.74)	101.75 (13.35)
N = 37	POI	116.29 (10.60)	97.45 (11.74)	92.42 (14.93)
Age 19–31 years	WMI	119.79 (11.23)	97.82 (10.86)	96.25 (9.69)
	PSI	111.64 (11.07)	91.09 (13.39)	88.92 (10.00)
	VIQ	124.93 (8.20)	110.36 (9.10)	99.58 (8.93)
	PIQ	116.14 (9.78)	95.55 (14.10)	88.42 (12.32)
	FSIQ	**123.00 (8.44)**	**104.36 (11.30)**	**94.50 (10.65)**
Shuttleworth-Edwards, Gaylard et al. (2013)	Index/IQ	White South African	Black South African	Black South African
		English (*n* = 14)	Xhosa (*n* = 12)	Xhosa (*n* = 11)
		Mean (SD)	Mean (SD)	Mean (SD)
Grade 12	VCI	103.14 (11.36)	95.33 (12.53)	77.73 (9.10)
N = 37	POI	111.86 (15.36)	96.92 (15.68)	81.55 (10.27)
Age 19–31 years	WMI	103.86 (16.17)	97.58 (15.76)	83.27 (14.43)
	PSI	104.29 (11.97)	95.33 (13.49)	78.55 (9.91)
	VIQ	102.71 (10.96)	96.67 (12.92)	79.00 (7.25)
	PIQ	110.50 (13.46)	96.25 (15.69)	77.00 (9.21)
	FSIQ	**106.57 (12.15)**	**96.42 (13.68)**	**76.55 (8.29)**
Shuttleworth-Edwards, Van der Merwe et al. (2013)	Index/IQ	White South African	Black South African	Black South African
		English (*n* = 12)	Xhosa (*n* = 12)	Xhosa (*n* = 12)
		Mean (SD)	Mean (SD)	Mean (SD)
Grade 7	VCI	120.92 (14.76)	101.33 (10.12)	80.42 (13.59)
N = 36	PRI	111.67 (18.10)	92.75 (7.57)	80.83 (11.21)
Age 12–13 years	WMI	101.25 (13.37)	100.08 (10.08)	86.50 (12.99)
	PSI	96.17 (14.89)	84.50 (12.30)	79.83 (16.28)
	FSIQ	**112.83 (13.17)**	**93.92 (5.85)**	**77.08 (13.79)**

Source: After Shuttleworth-Edwards & Van der Merwe (2016)

Notes: VCI = Verbal Comprehension Index; POI = Perceptual Organisation Index; PRI = Perceptual Reasoning Index; WMI = Working Memory Index; PSI = Processing Speed Index; VI = Verbal IQ; PIQ = Performance IQ; FSIQ = Full Scale IQ; *N* = 110

Accordingly, research has subsequently been conducted at Rhodes University for samples that were restricted to exclusively educationally disadvantaged Grade 11 and Grade 12 Xhosa-speaking individuals on a series of commonly used neurocognitive tests (Andrews, Shuttleworth-Edwards & Radloff, 2012; Fike et al.,

2012; Shuttleworth-Edwards, De Kock & Radloff, 2014). Similarly, under the coordination of Dr Ida Pienaar at the University of Fort Hare, research has been conducted for educationally disadvantaged Grade 12 Xhosa-speaking individuals on the WAIS-IV (Pienaar, Shuttleworth-Edwards, Klopper & Radloff, 2017), and for educationally disadvantaged Grade 3 Xhosa-speaking individuals on the WISC-IV (Bickell, 2016). The results of all of these studies repeatedly reveal substantial lowering of scores relative to the US normative indications.

Therefore, in concluding this chapter, it is clear that in preference to the production of population-based standardisations (e.g. Claassen et al., 2001; Wechsler, 2014), the territory is wide open for much-needed further expansion of such finely honed normative research as was first exemplified in the Shuttleworth-Edwards et al. (2004) WAIS-III study (Shuttleworth-Edwards, 2016). Taken together, the within-group norms that have already come on stream are being used extensively in South African assessment practice when testing African first-language individuals from educationally disadvantaged backgrounds. The South African Clinical Neuropsychological Association (SACNA) has endorsed the approach with the production of a collation of these demographically focused norms to accompany a series of nationwide educational workshops (Shuttleworth-Edwards, 2014). From 2016, SACNA will offer bursaries to facilitate the expansion of the Eastern Cape norm base to the rest of the country, starting in Gauteng. The collection of methodologically sound local norms for valid clinical assessment is likely to remain a core challenge for researchers within the South African context for many years to come. A core lesson to be learnt from the research protocol described here is the value of pursuing research in a methodologically focused series of research studies that cumulatively can provide a substantive database in the interests of fair and valid cross-cultural assessment practices.

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Notes

1 When subpopulations within an overall population vary, it is advantageous to sample each subpopulation (stratum) independently. Stratification is therefore the process of dividing members of the general population into homogeneous subgroups for sampling purposes. The strata should be mutually exclusive, where key elements in the population are assigned to only one stratum.

2 *N* denotes a total sample; *n* denotes a subgroup within a sample.

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6 Quasi-experimental designs in applied behavioural health research

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Introduction

In an age of pragmatism, implementation science and evidence-based practice, researchers, policy-makers, practitioners and civil society organisations want to understand the 'impact' of interventions. However, studies often take place under time and resource constraints and among difficult-to-reach populations. In this chapter, I introduce the reader to quasi-experimental research designs with a focus on applied behavioural health research. Although a number of useful texts are available (e.g. Campbell & Stanley, 2015; Cook & Campbell, 1979), the literature is extremely broad, which makes it difficult to understand cross-cutting design considerations. Moreover, examples of quasi-experimental designs in the global South, where research conditions can be challenging (Farhoudi et al., 2016; Mathee et al., 2010), are limited. In response to this, this chapter provides an overview of key design considerations, describes four quasi-experimental designs and provides an example from a 'real world' intervention in an impoverished rural context.

Let us begin with a fictitious example. Binge drinking is a major problem among South African university students, particularly first-year students. The health services division, Campus Health, of the University of the North East has designed an intervention to reduce binge drinking among first-year students. Research suggests that health education (educating students about the dangers of binge drinking) alone has little influence on binge drinking. Campus Health has designed an 'ideal' intervention that includes both health education plus a limit to the sale of alcohol at strategic times (for example, during orientation week). You are asked to determine the effectiveness of the intervention on binge drinking among first-year students. Campus Health is particularly interested in whether the ideal intervention will reduce binge drinking more than health education alone and compared to no intervention. The study has a very limited budget because the funder, the University of the North East, has had to redirect funding to much-needed student bursaries. Moreover, the research has to be completed relatively quickly (in three months) as Campus Health wants to 'scale up' the intervention to all of its campuses.

Historically, determining causality – did the intervention cause a change in my outcome variable? – was the preserve of 'true' experiments whose designs offered researchers the tools to be able to determine causal relationships. True experiments attempt to determine causality through the systematic manipulation of conditions (e.g. the ideal intervention, health education and no intervention) and the control of possible confounding variables. A core feature of true experiments is that the samples are randomly selected from target populations and participants are randomly assigned to different conditions to offset the possibility of sampling bias (Ross, Simkhada & Smith, 2005). However, experimental designs are often expensive, time consuming, characterised by weak external validity (because variables are sometimes controlled to the point that the study bears little resemblance to the real world) and, in some instances, very difficult to implement. On the contrary, applied behavioural health research often has to be completed with limited funding, over a short period of time and among hard-to-reach populations.

Quasi-experimental designs offer more flexibility than true experiments while attempting, to varying degrees of rigour, to determine a causal relationship between the intervention and the outcome variable (Eliopoulos et al., 2004). Importantly, quasi-experimental designs do not necessarily require random sampling or random assignment and can be adapted to the practical requirements of the study (Campbell & Stanley, 2015). Although quasi-experimental designs do not completely sidestep some difficulties of true experiments and have problems of their own (outlined below), they allow more flexibility and more pragmatic ways in which to investigate causality. What follows are a number of design considerations that are important in quasi-experimental designs.

Design considerations

As with most quantitative research designs, there are two mistakes that researchers employing quasi-experimental designs aim to avoid. First, researchers do not want to conclude that the intervention made an impact when, in truth, it did not. This would not only be unethical but, when replicated, would soon prove to be ineffective. Second, researchers do not want to miss the fact that the intervention did have an impact that was undetected because of design weaknesses. This would be a terrible waste of time and resources. Thus, researchers in their search for robust designs try their best to offset the possibility of both types of mistakes by drawing on a number of quasi-experimental methodological resources, some of which are outlined below.

Conceptualisation

Very often problems in study design stem from poor conceptualisation during the early stages of the study. Notwithstanding the fact that researchers are not always in control of the intervention or study design (e.g. researchers who are asked to evaluate an intervention after it has been implemented), many threats

are related to a lack of clarity around what the intervention aims to do. In our fictitious example, what exactly do we mean by binge drinking (five units every two hours or twice the number of recommended daily units); what specific problem is the intervention trying to address (binge drinking at certain high-risk periods such as orientation week or binge drinking throughout the year); who exactly is the target audience (all first-year students, first-year male students, first-year male students in a particular faculty); and what did the intervention aim to achieve (an improvement in knowledge and perceptions of 50% and/or a reduction of 30% in binge drinking and/or a reduction in cases of assault after binge drinking)?

Answers to these questions have practical implications for study design. For example, the expected impact (effect size) of the intervention has implications for sample size (Middel & Van Sonderen, 2002). The intervention could potentially have an impact on knowledge and perceptions, behaviour (number of units of alcohol over a specific time period or any other metric) and health (e.g. liver functioning or being a victim of assault). It is important to remember that sample size is contingent on expected effect size (Lipsey & Hurley, 1998). For knowledge and perceptions, we may expect to have a large impact after the intervention (medium to large effect size). We would, therefore, require a relatively small sample size if the study only focused on knowledge and perceptions. For behaviours, we may expect a small effect size (some students would reduce their alcohol intake while many others would not). If the study is going to measure behaviours, then it would need a larger sample size than if it only focused on knowledge and perceptions. For health data, we would expect an even smaller effect size so we would need a larger sample size to detect impact. Thus, a study design with a sample size that is too small may not be sensitive enough to detect impacts of the intervention on health. Conversely, a sample size that is too large may mean that the relationship between the intervention and the outcomes variable(s) may turn out to be statistically significant when it is actually not. Sample-size calculations based partly on expected effect sizes are a crucial component of quasi-experimentation.

Equally important at the conceptualisation phase is to have a conceptual framework (Rogers, 2000). This does not always have to be an established theory, but an idea of how the intervention designers think the intervention is going to work (Lipsey, 1993). If the intervention aimed to educate students about binge drinking and the dangers thereof, then the mechanisms of action would be via individuals and how they think, which will have an impact on the way they behave. We would, by implication, then measure perceptions and attitudes and their relationship with binge drinking. If the intervention also included policy to ban certain drinks at certain times or in certain places, then the mechanism of action would be the link between policy, the environment and binge-drinking behaviour (perceptions and attitudes towards binge drinking would be ancillary as they are not core to the conceptual framework). In sum, it is important to be relatively clear about the problem, the goal(s) of the intervention, how the intervention is likely to work or not (mechanisms of action), and what magnitude of

impact we can expect (and by implication the sample and sample size) during the early stages of the study.

Causality and validity

Fundamental to quasi-experimental studies is how much the design permits us to infer a causal relationship between the intervention and observed changes in the outcome variable. In other words, how much did the intervention 'cause' a change in our outcome variable (binge drinking amongst first-year students)? To infer causality, it is important for the intervention to have occurred before the observed changes in the outcome variable, and that change in the outcome variable should, where possible, be attributable to the intervention and not to anything else (confounding or extraneous variables) (Shadish, Cook & Campbell, 2002). In many designs, having baseline data before the intervention and after the intervention allows the researcher to investigate how much change may have been 'caused' by the intervention. The weakest quasi-experimental design is where the outcome variable is measured after the intervention has been implemented. It is virtually impossible to determine impact because we do not know what the baseline measurements were before the intervention.

It is possible to get a sense of whether the intervention caused observable changes in the outcome variable if we have baseline measurements before and after the intervention was implemented among the same group of participants (one group pre-test – post-test design). For example, let us assume that 20% of our first-year sample engaged in binge drinking before the intervention (baseline). After the intervention, and after adjusting for age, sex and socioeconomic status, binge drinking among our sample was reduced to 10% at follow-up three months after the intervention. A paired *t*-test showed that the within-group mean difference was statistically significant ($p < 0.05$). The key question is whether the intervention caused the observed change in the outcome variable.

Even if changes in the outcome variables are evident, it is important for the researcher to be able to attribute those changes to the intervention and not to anything else. Researchers therefore consider a number of factors that could threaten the internal validity (internal quality) of the study. Threats to internal validity include, but are not limited to, testing effects (observed changes in the outcome variable may be a result of repeated questions about the topic rather than the intervention itself); history (another event external to the study may have influenced the results); maturation (participants age over time and observed changes may be due to the sample maturing and not the intervention); experimenter effects (where the researchers may consciously or inadvertently influence the outcomes of a study); reactivity (where observed changes may be the result of taking part in the study rather than the intervention); and attrition (participants who drop out of the study may have certain characteristics that may influence the results). It may be erroneous, therefore, to assume that observed changes in the outcome variable are 'caused' by the intervention. Factors internal and external to the study may influence the outcome variable and it is important for researchers to take these into account in their study designs.

It is equally important for researchers to be especially attentive to sampling in quasi-experimental designs. A significant reason for random selection and random allocation in true experiments is that researchers want to rule out the possibility that the results could be due to their sampling strategy (each participant has an equal chance of being selected and assigned to the different conditions). Let us assume that the researcher in our study uses first-year student volunteers for the study. She samples the study population from students who attend first-year tutorial sessions, which are not compulsory at the university in question. Even before the allocation to the different intervention groups occurs, the sample may be biased towards higher-achieving female students who tend to attend tutorials more frequently than lower-achieving male students. The researcher then allocates the volunteer participants to different intervention groups based on faculty. The logic is that different faculties have classes on different campuses, which would reduce the likelihood of message contamination (participants talking to each other about the intervention). She therefore exposes a sample of health science students to the ideal intervention (health education and restrictions on the sale of alcohol), a sample of law students to the 'health education only' group and a sample of engineering students to the 'no intervention' group. What are the problems with this kind of (purposive) sampling strategy? Not only does the researcher run the risk of investigating the impact of the intervention on those at least risk of binge drinking (female, higher-achieving students), but the random allocation on the basis of faculty may introduce further bias. For example, health science students may have stronger perceptions of the seriousness of binge drinking and may adhere more to intervention messages. Observed changes, therefore, may be attributable to the sample characteristics and not the intervention. Sampling in this case limits not only the internal validity of the study, but also how much can be generalised to other populations, settings and time periods.

Manipulation and control

A feature of quasi-experimental strategies is that there is manipulation of the independent variable. The intervention typically is the independent variable – sometimes referred to as the grouping variable. Simply put, the researcher or programmers design and implement an intervention (the independent variable) which can be a single intervention or varying degrees of an intervention, as is the case in our binge-drinking example. Intervention conditions are typically represented as groups of participants. It is important to remember that in some instances an intervention is already designed before the researcher is asked to evaluate it, which is not uncommon in applied research. Nonetheless, at some point the intervention has been implemented and, by implication, the independent variable has been manipulated.

Another feature of quasi-experimental designs is to control, where possible, the validity threats outlined earlier. Validity threats in the binge-drinking example could include, for instance, sample selection and assignment (think back to the student volunteer example); the timing of the study (it took place over

a period when binge drinking was particularly high or low, such as orientation week or before examinations, or there was a mass television campaign to reduce binge drinking); that participants from different intervention groups interacted with and influenced each other (message contamination); that through repeat testing, participants may have been influenced to reduce their binge drinking regardless of the intervention (testing effect); that participants in all three groups may have been tempted to put their best foot forward to impress the research team (reactivity); that someone in the research team informed participants about the different interventions, which influenced their behaviours (diffusion); that first-year participants matured over the course of the study so reductions may be due to them maturing and not necessarily related to binge drinking; and so forth. There are indeed many potential threats to validity that researchers try to control either through design or through analysis.

It is thus important to be aware of potential confounding and/or extraneous variables, such as those described above, and, where possible, to control for threats. For example, if researchers are concerned about reactivity or history effects, they could include a comparison group that is not exposed to the intervention in order to detect such effects. If this comparison group shows improvements in the outcome variables, then it is possible that the same occurred in the intervention group. If the study only focuses on high levels of binge drinking, through sampling the researcher may only want to focus on participants who meet the criteria for high binge drinking. The researcher could also measure potential confounding variables (e.g. age, sex, socioeconomic status) and then control for these statistically. How we control of course depends on the research questions, study design and analysis strategies.

Reactivity

Reactivity, sometimes used interchangeably with the term 'Hawthorne effect', is an important yet overlooked threat in quasi-experimental designs. The Hawthorne effect refers to the manner in which 'variables can be unwittingly confounded in the experiment because of some aspect of the experiment itself' (Parsons, 1974, p. 922). The term is derived from a series of experiments conducted between 1924 and 1932 at the Hawthorne plant of Western Electric Company, which sought to determine the influence of changing working conditions (e.g. levels of lighting) on employee productivity. In short, findings showed that productivity increased despite changes in working conditions. For example, in the illumination studies when lighting was increased, employee productivity improved. However, when lighting was severely diminished, productivity continued to improve. The original explanation suggested that the increased attention by management, rather than the changes in working conditions, motivated employees to increase their productivity (Roethlisberger & Dickson, 1939). In other words, employees put their 'best foot forward' to impress management (Barnes, 2010).

Sometimes improvements in comparison groups are attributed to the increased attention given, or information inadvertently communicated, to participants

during data collection activities. For example, participants may feel the need to disguise potentially negative behaviours such as binge drinking or inversely portray themselves in a positive light (sometimes referred to as a halo effect or social desirability); learn of the intervention from the intervention group or the research team and indirectly be exposed to the intervention (message contamination); give more thought to the subject based on the questions being asked and provide what they think are correct answers or behaviours (learning effect); learn that they are not receiving the intervention and compensate for receiving less by improving their behaviours (John Henry effect or compensatory rivalry); and investigators may expect certain participants to perform better and reinforce these expectations, leading those participants to perform better (experimenter or Pygmalion effect; see classic texts such as Rosenthal [1976] and Cook and Campbell [1979] for examples of these effects).

From a perspective that seeks to isolate how much change is attributable to an intervention, researchers understandably try to prevent reactivity from occurring. Research design texts have readily available advice on how to prevent it, most of which involves keeping participants and/or the researchers who interact with those participants as unaware of the real nature of the study as is ethically permissible (e.g. through blinding and minimising contact between the intervention and comparison groups). When reactivity does occur, it is usually statistically adjusted for to provide a cleaner picture of the 'net' effect of the intervention. Comparison groups are useful to detect reactivity (particular testing effects). The assumption is that if there is evidence of reactivity in the comparison group, and if the comparison group is comparable to the intervention group, then it is possible that what we observe in the intervention group may be due to reactivity and not the intervention itself.

Ethics

Quasi-experimental designs can offset some ethical and practical issues in true experiments, particularly random selection and assignment (Grant & Wall, 2009). Let us imagine that researchers are interested in studying the impact of a freeway on children's learning outcomes. It is unethical to randomly select and assign children to attend schools either close to a freeway (intervention group) or in neighbourhoods with lower traffic (control group). Imagine, too, having to explain to children's carers that they would need to change to a school near a freeway because of a study!

To reduce ethical and practical concerns, researchers could design a quasi-experimental study focusing on the construction of a new freeway through a city. Researchers could measure child learning outcomes before and after freeway construction in schools close to versus further away from the planned freeway. They could also measure noise and air pollution indicators as possible explanatory factors. The researchers do not manipulate the conditions (the freeway was going to be built anyway) nor do they randomly select and assign children to the conditions (the study will focus on existing schools). Despite the lack of randomisation, the quasi-experimental design still has the potential to make causal inferences about school location and children's learning outcomes.

Like most social science research, quasi-experimental designs aim to minimise harm as well as promote beneficence and social justice. It is important for researchers to ensure that participants are given enough information about participating, that they understand what is required from them and that they provide informed consent (Wassenaar & Mamotte, 2012). It is equally important to consider language and culture in the informed consent process (Watermeyer & Penn, 2008) and to ensure that fieldworkers and recruiters are trained in methods and ethics. It is highly recommended that the studies are approved by an ethics committee.

Some quasi-experimental studies may present unique ethical issues. Because pre-test – post-test designs involve exposing participants to different conditions/interventions, it is important to decide how much information to give to participants in different groups. Too little information about the nature of the study is unethical but too much information may undermine the methodological strengths of the design. In the binge-drinking example, withholding too much information from the health education group might be unethical but giving information that there is another group receiving the ideal intervention may lead to reactivity. Participants in the health education group might feel disillusioned or prove that they are worthy of the ideal intervention. The results, therefore, may be a function of reactivity and not because of exposure to the intervention.

If the intervention demonstrates impact, it is important for the team to offer the intervention to the comparison groups as soon as possible to offset the disadvantage of having received an inferior or no intervention. It is equally important to stop a study if the interventions are not working, if they are detrimental to participants' well-being or if there are negative unintended consequences (for example, unregulated trade in alcohol or an increase in drug use after the sales ban). What follows are four commonly used quasi-experimental designs.

Quasi-experimental designs

Post-test only non-equivalent control group design

In this design, the outcome variable is measured after the intervention has been implemented. There are no measurements before the intervention (no baseline). Outcome measurements are measured in a comparison group at the same time as the intervention group. Although this is probably one of the weakest quasi-experimental designs, it is sometimes the only feasible design when researchers are consulted after the intervention has been implemented. With no baseline measurements it is impossible to determine what the outcome variable was before the intervention. The only 'baseline' measurement would be to compare the intervention group to the comparison group that did not receive the intervention. However, without randomisation, and given the fact that these are two separate groups, any observable differences between the groups may be a result of characteristics of the two groups rather than the intervention. It is also impossible to determine history, maturation, testing, experimenter or reactivity effects as the post-intervention data collection is typically a one-off.

Single group pre-test – post-test design

In this design, the outcome variable is measured once before (baseline) and once after (post-intervention) the intervention is implemented among one group of participants. There is no comparison group, hence the one-group design. The design is simple and easy to understand and the statistics are relatively elementary: for example, simple pre-test – post-test *t*-tests or Wilcoxon signed-rank test. However, some interventions may take longer to have an impact than others so the timing of the post-intervention assessment is important. If the post-intervention measurement takes place too soon after the intervention, then important longer-term effects could be missed. If the post-intervention assessment takes too long, then it might miss important short-terms effects. If the post-intervention data are measured a long time after the intervention, there may also be regression towards the mean where participants move towards less extreme positions. For example, those who demonstrate high levels of binge drinking during the beginning of their first year may reduce their drinking over time (especially after their first set of assessments), while those who start out with low levels of drinking may increase over time. There is also the possibility of a history effect beyond the control of the study. If the post-intervention assessment takes place too long after the intervention, there is the possibility of attrition (dropout) as participants leave the study; for example, they may decide not to participate, move universities, and so forth. It is also not possible to exclude reactivity as there is no comparison group where reactivity could be detected.

Pre-test – post-test non-equivalent control group design

The outcome variable is measured before (baseline) and after (post-intervention) the intervention is implemented in the intervention group. The outcome variable is measured at the same time in a comparable comparison group that does not receive the intervention (the design is sometimes referred to as the untreated comparison group design). The two-group before–after study design is more powerful than the one-group before–after design or the after-only design, as the researcher can identify temporal patterns both before and after the intervention is implemented, as well as testing, maturation or history effects in the comparison group. However, statistics become more complicated and identifying comparable groups can be difficult. There may be message contamination if messages received in the intervention group find their way into the comparison group. There is also the possibility of a John Henry effect (compensatory rivalry), with the comparison group wanting to outdo the intervention group. Alternatively, the comparison group could become demoralised because they did not receive the intervention. Furthermore, local history effects are possible, with events/interventions outside of the study influencing the outcomes measured.

Interrupted time series design

In this design, the outcome variable is measured several times before and several times after the intervention is implemented. An important advantage is that observations are less likely to occur due to chance and that the design can

identify temporal patterns both before and after the intervention. The design can also detect short- and longer-term impacts of the intervention. However, given the increased number of monitoring points, it is more complex than the before–after designs. The design is also more time consuming and expensive given the increased number of monitoring points. Statistics become more complicated and disadvantages include history, maturation, regression towards the mean and attrition. A further disadvantage is the potential for reactivity and testing effects (Jacob, Somers, Zhu & Bloom, 2016).

Design considerations from a real-world example

The author was involved in one of the first studies to evaluate the impact of behaviour change on household air pollution (HAP). HAP, caused by the indoor burning of biomass fuels such as wood, charcoal and animal dung, has been associated with acute lower respiratory infections such as pneumonia amongst children younger than five years old in developing countries (Smith et al., 2014). HAP is responsible for the premature deaths of over three million people worldwide (Ezzati & Kammen, 2001; Gordon et al., 2014). At the level of prevention, the sustainability of technical interventions such as electricity and liquid petroleum gas has been questioned in poor rural contexts, mainly due to their high cost. Poor rural people simply cannot afford to use cleaner-burning fuels so they continue to rely on solid fuels, particularly for space heating in winter. Behavioural change such as cooking outdoors instead of indoors, opening windows and doors when rooms become smoky and keeping young children away from smoke offered a short- to medium-term solution in reducing exposure in such contexts. Yet, until this study, very little was known about the effectiveness of behavioural change to reduce child exposure to indoor air pollution in poor rural contexts (Barnes, 2014).

The intervention focused on imparting information about the health risks of HAP to caregivers and encouraged them to burn outdoors instead of indoors (where possible), open windows and doors of smoky rooms and keep children away from smoke-filled rooms. Using an established, theoretically informed behaviour change technique (Trials of Improved Practices), households in the intervention community were visited twice by community health workers to deliver the intervention using face-to-face discussions. The objectives of the research were to determine: 1) whether there were shifts in behaviour following exposure to the behavioural intervention; 2) the impact of behavioural change on indoor air pollution and child exposure; and 3) whether behavioural shifts were attributable to the intervention.

The objectives implied an investigation of causality, so some form of (quasi-) experimentation was needed. However, the study had to be confined to poor, rural, unelectrified villages that rely exclusively on polluting fuels. These were difficult to access given the accelerated rate of electrification (1 000 households per day) in rural South Africa; funding was severely limited (one international

funder withdrew from the study months before data collection commenced because of a change in their funding priorities); and the data collection had to be done during winter when indoor burning was prevalent because of space heating (in summer, most households cook outdoors so HAP is not a problem).

A number of study designs were initially considered – for example, a randomised intervention trial within one village where the intervention could be implemented amongst a randomly selected sample of households, while the remaining households would serve as the controls. Behaviours and household air pollution exposure would be measured before and after the intervention. From a sampling perspective, one large enough village could be selected and participating could be randomly allocated to intervention and control conditions. In other words, there would be no random selection (the village would be purposively selected) but random allocation would occur. However, the likelihood of message contamination and the difficulty of finding one large enough village made this design unfeasible. A further difficulty would be listing every single homestead in the village to form a sampling frame. Given that most rural villages are not easily mapped and bearing in mind the extent of the work involved in randomisation, the cost and time implications would be too high. There is also the argument that the uniqueness of villages and the clustering effect that occurs within each village (Pickering, Smith & Hornsby, 2016) would make it very difficult to generalise to other settings.

The study also considered a two-group pre-test – post-test study design at the village level, where a group of randomly selected villages would receive the intervention and another group of comparison villages would not. This design would offset the clustering effect because of the large number of villages, as opposed to just one. Outcome variables would be measured before and after the intervention. Although a more powerful study design than the previous one, the budget did not allow for a study of this magnitude. In addition, it would have been a challenge to find a large group of unelectrified communities given the accelerated rate of electrification.

The study also considered a single group pre-test – post-test study design where the outcome variables would be measured before and after the intervention. However, the lack of a control group would have weakened confidence in the findings because of the many potential threats to validity. Similarly, an interrupted time series design would have taken too long and the villages would have probably been electrified before the study was complete.

The study eventually employed a pre-test – post-test non-equivalent control group study, which involved selecting two similar villages with comparable sociodemographic and household energy-use features; one village received the intervention and the other did not (comparison village). Both villages were unelectrified and had similar socioeconomic characteristics. To offset the possibility of message contamination, the two villages were situated approximately 50 kilometres apart. The inclusion of a comparison group meant that it was possible to detect possible reactivity, history effects, maturation and attrition.

Despite the fact that behaviours improved and HAP was reduced in both communities (there was clearly reactivity) (Barnes, 2010), the intervention

group performed significantly better than the control group in the indoor environment. The intervention group reduced household air pollution metrics by between 31% and 57% more than the comparison group (depending on the pollutant measured). The study provided tentative evidence that health behaviour change is associated with reductions in child exposure to indoor air pollution but that reductions in HAP are probably not sufficient for respiratory health gains. Given the difficulty of behaviour change interventions from other fields and the modest gains observed in this study, the study concluded that it was probably not feasible to scale up behaviour change interventions.

Concluding remarks

Quasi-experimental study designs offer a range of designs that investigate causal relationships between interventions and the outcome variables. Most importantly, quasi-experimental designs offer researchers flexibility in terms of financial, practical and time constraints that typify real-world research. It is important, however, to consider issues of causality, threats to validity, manipulation, control and reactivity that may influence the quality of studies. In addition to the design considerations mentioned in this chapter, the reader is also referred to the Programme for Improved Mental Health Care study (e.g. Shidhaye, Lund & Chisholm, 2015) for an excellent example of intervention research. It is hoped that this chapter will help researchers navigate the essential aspects of quasi-experimental design.

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7 Experimental research: Randomised control trials to evaluate task-shifting interventions

Goodman Sibeko and Dan J. Stein

Introduction

This chapter discusses experimental interventions in the social sciences, with a particular focus on randomised controlled trials (RCTs). While there are a range of experimental approaches, RCTs constitute a particularly important form of intervention. We are particularly interested in RCTs of pharmacotherapy and psychotherapy in the South African setting and address these in some detail. We begin by providing some historical and theoretical context, before going on to consider a number of methodological and practical issues in the conduct of such trials. We make use of a pilot RCT we conducted at a psychiatric hospital in Cape Town, South Africa, to illustrate these issues (Sibeko et al., 2017).

Background

It is extraordinary to think that RCTs are a relatively new research methodology in health and behavioural sciences. Many efficacious compounds for health conditions, and a number of useful psychological interventions, have been discovered over time. It is, however, only during the last few decades that it has become standard practice for proposed interventions to undergo rigorous comparison with other available treatments or with placebo interventions. A placebo is defined as

> any therapy or component of therapy used for its nonspecific, psychological, or psychophysiological effect, or that is used for its presumed specific effect, but is without specific activity for the condition being treated. (Shapiro & Morris, 1978, p. 371)

This practice reflects, in part, growing awareness of the power of the placebo response (Gupta & Verma, 2013). In order for an intervention to be more efficacious than a placebo, it needs to have fairly robust effects.

Given the difficulty of differentiating specific effects of treatments from placebo effects, it is remarkable how many serendipitous advances in treatment have been made over time. In psychiatry, the mid-twentieth century saw the

introduction of a range of psychotropic agents, including antidepressants, antipsychotics and anxiolytics, typically in the context of observing side effects of medications (Nemeroff, 2003; Ramachandraiah, Subramaniam & Tancer, 2009; Ramachandraih, Subramanyam, Bar, Baker & Yeragani, 2011). Thus, for example, the antidepressant era was launched with the observation that iproniazid, an anti-tuberculosis drug, elevated mood in some patients (Ramachandraih et al., 2011).

Early psychopharmacology work relied on case series, but as psychopharmacology developed as a discipline, RCTs were employed to demonstrate the efficacy and safety of new agents (Leon, 2011). While the vast majority of such trials have been undertaken in high-income countries, over time there has been interest in extending such work to other contexts, including South Africa. It is worth noting that concerns have been raised about the exploitation by high-income country researchers of low- and middle-income countries (LMICs) in the conduct of trials in these settings (Weigmann, 2015). However, at times, LMICs have played a pioneering role in psychopharmacology: for example, the use of dantrolene for malignant hyperthermia was pioneered in South Africa, and then applied to the treatment of neuroleptic malignant syndrome (Harrison, 1975). There is also hope that some of our indigenous compounds, such as Sceletium, may prove to be valuable psychiatric treatments (Terburg et al., 2013).

With advances in biology and neuroscience, it became possible to introduce new drugs based on putative molecular targets (Overington, Al-Lazikani & Hopkins, 2006). Thus, for example, once it was determined that iproniazid acted on monoaminergic systems, subsequent antidepressant agents were developed to target these. More recently introduced molecular entities have targeted very specific receptors, such as the serotonin reuptake inhibitor. It is notable, however, that despite the rigour introduced into such trials over time, with the use of standardised symptom measures and sophisticated statistical analyses, many trials fail to separate medication and placebo (Kirsch, 2014). We discuss possible reasons for this as the chapter progresses.

Early psychological interventions, including psychoanalysis, again relied on case series. Cognitive behavioural therapies (CBTs) had a more empirical foundation. For example, Wolpe (1968), working at the University of the Witwatersrand, developed his techniques on the basis of animal studies of desensitisation. Given this empirical foundation, it is not surprising that CBT practitioners had a strong interest in demonstrating that such interventions were more efficacious than control interventions. While many controlled trials have compared CBT with wait-list, there has been a growing interest in comparing CBT with active interventions. A wait-list control group is one in which study participants have been assigned to receive an intervention after the active treatment group has received it (Posternak & Miller, 2001). More recently, as discussed later, there has been interest in assessing whether therapies developed in western contexts are feasible and efficacious in other contexts, including the African one. This leads to the question of trial design, which we consider next.

Design of trials

A large number of issues must be considered when designing a clinical trial of either a pharmacotherapy or a psychotherapy. When a new psychiatric medication is developed, it is first tested on animals, in order to investigate its mechanisms of actions and safety. Subsequent studies are done on healthy human volunteers, again addressing basic issues such as pharmacokinetics and tolerability. In so-called phase III studies, promising molecular entities are compared with placebo in sufficiently powered samples of patients with a particular disorder. After registration of a new agent, safety data continue to be collected (i.e. post-marketing surveillance) (FDA, 2015).

In the case of psychotherapy trials, now that a large evidence base of efficacious interventions is available, many trials are based on modified interventions, which address novel populations (e.g. children, the elderly), more unusual entities (e.g. applying interventions for obsessive compulsive disorder to patients with body dysmorphic disorder) or more complex clinical issues (e.g. patients with substance use comorbidity). In the LMIC context, there has been interest in whether interventions developed elsewhere can be adapted to different contexts; whether delivery by non-specialised health workers (e.g. community health workers) is feasible and acceptable; and whether implementation and roll-out is efficacious and cost-efficient (Van Ginneken et al., 2013).

Putting together an RCT entails the steps outlined in Table 7.1. While we do not go into detail about specific components here, we illustrate in the text that follows how we have navigated these.

Table 7.1 Randomised controlled trial process

Process steps	Explanation
Research question	After a thorough study of existing literature, a question is selected which is of clinical or personal relevance or interest. The question should seek to explore a novel aspect or intervention relevant to the field, adding to scientific knowledge and future research.
Population and setting	The study sample is selected from the accessible population, a subset of the group to whom the researcher intends to generalise the findings of the study. The target sample required to demonstrate an intervention effect is determined with the assistance of a statistician. The study setting will depend on the research question, study procedures and outcomes of interest.
Study protocol	The study protocol details the hypothesis (the assumed association between the predictor or intervention and the outcome variables). The protocol details the selection of and rationale for outcome variables and measures. It also details methods and ethical considerations.
Ethical approval	The protocol is submitted to a relevant research ethics committee at an academic institution affiliated with the researcher or under which the target population falls.

continued →

Process steps	Explanation
Randomisation	The study sample is randomly assigned to receive one or more interventions or no intervention. Groups not receiving an intervention are referred to as control groups, and generally receive standard care, which is also referred to as treatment as usual.
Trial registration	Research trials should be registered with an appropriate trial registry.
Intervention	Study participants randomised to the intervention arm receive the intervention, while the control group receives treatment as usual or another known intervention. The intervention may be a drug, psychotherapy, a psychosocial intervention, etc.
Outcomes	Outcomes are measured as per protocol, through the use of validated measures and procedures, for which there is evidence of applicability to the target population.
Quality control	This entails establishing standard operating procedures and quality control checklists for recruitment activities. Factors contributing to rigour are discussed later in the text.
Analysis	Data analysis may necessitate the recategorisation of raw data as it arises or the creation of new categories. This can happen before or after data are run through statistical analysis software. Commonly used software includes STATA, SPSS and NVIVO for qualitative data. Analysis approaches must consider missing data. To this end, most analyses employ the intention to treat approach.
Publication	Researchers must familiarise themselves with potential publications before submitting to a journal of their choice. For further reading, see Sun and Linton (2014), Knight and Steinbach (2008) and Day and Gastel (1980).

Source: Authors

Several factors contribute to the methodological rigour of a clinical trial. The Consolidated Standards of Reporting Trials (CONSORT) statement, originally released in 1996 and since twice revised, provides guidelines for reporting RCTs, with the aim of improving the quality of conduct and reporting of RCTs (Schulz, Altman, Moher & CONSORT Group, 2010). The CONSORT statement provides a 25-item reporting checklist (Table 7.2) and a participant flow diagram (Figure 7.1), which are often used when undertaking systematic reviews of trials. Similarly, Cochrane reviews require systematic reviewers to carefully consider possible sources of bias in a trial. This includes assessing whether careful randomisation has been undertaken; whether or not the clinicians and patients have been blinded to randomisation and intervention; whether valid outcome measures have been chosen; and whether appropriate statistical analyses were undertaken (Higgins & Green, 2011). Other sources of bias are less obvious. For example, in trials of psychiatric medications with side effects, it is more likely for physicians to be unblinded, thus creating a bias in favour of medication. Broadly, limiting bias improves the internal validity of a study (Kendall, 2003; Spieth et al., 2016). This refers to the certainty that differences between groups

Table 7.2 CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item no.	Checklist item	Reported on page no.
Title and abstract			
	1a	Identification as a randomised trial in the title	
	1b	Structured summary of trial design, methods, results and conclusions (for specific guidance, see CONSORT for abstracts)	
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	
	2b	Specific objectives or hypotheses	
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	
Participants	4a	Eligibility criteria for participants	
	4b	Settings and locations where the data were collected	
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	
Outcomes	6a	Completely defined prespecified primary and secondary outcome measures, including how and when they were assessed	
	6b	Any changes to trial outcomes after the trial commenced, with reasons	
Sample size	7a	How sample size was determined	
	7b	When applicable, explanation of any interim analyses and stopping guidelines	
Randomisation			
Sequence generation	8a	Method used to generate the random allocation sequence	
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	

continued →

Section/Topic	Item no.	Checklist item	Reported on page no.
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	
Implementation	10	Who generated the random allocation sequence, who enrolled participants and who assigned participants to interventions	
Blinding	11a	If done, who was blinded after assignment to interventions (e.g. participants, care providers, those assessing outcomes) and how	
	11b	If relevant, description of the similarity of interventions	
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	
Results			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment and were analysed for the primary outcome	
	13b	For each group, losses and exclusions after randomisation, together with reasons	
Recruitment	14a	Dates defining the periods of recruitment and follow-up	
	14b	Why the trial ended or was stopped	
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	

continued

Section/Topic	Item no.	Checklist item	Reported on page no.
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing prespecified from exploratory	
Harms	19	All important harms or unintended effects in each group (for specific guidance, see CONSORT for harms)	
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision and, if relevant, multiplicity of analyses	
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	
Other information			
Registration	23	Registration number and name of trial registry	
Protocol	24	Where the full trial protocol can be accessed, if available	
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	

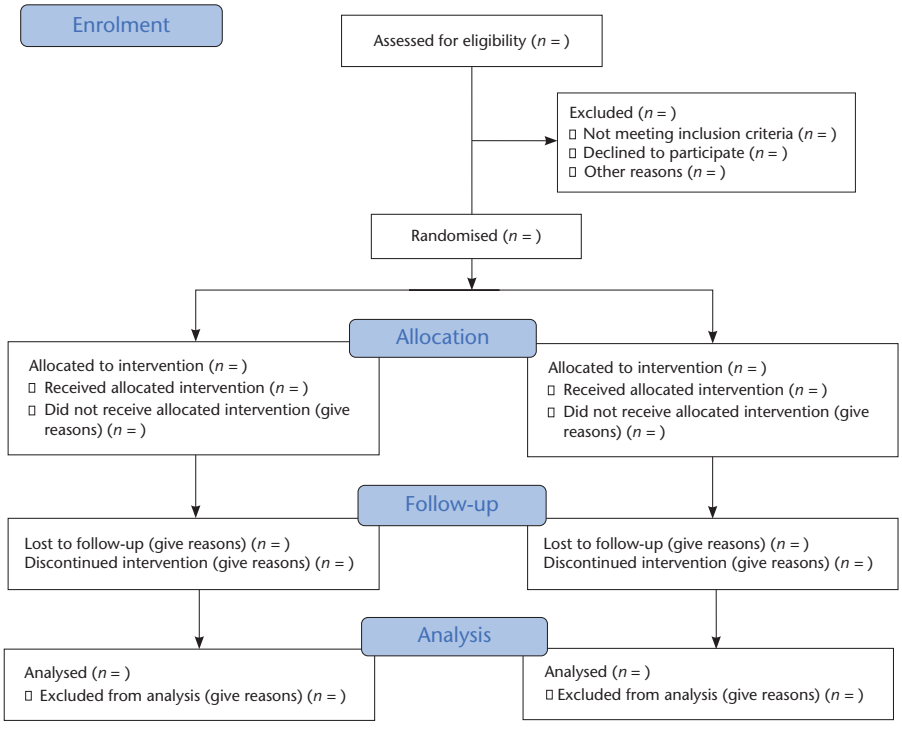
Source: Schulz et al. (2010)

Note: We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions and pragmatic trials. Additional extensions are forthcoming – for those and for up-to-date references relevant to this checklist, see www.consort-statement.org.

can reliably be attributed to the intervention. Types of bias that may be encountered during the conduct of a trial include selection bias, which is addressed by sound randomisation, and performance and detection bias, which can both best be addressed through appropriate blinding of researchers. Other factors impacting on internal validity include appropriateness of study design and random error in reporting. External validity refers to the extent to which the findings of a study may be generalisable to the greater target population.

It is important to note the difference between explanatory (efficacy) and pragmatic (effectiveness) trials (Treweek & Zwarenstein, 2009). In the former, the work that seeks to investigate the effects of a specific intervention is typically undertaken in academic or tertiary settings, with a focus on a narrow set

Figure 7.1 CONSORT flow diagram



Source: Schulz et al. (2010)

of study participants meeting strict inclusion criteria (Treweek & Zwarenstein, 2009). In contrast, in pragmatic trials, the work is undertaken in real-world settings and includes a broad range of patients (Godwin et al., 2003). Explanatory trials risk falling short when it comes to external validity, with publication bias impacting negatively on the reliability of efficacy data (Rothwell et al., 2005; Turner, Knoepflmacher & Shapley, 2012). It is notable that effectiveness studies of psychotropic agents have had much lower effect sizes than might have been predicted from efficacy studies (Ioannidis, 2008; Naudet, Millet, Reymann & Falissard, 2013). This issue may be particularly relevant to local settings, where many patients, in addition to suffering from psychiatric disorders, may also suffer from exposure to trauma, food insufficiency and comorbid substance disorders. The type of RCT may be classified in a number of ways, as noted in Table 7.3. The design and approach depend on the nature of the question, study population and outcome measures of interest.

When adapting an intervention already found efficacious in one setting to a new one, it is often useful to undertake a period of formative research, using qualitative work to address issues such as feasibility and acceptability in the new context (Lewin, Glenton & Oxman, 2009). Thus, for example, it may be found that individual therapy is more acceptable in one context, while group therapy is more feasible in a different context. Patients from different cultures may respond to different metaphors for describing the process of psychotherapy: in a South

Table 7.3 Classification of RCTs

Overall	
Efficacy trials (Explanatory)	Trials that explore whether an intervention produces an expected result under specified circumstances
Effectiveness trials (Pragmatic)	Trials that explore how beneficial an intervention is in real clinical settings
Treatment effect	
Superiority trial	Trials designed to show that one intervention is superior to another
Equivalence trial	Trials designed to show that two interventions are not too different in clinical outcome
Non-inferiority trial	Trials designed to show that an intervention being tested is not inferior to a standard treatment
Phase I trials	A new drug or treatment is tested in a small group to determine safety, safe dosage range and side effects
Phase II trials	The drug or treatment is given to a larger group of people to establish effectiveness and safety
Phase III trials	A drug or treatment is given to large groups of people to further establish effectiveness and side-effect profile, while comparing it to other commonly used and available drugs or treatments
Phase IV trials	This phase occurs after the drug or treatment has been released onto the market and is conducted on varying populations to review effect and side effect over a longer period of use
Design	
Parallel design	This is the most commonly used design, where one treatment is compared to another or to standard treatment
Cluster randomised	Trials in which groups, rather than individuals, are randomised in an intervention trial
Factorial design	A trial in which two or more interventions are carried out simultaneously where the effects of the interventions can be seen as independent of each other
Cross-over design	A trial design where two consecutive treatments are administered to each study participant in a trial
Analysis	
Univariate	Where there is only one variable to measure
Bivariate	Where there are two variables to measure
Multivariate	These more closely model reality, where data analysed are sourced from multiple variables

Source: Authors

African study of HIV adherence, we used contextually relevant metaphors to describe barriers to taking medication (Robbins et al., 2015).

Work on the implementation of interventions in novel settings requires a new lens for designing trials. Issues include whether there is appropriate quality control of the intervention (e.g. with sufficient time for supervision of those administering the new intervention), and whether there is appropriate buy-in from clinical staff. Another key issue is demonstrating cost-efficiency. There is growing evidence, however, that relatively small spends on mental health services may result in large benefits for countries. Just as there is no health without mental health, the evidence suggests that sustainable development is reliant on appropriate health and mental health services.

Practical issues

Our own research question was born out of the need to explore a socially inclusive approach to strengthening post-discharge care for mental health service users (MHSU) (Sibeko et al., 2017). We hypothesised that a treatment partner intervention incorporating psychoeducation and text message reminders would result in improved adherence and symptom severity outcomes for MHSU.

In undertaking any trial, a few practical issues bear consideration. For one thing, funding considerations determine many aspects of the study design and protocol. A small grant from the researcher's university may, for example, allow collection of data in a case series. A larger grant from an institution such as the South African Medical Research Council may allow a researcher to modify an existing intervention and assess its acceptability and feasibility in the local context. Our pilot RCT at Valkenberg Hospital, with initial funding from the World Psychiatric Association, sought to do just that. It has been emphasised that task sharing with non-specialised health workers has the potential to address the treatment gap in LMIC (Patel, Goel & Desai, 2009; Petersen, Lund & Stein, 2011). It is also understood that the high penetration of mobile devices in LMIC presents the opportunity to explore novel and innovative mobile health (m-health) approaches to healthcare delivery (WHO, 2011). Our aim was to establish the feasibility and acceptability of a task-shifting intervention including psychoeducation and m-health components for improving outcomes in serious mental illness. Funding from the United States' National Institutes of Health or a similar body may allow a well-powered randomised controlled trial to follow up on pilot trials such as ours.

Relatedly, based on funding considerations, the researcher will need to assess the extent to which it is possible to employ staff to assist with the project. Funding constraints in our RCT meant that the lead author was primarily responsible for conducting the majority of recruitment and intervention activities. We undertook that trial at Valkenberg Hospital, a teaching psychiatric hospital with a number of ongoing research projects. In our trial this meant that clinicians conducting recruitment interviews for one study were able to assist with interviews for our RCT, which leveraged our funding in an important way. In addition,

skilled staff were available to assist with diagnostic interviews. Rather than relying entirely on medical records or self-report measures to determine diagnosis, all individuals in our trial underwent the Structured Clinical Interview for the Diagnosis of Axis I Disorder. Finally, we were fortunate to have good buy-in and helpful advice from senior clinicians within the system; this is not always available but added considerably to the quality of the trial and its implementation.

Another set of practical issues is based around access to specific clinical populations, the availability of expertise in particular interventions, and the local validity of particular standardised symptom measures. In our clinical context there are a number of particularly important populations, including children and adolescents with mental disorders, mental disorders in pregnancy, and disorders with high prevalence – for example, neurological, HIV/AIDS and substance use disorders. Although CBT was developed in South Africa (Wolpe, 1973), it is difficult to find well-trained clinicians, and there has been interest in using psychotherapy interventions, such as problem-solving therapy, which are more easily employed by non-specialists. Fortunately, a large number of standardised symptom measures have now been used or validated in South Africa (Emsley, Chiliza & Schoeman, 2008; Emsley, Nuamah, Hough & Gopal, 2012; Emsley, Rabinowitz & Medori, 2007; Roos, 2011; Spies et al., 2009). In our RCT we made use of the Global Assessment of Function and the Clinical Global Impressions for a subjective measure of clinical severity, the Positive and Negative Syndrome Scale for a measure of symptom severity, the EUROQUOL 5D as a general measure of health status, as well as the Medication Adherence Rating Scale as a measure of adherence.

Intervention trials may be carried out on a variety of populations: for example, inpatients versus outpatients, patients versus families, cadres of health workers, caregivers and peers. Recruitment site is determined by the nature of the investigation. Interventions such as the friendship bench in Zimbabwe were conducted in the community at primary healthcare level, where lay health workers were trained to screen, monitor and deliver an intervention (Chibanda et al., 2011). A drug trial might be conducted in an outpatient setting whereas a post-discharge intervention might be best conducted in the pre-discharge wards of a tertiary psychiatric facility, as was the case in our RCT. For the purposes of our intervention, we recruited adult patients admitted at Valkenberg Hospital with a diagnosis of serious mental illness (e.g. psychotic disorders and bipolar mood disorder).

Ethical issues deserve consideration for the protection of the human subjects, particularly in this vulnerable population. All trials should be registered on an appropriate trial registry before study activities are started. Our trial is registered with the Pan African Clinical Trials Registry. All trials involving human subjects must be approved by a human research ethics committee (HREC). The HREC considers the risks and benefits of the study, bearing in mind the vulnerability of many subjects with mental disorder. Research proposals submitted to an HREC in the form of a study protocol include all documents pertaining to study rationale, methods, analysis and potential impact on individuals, communities and health services. Study rationale demonstrates that the researchers have applied their minds to existing literature and evidence and provides justification for the

question(s) being asked in the research. Details in the description of methods include all research materials, inclusive of questionnaires, standard operating procedures for the conduct of the research, and informed consent documentation. Signed informed consent typically emphasises the ability of participants to withdraw at any time. HRECs will need to see that a reliable power calculation has been conducted by a statistician, showing that the sample size envisaged is sufficient to demonstrate intervention effect. Similarly, randomisation procedures, which must be fully described, must be designed and finalised with the assistance of an independent statistician.

Institutional approval must be sought once HREC approval is obtained. In South Africa, this is done via the central National Health Research Database from where it is distributed electronically to the relevant provincial authority for assessment. Institutional review is conducted by provincial ethics review boards and seeks, with due consideration for local research priorities, to streamline research activity by reducing project duplication, and maximising use of limited research resources while minimising impact on clinical services. This aids in increasing transparency about ethical considerations in health research. In the Western Cape province, approval is often required directly from the facility that is to be affected by the research activities. In our case this involved communicating with the relevant facilities regarding project objectives and potential impact on services and resources. We further required the participation of mental health nurses from participating community health centres in the Valkenberg Hospital drainage area.

Once study registration and ethical and institutional approvals have been secured, actual participant recruitment becomes a key issue. If the researcher is doing a trial on patients already in his/her facility, as was the case in our trial, that is clearly convenient. Very often, however, studies require recruitment of new patient populations. This may mean reaching out to referral sources, advertising on social media or direct-to-consumer marketing. Suitable locally applicable recruitment processes must be planned early and must take into consideration potential strategies for increasing participant uptake (Treweek et al., 2010; White & Hind, 2015). Clinician referral of study participants may be impacted upon by a few factors, such as familiarity with the researcher, extra burden and its impact on clinical work, and concerns about the impact of the research on doctor–patient relationships (Rendell, Merrit & Geddes, 2007). Our investigator team included clinicians working at Valkenberg, which facilitated easier access to participant referrals. Our opportunistic recruitment involved accessing the inpatient clinical folders for potential participants fulfilling inclusion criteria. In other research we have conducted, study staff have actively gone into healthcare facilities and approached potential participants (Campbell et al., 2017). Further trial work by Sibeko, Milligan et al. (2018) has accessed cadres of caregivers and healthcare workers within the normal context of care pathways.

Participant retention is another key issue as it may have implications for internal validity, as alluded to previously. This is impacted on by trial setting, population, disease area, and data collection and follow-up procedures (Brueton et al., 2014). Our own study experienced a high attrition rate for follow-up

outcome assessments (Sibeko et al., 2017). In some cases, we simply could not reach participants, in spite of having their mobile numbers, that of their caregiver and that of other relatives or friends. Others changed their mind about participating in the study and a few were too ill to participate at the time of the three-month review. Most evidence looks at retention in trials employing a questionnaire response, indicating that financial incentives improve retention (Brueton et al., 2014). Our three-month review included components of clinical review, adherence and quality-of-life measures. We provided reimbursement of travel costs only, as the patients needed to travel to Valkenberg from home for this review.

Our data analysis was conducted by a co-investigator. Where the necessary skill set may not be available within a team of investigators, it may become necessary to seek an external statistician to conduct an analysis of data. Outcomes and emergent data will determine the specific types of analysis which need to be conducted for specific trials (Egbewale, 2015; Furberg & Friedman, 2012). We were primarily interested in the acceptability and feasibility of our intervention. Our efficacy outcomes included adherence to first follow-up clinic visit; relapse; medication adherence; quality of life and symptomatic relief. We conducted an intention to treat analysis using Stata Version 13. The extent of our statistical analysis is beyond the scope of this chapter.

Conclusion

A significant number of RCTs for mental disorders are currently under way in South Africa. In this chapter we provided some of the relevant historical context and illustrated applicable processes and issues using an RCT that we undertook. More detailed guidance on setting up a randomised controlled trial can be found in books like *Designing Clinical Research* (Hulley, Cummings, Browner, Grady & Newman, 2007), as well as resources such as the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins & Green, 2011). Papers providing further guidance include work by Kendall (2003), Lesaffre (2008), Whelan, Dainty and Chahal (2012), Hollis and Campbell (1999) and Godwin et al. (2003). The field currently regards this methodology as crucial for differentiating specific versus non-specific effects of any putative intervention. There is simultaneously much interest in establishing an effective way for RCTs to inform policy in poverty-stricken, resource-poor settings (Duflo, 2016; Tollefson, 2015). We have mentioned trials of pharmacotherapy and psychotherapy. In the local context there is increasing interest in the latter, with a growing move towards exploring novel psychosocial interventions aimed at addressing the treatment gap in this and other settings.

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8 Repeated-measures factorial design: Exploring working memory interactions in earworms

Thomas Geffen and Michael Pitman

Introduction

The repeated-measures factorial design is a quantitative method for exploring the way multiple variables interact on a single variable for the same person (Field, 2009). This chapter first outlines the design, considering its significance and utility in relation to South African research. Next, a theoretical framework is applied to show how earworms may be sustained in working memory. Then, a segment of research is presented to provide an example of this design. Within this example, the ethics of using such a methodology are explored, as exemplified by the application to earworms. This discussion highlights the methodological value, particularly in relation to the South African context in which the research is located.

The repeated-measures factorial design

The repeated-measures factorial design has two defining features. The first is the factorial nature, where there are two or more independent variables and each has two or more levels (Stangor, 2011). The present example uses a 2 × 2 × 2 design (three independent variables with two levels each). The second is repeated measures: each participant is exposed to all combinations; that is, each independent variable at each level (Cohen, 2008). The levels of the independent variables can involve a strict control group and/or contrast groups. Depending on this choice, the design may include pre-experimental and/or true experimental elements.

Given that there are repeated measures, this factorial design always implies an element of time, as there is always an order to the presentation of conditions. Longitudinal factorial studies measure impact over time (e.g. before and after treatment), and here time will form an independent variable (Huck, 2012). However, this chapter focuses on the cross-sectional form, which makes several measurements in a short period of time, with counterbalancing to discount the effect of time (Babbie, 2010). The standard statistical analysis for such a design is the analysis of variance (ANOVA), specifically the repeated-measures form (Field, 2009). In this design, there is a single dependent variable – if there are multiple dependent variables then an analysis of covariance would typically be used instead (Tabachnick & Fidell, 2007).

Design strengths and limitations

The factorial design is unique as it allows the researcher to consider the interaction of independent variables (Field, 2009). As the number of independent variables increases, so too does the possibility (and the complexity) of interactions. In the case of the 2 × 2 × 2 design, there is a second-order interaction with 28 simple second-order effects, three first-order interactions with 12 simple first-order effects and three main effects (Stangor, 2011). Internal validity is paramount to the utility of experimental designs, allowing strong causal claims to be made. Since each participant is compared to themselves in a within-participants design, there is good internal validity as inter-participant differences (which could provide alternative explanations) are controlled for (Howell, 2011). This is particularly relevant when the manipulations of the independent variable may have differential effects across participants (Howell, 2011). It is also beneficial in populations with great diversity, such as those in South Africa. Nonetheless, it is still crucial to be certain that the manipulations have the effect they purport to, and here the use of manipulation checks increases the strength of the design (Stangor, 2011). This is equally true of the dependent variable, which should provide a valid and reliable measure of the underlying construct.

However, with cross-sectional repeated-measures designs, counterbalancing is fundamental to avoid problems of order, such as carryover, practice and fatigue (Stangor, 2011). While this may be straightforward in a one-way design, two-way or three-way designs have a greater number of conditions and therefore possible orders. Latin-square designs, or other similar designs, limit the number of possible orders, which in turn allows for a smaller sample size (Stangor, 2011). Equally, when there are a greater number of conditions, a potential drawback is the total time of the experiment, given that each participant experiences each condition. Indeed, this should be an important consideration when choosing the number of independent variables and the corresponding number of levels. For between-subject factorial designs, more participants are required as the total number of conditions increases. However, within-subject designs allow for a smaller sample regardless of the number of conditions (Cohen, 2008). This is useful in the context of South African research, where limited resources may necessitate a smaller sample.

It is also useful to consider the corresponding statistical analysis – the repeated-measures ANOVA. Performing a repeated-measures ANOVA requires that several assumptions need to be tested and met: random sampling, subjects being independent of each other, at least interval dependent variables, categorical independent variables, multivariate normality and homogeneity of variance (Cohen, 2008; Field, 2009). In this case, sphericity is not a required assumption because there are only two levels for each independent variable (Field, 2009). The ANOVA is largely robust to certain violations of assumptions, specifically homogeneity of variance when cell sizes are equal (Field, 2009), and multivariate normality when cell sizes are large enough (Cohen, 2008; Tabachnick & Fidell, 2007). Although there is no non-parametric equivalent to the repeated-measures ANOVA, it is possible to conduct a non-parametric test, such as

Wilcoxon's signed-rank test, to confirm the main effects and post hoc comparisons deemed significant by the ANOVA (Cohen, 2008).

Missing values are problematic in repeated-measure designs as they create unequal cell sizes, and thus several strategies may be used to alleviate these issues. Total list-wise exclusion might eliminate all results of a participant with missing values, or else they may be eliminated on a case-wise basis for relevant comparisons, which means the cell sizes differ for different comparisons (Field, 2009). This becomes more complicated when considering first-order effects where measurements are collapsed or averaged across conditions. When there are missing values here one might exclude, or one may estimate using the corresponding pair value that is not missing (Cohen, 2008). The uses and caveats of using this design are now illustrated in the application of the design to earworms.

Earworms and working memory

Defining earworms

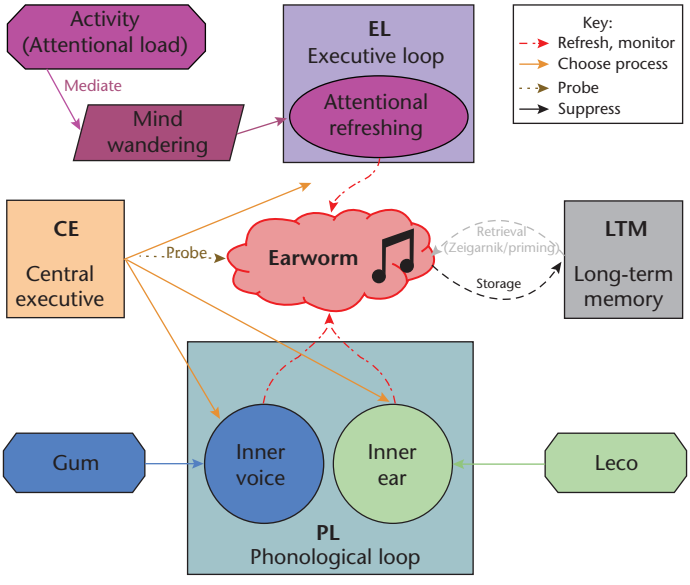
Involuntary musical imagery (INMI) is defined as *the experience of musical imagery, which is recalled involuntarily*. Earworms form a subtype of INMI, which loop serially and repeat (Williams, 2015). Earworms do not seem to be like most other conscious phenomena – they creep into awareness and often seem to escape control (Beaman & Williams, 2010). Unlike other imagery, earworms are not called to mind to serve some straightforward cognitive goal but get stuck repeating in the mind – repetition which seems to mirror the repetitive structure of music itself (Margulis, 2014). However, certain characteristics have become increasingly clear. Earworms are not reported as primarily frustrating but are often enjoyable (Halpern & Bartlett, 2011). Moreover, they are not just an obscure or pathological imagery form but are experienced by almost the entire population (Liikkanen, 2011). Not only are earworms and INMI common, but they seem to be the most common form of involuntary cognitions (Liikkanen, 2011).

Working memory model

Baddeley's (2012) working memory theory can be applied to understand the above definition and properties of earworms. Geffen (2017) proposes a theoretical model (Figure 8.1) for understanding earworms, thus amalgamating existing theoretical models. For the purposes of this discussion, the focus will be on the three mechanisms that refresh or loop earworms in working memory, which implicates the executive loop (Camos, 2015) and phonological loop (Smith, Reisberg & Wilson, 2014) components. The phonological loop rehearses and manipulates auditory stimuli, and research has shown that this can be divided into the inner ear and inner voice, which are isolable components that can work independently or in tandem (Smith et al., 2014). Additionally, a process of attentional refreshing, independent of the phonological loop, has been proposed by Camos (2015; Camos & Barrouillet, 2014), which relies on the executive loop.

The inner voice is involved in subvocalisation for rehearsal and refreshing in the phonological loop. Although termed a 'voice', it may not be limited to vocal

Figure 8.1 INMI and working memory theoretical framework



Source: Authors

and verbal rehearsal but has also been implicated in pitch and non-vocal timbres (Smith et al., 2014). The best evidence for the inner voice comes from an experiment where participants chewing gum (suppressing the inner ear by preventing subvocalisation) experienced fewer earworms (Beaman, Powell & Rapley, 2015). Similarly, retrospective reports show that suppression of the inner voice (e.g. talking) reduces earworms (Bennett, 2002; Liikkanen, 2011). The inner ear is 'a short-lived store that represents material in a phonological form' (Smith, Wilson & Reisberg, 1995, p. 1434). Although there is weaker evidence for the inner ear, individuals report fewer earworms when the outer ear is engaged (which in turn supresses the inner ear) (Beaman & Williams, 2010; Floridou & Müllensiefen, 2015; Williamson, Liikkanen, Jakubowski & Stewart, 2014).

To fulfil the function of attentional refreshing, an executive loop, defined as a cognitive system that maintains domain-general (i.e. visuospatial, auditory and other) information, is proposed (Camos, 2015). This system is related to Baddeley's (2012) newly added episodic buffer component. Essentially, the executive loop allows for attentional refreshing, a process whereby any domain-general material is refreshed by means of the provision of attention (assumed to be a limited cognitive resource). Floridou, Williamson and Stewart (2017) demonstrated a linear relationship between attentional load and earworms, with participants at a low baseline level of attention reporting significantly shorter and fewer earworms than at the three higher levels of attention, which did not differ. However, Hyman and colleagues' (2013) results suggest a quadratic relationship, where at very high levels of attentional load, there are more earworms. This may be explained by the correlation between earworms and mind wandering

(Floridou & Müllensiefen, 2015), where at very low and high levels of attentional load there is mind wandering, which acts as a mediator leading to an earworm.

Measuring and manipulating earworms

The example presented in this chapter formed the core section of a larger experiment, which has been described in greater detail elsewhere (see Geffen, 2017). The overarching aim of the research is to understand how (and if) the working memory model is implicated in sustaining INMI, specifically whether there are independent and/or interactional effects of the inner voice, inner ear and attention on INMI frequency.

Rationale

Considering the above theoretical framework and supporting literature (Figure 8.1), a person experiencing an earworm might be sustaining it in working memory in three non-exclusive ways: by subvocalising, by internally perceiving it in their inner ear or by giving the song attention and refreshing it. Cognitive theory suggests these three mechanisms may act independently or interact with each other, thus suggesting the use of a factorial approach. While Hyman and colleagues' (2013) and Floridou and colleagues' (2017) results hint at a potential interaction between subvocalising and attention, there has not yet been a study which directly manipulates all three processes simultaneously. As such, the research referred to in this chapter aims to employ a repeated-measures factorial design in order to understand how these three mechanisms interact to sustain INMI in working memory. Each of these three independent variables has two levels. The attention manipulation has a contrast group, while the inner ear and inner voice have control groups. As such, this experiment may be classified as a combination of pre-experimental and true experimental design.

Furthermore, the factorial design is a within-groups comparison design; each participant was assigned to all eight conditions, and then compared to themselves under each different condition (Huck, 2012). The order of these conditions was quasi-randomised, as described later. There is a single dependent variable, INMI frequency, which is considered interval for the purposes of running the analysis, but its likely ordinal nature is considered subsequently. Although there were multiple measurements of the dependent variable across time for different participants, these measurements were in a randomised order with the purpose of counterbalancing condition order – there were no strictly longitudinal comparisons. As such, the design is not longitudinal (which would measure the impact over time) but should be considered cross-sectional (Babbie, 2010).

Method

Sample

The sample was drawn from students attending the University of the Witwatersrand, largely from the Psychology Department. Participants were recruited with an online announcement, emails and by word of mouth. The recruitment

notice included information about compensation, in order to encourage participation and to compensate students for their time. Participants from the first-year psychology class could earn a 1% course credit under the Student Research Participation Programme, and all participants could enter a raffle to win a set of headphones. Respondents were contacted via email and a time for a lab session was arranged by the researcher, based on respondents' availability.

Thirty-four participants completed the experiment; however, five participants' responses were excluded from the data analysis. One participant performed very poorly on all the attention tasks (they were an outlier and their error rate was far above two standard deviations from the mean). Three others did not follow instructions correctly and did not open all the experiments, so there was extreme missing data. Apart from these exclusions, there were five missing values in total for INMI frequency for four participants due to a minor software error. The one participant with two missing values was excluded, but the other three were included in the analysis as each had only a single missing value out of eight values (and the software error was fixed). Hearing difficulty, which was assessed via self-report, was also considered as a possibility for exclusion, but only minor difficulties were reported so no respondents were excluded on this basis. The final sample consisted of 29 participants between the ages of 18 and 30, with a mean age of 22.14; two of the participants were male. Although 17 participants spoke English as their home language, there was reasonable diversity in home language (seven other official languages were represented) and moderate proficiency across most South African official languages, but all participants reported reasonable English fluency.

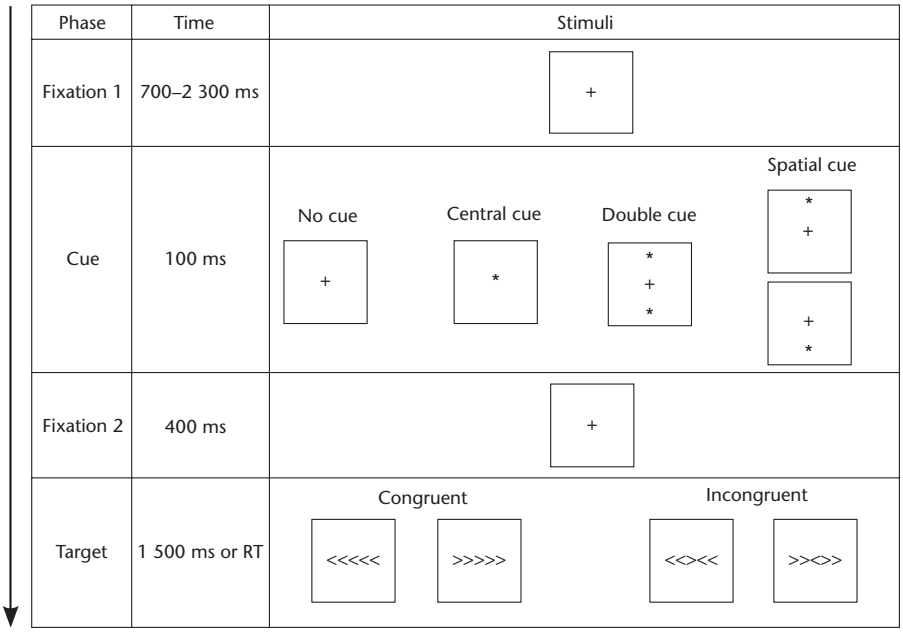
Although the university sample may differ from the population in terms of income, age and education, it is not clear how such factors would systematically influence earworms. Nonetheless, a university student sample has several advantages in this context. The sample was easily accessible and had easy access to the computer laboratories used at the university. Moreover, since the sample comprised university students, they were English literate and test-wise. Most importantly, they appeared to be computer literate, and thus able to adequately participate in a computer-based study, thereby limiting bias inherent in a computer-based experiment (Tourangeau, Conrad & Couper, 2013). There are no obvious disadvantages to such a sample.

Given ethical constraints, the sample is a volunteer sample, so there is the possibility of self-selection bias, with participants that are interested in music and INMI, and possibly more prone to experiencing earworms, volunteering to participate. However, this may be to the study's advantage, as participants who experience more INMI are more suitable when INMI frequency is impacted. Indeed, all participants experienced INMI a minimum of once a month, and so did not need to be excluded on these grounds. To cohere to the ethical principle of fair selection (Wassenaar & Mamotte, 2012), compensation was used, not to coerce people to participate, but to fairly reward them for their time. Thus, compensation was not linked to the results, so in the unlikely event that participants were uncomfortable answering or participating, they could still skip questions and receive their compensation.

Instruments, tasks and materials

Attention Network Test The Attention Network Test (ANT) is a task developed by Fan, McCandliss, Sommer, Raz and Posner (2002) that is designed to measure attention. A shorter version has been validated (Weaver, Bédard & McAuliffe, 2013) and was approximated in this experiment. The ANT is a computer-based reaction-time task, where participants must decide which direction a central arrow is pointing by pressing the left or right arrow keys on the keyboard (Figure 8.2). Based on the variations within the ANT, an easy and a difficult version were created, as described in the original study (Geffen, 2017). This allowed the ANT to be a proxy to manipulate attention.[1]

Figure 8.2 ANT timing and stimuli



Source: Authors

Song, foreign voice and gum Prior to the ANT sets, participants heard the song 'Just the Way You Are' by Bruno Mars, both in full (while watching the music video) and in several extracts from the song. This song was chosen because it was considered catchy, likeable and well known based on relevant criteria in the literature (e.g. Beaman & Williams, 2010; Hyman et al., 2013). Participants also completed several induction tasks described subsequently, which have shown efficacy in inducing an earworm (e.g. Liikkanen, 2012). During the ANT sets, participants heard foreign speech and/or chewed gum. The foreign speech, aiming to suppress the inner ear, was a recording of a male speaking Leco, an obscure language isolate spoken by 20 elderly people in Bolivia (Moore, 2007). As such, there was an absolute guarantee that no participant would be vaguely familiar with the language, ensuring that it should not engage semantic memory but simply supress the inner ear. Similar arguments have also informed the use of

foreign speech (shown to have a stable suppressive effect over time) in comparable experimental paradigms (Hellbrück, Kuwano & Namba, 1996). Chewing gum was used to supress the inner voice, as it has known efficacy (Beaman et al., 2015; Kozlov, Hughes & Jones, 2012), and participants could choose from a range of gum flavours provided.

Self-reported INMI The primary dependent measurement was self-reported INMI as experienced under different conditions. Participants reported the degree to which they experienced a song in their head on a four-point rating scale: not at all, somewhat, most of the time, all the time.

Data collection procedure

The research was in the form of a computer laboratory experiment, which was designed and informally piloted by the researcher. Prior to commencing, participants were given verbal instructions, including an overview of the experiment, an explanation of the dual-monitor computer set-up, directions regarding chewing gum and an explanation of the ANT task. At the outset participants were then asked to put on headphones and to provide informed consent.

The first stage involved an earworm induction procedure. First, participants heard the chorus of the song ('Just the Way You Are'), where they could adjust the volume. Second, they watched the music video for the song and then rated their familiarity with the song. Finally, participants heard the chorus again. Following this were the three pitch differentiation tasks, completing the lines and counting the lines. Thereafter, participants were given instructions for the ANT, and gained familiarity and minimal proficiency with the ANT by completing an ANT set with feedback. Participants returned to the left-hand screen and were told that they would complete several ANT sets without feedback and would have to rate how frequently they experienced an earworm or song 'in their head' during each set. Eight ANT sets were completed in a quasi-randomised order, as per Table 8.1.

The instructions prior to each ANT set consisted of the following elements: participants were either requested to chew gum (L_1G_2, L_2G_2) or there was no

Table 8.1 All eight conditions showing randomised order

Inner ear suppression	No Leco ⟷				Leco ⟷			
Inner voice suppression	⟷ No Gum (L_1G_1)		Gum (L_1G_2)		⟷ No Gum (L_2G_1)		Gum (L_2G_2)	
ANT difficulty	⟷ Easy	Hard	⟷ Easy	Hard	⟷ Easy	Hard	⟷ Easy	Hard
Code	$L_1G_1A_1$	$L_1G_1A_2$	$L_1G_2A_1$	$L_1G_2A_2$	$L_2G_1A_1$	$L_2G_1A_2$	$L_2G_2A_1$	$L_2G_2A_2$

Source: Authors

Notes: The experiment names are given in brackets in the second row. The double-headed arrows represent the order randomisation between conditions. In total, there are potentially 128 orders.

instruction (L_1G_1, L_2G_1). Then, they were requested to open each experiment in randomised order, as per Table 8.1. At the beginning of each experiment it was reiterated that they should be chewing gum (L_1G_2, L_2G_2) or should not (L_1G_1, L_2G_1) and hearing Leco (L_2G_1, L_2G_2), or there was no information about this (L_1G_1, L_1G_2). For each of the four experiments, they were exposed to one easy and one difficult ANT set in randomised order. Following each set, they reported their INMI frequency during the set. After the four sets were completed while chewing gum (L_1G_2, L_2G_2), they were asked how distracting it was to chew gum, and at the end of all eight sets, they were asked how distracting the Leco speech was.

The experiment was designed in this quasi-randomised or counterbalanced fashion for important logistical reasons. To minimise participants constantly starting and stopping chewing gum (up to four times), they either chewed gum in the first half or the second half (in randomised order). Similarly, within each half, they heard Leco in the first or second and third or fourth quarter in a random order. Again, within each quarter, the difficulty of the ANT was in a random order. While this does not allow for all possible orders, it presents a significant number of possibilities (summarised in Table 8.1).

Still, it is important to highlight the need for counterbalancing and the practice set. Learning effects have been found with executive attention, where reaction time increased when practice participants received more incongruent flankers (Ishigami & Klein, 2010). Furthermore, fatigue occurs across ANT sets for executive attention (Holtzer, Shuman, Mahoney, Lipton & Verghese, 2011), meaning that attention may waver, making individuals more susceptible to mind wandering and experiencing earworms. Finally, in earworm induction paradigms, there is some decay and recency effects (Floridou et al., 2017), meaning there might be a decrease in frequency over time irrespective of condition.

The data collection was also electronic, and computer-based research comes with a unique set of concerns and advantages. Experimental designs are often criticised for being artificial and lacking external validity (Huck, 2012). Internationally, computer-based experimental research is increasingly popular, as it allows the experimenter a fine degree of control, through the recording of accurate measurements, allowing for complex within-participant random ordering and ensuring that the delivery of multimedia stimuli remains fixed across conditions and participants (Stangor, 2011). One ethical strength of computer-based research is that the researcher is not directly involved in data collection, which guarantees that participants' data remain anonymous (Stangor, 2011). Indeed, when collecting participants' information for compensation and interest in future studies, this was purposefully kept separate from their experimental data. However, a unique identifying code was constructed to link their results from different parts of the experiment, but it was not possible to trace their identity using this. Still, given that the data did include personal information (that was not linked to the results), it was necessary to keep it secure, which was done on a password-secured database and password-secured computers that are accessible only to the researcher and supervisor. These collected data were then analysed and interpreted.

Results and discussion

Assumptions

As previously discussed, there are several assumptions required to run an ANOVA, and while most were met, the violation of two assumptions is discussed here. Firstly, INMI frequency (the dependent variable) is measured on a single Likert-type scale but is treated as at least interval. While this does follow a trend of many studies, it is also subject to the same pitfalls as any Likert-type scale (see Jamieson, 2004). While this scale is short and practical (given that each participant used it eight times) and its benefits were motivated in relation to previous measures in the literature, it also has limitations for statistical analyses. Firstly, the scale is not truly interval, although with repeated measurement (as in the pair comparisons) the scale approximates interval data. The limited four-point scale may also have influenced some of the smaller effect sizes that were found. Ultimately, this restricts the statistical validity, highlighting the difference between statistical and real-world significance.

Secondly, INMI frequency for each condition (including collapsed conditions) mostly demonstrated non-normal distributions according to the Shapiro-Wilk test. Fortunately, repeated-measures ANOVAs are robust for violations of this assumption when cells have at least 20 entries – each has 27 here (Tabachnick & Fidell, 2007). Still, given these violations, it is useful to confirm the results by running non-parametric equivalent tests. While there is no specific non-parametric equivalent for a three-way repeated-measures ANOVA, Wilcoxon signed-rank tests corroborated all the significant post hoc results.

Beyond assumptions for the ANOVA, it was crucial to test the efficacy of several elements of the design. The induction procedure appeared to be effective, as most participants seemed to engage in the necessary tasks and all participants except three experienced some INMI. Regarding the manipulation of attention using the ANT, analysis of the main effect of the ANT showed that participants were significantly slower to respond on the difficult ANT sets, across and within all conditions with mostly moderate effect sizes.

Results

All interactions and main effects were considered across conditions (Table 8.2).[2] The analysis showed a significant main effect for Leco ($F_{1,25}$ = 15.854, p = 0.001, η^2_{partial} = 0.41) but not for gum ($F_{1,25}$ = 2.457, p = 0.130) or ANT ($F_{1,25}$ = 0.889, p = 0.355). More importantly, the second-order gum × Leco × ANT interaction was non-significant ($F_{1,25}$ = 0.155, p = 0.697). In such cases, Stangor (2011) argues that if all the variables are involved in two-way first-order interactions, second-order effects should be interpreted as if the three-way interaction is significant. However, given the similarity of the simple effects (e.g. comparing Figures 8.3 and 8.4) and the interpretation that the manipulations were imprecise, the three first-order interactions were considered by collapsing each level instead (Table 8.3). Firstly, the Leco × ANT interaction was not significant ($F_{1,25}$ = 3.960, p = 0.058), so no further comparisons were conducted for this.

Secondly, both the Leco × gum (Figure 8.3) interaction ($F_{1,25}$ = 6.452, p = 0.018, η^2_{partial} = 0.22) and the main effect of Leco were significant, but not the main effect

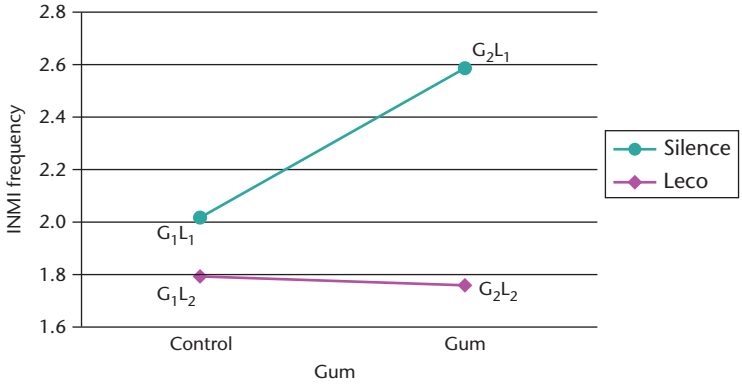
Table 8.2 ANOVA summary

Source	*SS*	*df*	*MS*	*F*	*p*	$\eta^2_{partial}$
Gum	2.327	1	2.327	2.457	0.130	
Error (Gum)	*23.673*	*25*	*0.947*			
Leco	13.000	1	13.000	15.854	***0.001***	0.41
Error (Leco)	*20.500*	*25*	*0.820*			
ANT	0.481	1	0.481	0.889	0.355	
Error (ANT)	*13.519*	*25*	*0.541*			
Gum × Leco	4.923	1	4.923	6.452	**0.018**	0.22
Error (Gum × Leco)	*19.077*	*25*	*0.763*			
Gum × ANT	2.327	1	2.327	7.118	**0.013**	0.26
Error (Gum × ANT)	*8.173*	*25*	*0.327*			
Leco × ANT	1.231	1	1.231	3.960	0.058	
Error (Leco × ANT)	*7.769*	*25*	*0.311*			
Gum × Leco × ANT	0.077	1	0.077	0.155	0.697	
Error (Gum × Leco × ANT)	*12.423*	*25*	*0.497*			

Source: Authors

Notes: *p*-values in **bold** are significant at the 0.05 level; *p*-values in ***bold italics*** are significant at the 0.001 level.

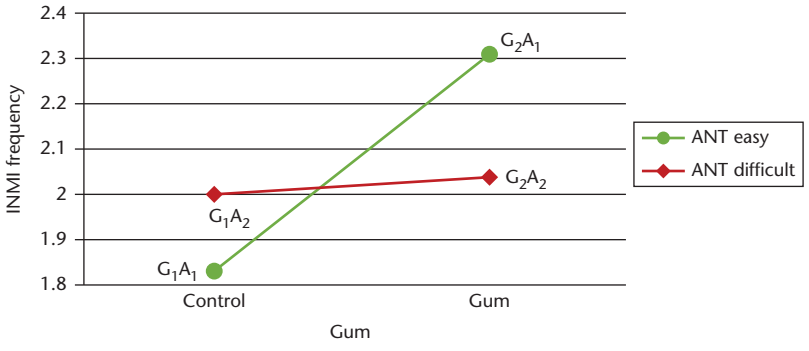
Figure 8.3 Leco × gum interaction



Source: Authors

of gum. INMI frequency was collapsed across the ANT conditions (Table 8.3) and the first-order simple effects were compared using two-tailed paired-sample *t*-tests. Comparing within the silence conditions, participants chewing gum had more frequent earworms than those in the control ($L_1G_1 > L_1G_2$, $t_{28} = -2.786$, $p = 0.009$, $d = 0.06$), but this did not hold over the Leco conditions ($L_2G_1 \approx L_2G_2$, $t_{28} = 0.346$, $p = 0.732$). Comparing within the gum conditions, participants hearing Leco experienced more frequent earworms than those in silence when chewing gum ($L_2G_2 > L_1G_2$, $t_{28} = 5.310$, $p < 0.001$, $d = 0.24$), but this did not hold over the control conditions ($L_2G_1 \approx L_1G_1$, $t_{28} = 1.384$, $p = 0.177$).

Figure 8.4 Gum × ANT interaction



Source: Authors

Table 8.3 ANOVA means for self-reported INMI

Condition	Gum (G)		
	Gum (G_1)	**Gum (G_2)**	**TOTAL**
Silence (L_1)			
Easy ANT (A_1)	$L_1G_1A_1$ = 1.828	$L_1G_2A_1$ = 2.655	*L_1A_1 = 2.241*
Difficult ANT (A_2)	$L_1G_1A_2$ = 2.207	$L_1G_2A_2$ = 2.517	*L_1A_2 = 2.362*
TOTAL	*L_1G_1 = 2.017*	*L_1G_2 = 2.586*	**L_1 = 2.302**
Leco (L_2)			
Easy ANT (A_1)	$L_2G_1A_1$ = 1.793	$L_2G_2A_1$ = 1.828	*L_2A_1 = 1.845*
Difficult ANT (A_2)	$L_2G_1A_2$ = 1.690	$L_2G_2A_2$ = 1.552	*L_2A_2 = 1.638*
TOTAL	*L_2G_1 = 1.793*	*L_2G_2 = 1.759*	**L_2 = 1.750**
Total			
Easy ANT (A_1)	*G_1A_1 = 1.828*	*G_2A_1 = 2.310*	**A_1 = 2.060**
Difficult ANT (A_2)	*G_1A_2 = 2.000*	*G_2A_2 = 2.034*	**A_2 = 2.009**
TOTAL	**G_1 = 1.914**	**G_2 = 2.172**	*T = 2.033*

Source: Authors

Thirdly, the gum × ANT interaction (Figure 8.4) was significant (F_{26} = 9.173, p = 0.005, $\eta^2_{partial}$ = 0.26), but neither main effect was. The means were collapsed across the Leco conditions (Table 8.3) and compared using two-tailed paired-sample *t*-tests. Comparing easy and difficult, neither the control ($G_1A_1 \approx G_1A_2$, $t_{28} = -1.625$, $p = 0.115$) nor the gum conditions ($G_2A_1 \approx G_2A_2$, $t_{28} = 1.010$, $p = 0.054$) were significantly different. However, comparing across the gum conditions gave a significant difference for the easy ($G_1A_1 < G_2A_1$, $t_{28} = -2.950$, $p = 0.006$, $d = 0.05$) but not the difficult ($G_1A_2 \approx G_2A_2$, $t_{28} = -0.210$, $p = 0.835$) ANT condition.

Overall, the results found a main effect for the foreign speech, and interactions between chewing gum and attention, and hearing the foreign speech and chewing gum. In general, attentional load suppressed INMI, but chewing gum

surprisingly facilitated INMI, suggesting a complex interplay of both the phonological and the executive loop.

Methodological contribution

It is useful to consider aspects of the design, specifically as exemplified in the above study, to highlight the ethical and contextual implications for such research, particularly in the South African context. A unique strength of the research is that it is the first experimental INMI study in Africa, or even in a sample from the global South. While the present university sample is not entirely representative of South Africa, it is a diverse sample as captured by home language, with a unique cultural and historical context.[3] This diversity provides initial insight into how INMI theory and measurements hold up in different populations. Furthermore, the procedures and instruments used represent the first use in this field, providing opportunities for using these tools again in different contexts and validating their use. Specifically, the method demonstrates the use of the ANT in manipulating attention and provides a feasible earworm induction procedure.

Still, the research is founded on literature from a new field that has not yet been applied in a South African context, so there is the possibility of cultural bias given the cross-cultural application. Stemming from this theoretical framework, several procedures and manipulations (chewing gum, hearing Leco and the earworm induction) were based on previous research on western/global North samples. However, the results suggest that the manipulations did not entirely impact the intended components of working memory, so future research might consider whether this was different due to something relating to the South African or even the global South context, or could consider cross-cultural differences.

Moreover, the quantitative approach does not consider how earworms are viewed in South Africa, or what cultural implications may be present in using a supposedly neutral song. Indeed, this may even be a critique of cognitive research in South Africa, which may tend to rely on untested assumptions about the nature of the mind. Specifically, the present theoretical framework drew on the working memory model, predominantly formulated and tested in a global North context, and the distinction in working memory components may not hold entirely in the South African population. Still, use of this model is consistent with its use in the small but growing of literature on working memory in the South African context (e.g. Cockcroft, 2015).

Effective research relies on harmony of theory, design and measurement. Cognitive psychology has traditionally employed a modular approach to the mind, and the working memory model exemplifies this in its segmentation of memory into distinctive yet interrelated parts. As such, the repeated-measures factorial design is perfect for considering these interactional relationships and has common use in working memory research. This highlights the greatest strength of the method – its ability to accurately pinpoint highly specific cognitive mechanisms. Firstly, the design allows any inter-participant variance to be

discounted by comparing each subject to themselves, which may be very important when there are potentially large differences between individuals (especially given cultural diversity). Moreover, it isolates the effect of each working memory component, while also considering multiple interactions. The scientific validity equally implies an ethical use of resources and participants' time (Wassenaar & Mamotte, 2012).

Cognitive psychology furthermore seeks to quantify internal mental events, such as INMI, bringing them into the realm of experimental psychology and in this case inducing an involuntary phenomenon. However, repeatedly measuring first-person phenomena is challenging from a methodological perspective. Firstly, repeated measurements require careful counterbalancing, as noted. Secondly, participants' knowledge of the upcoming measurement automatically primes the mind and may ironically increase sensitivity to these mental events (Wegner, 1994) or, alternatively, disrupt their spontaneous occurrence.

Conclusion

This chapter described how the repeated-measures factorial design can be successfully employed. This was illustrated in the context of cognitive psychology, where it was found that working memory components interacted in their effect on earworms. This specific example provides a method for inducing and measuring the internal cognitive phenomenon of earworms and is the first to use such a design in the field and in South Africa. Through this, the utility of this design is highlighted for use in South Africa, and several core points can be emphasised. Sampling should be done ethically without being coercive, but the sample also needs to be representative for strong induction, highlighting the overarching need for achieving an ethical risk–benefit ratio (Wassenaar & Mamotte, 2012). Moreover, computer-based research can be useful practically, but may limit generalisability to the South African population. Generalisability is also a consideration for any application of theory that has not been tested in South Africa, and cross-cultural application should be approached critically. Finally, repeated measurement allows for strong causal claims, but the design must be carefully managed with regards to practical counterbalancing of conditions. Thus, when used prudently, the repeated-measures factorial design can be used effectively in future South African research.

Notes

1 Follow-up analyses confirmed that the difficult ANT sets were more difficult.

2 Wilcoxon signed-rank non-parametric comparisons found the same pattern as the parametric paired sample *t*-tests for the significant main effect and post hoc comparisons. Moreover, for the significant main effect and all post-comparisons, there was no difference whether the averages for the missing values remained missing values or were estimated by using the corresponding value of the pair averaged. As such, all reported results give only the estimated averages and paired sample *t*-tests.

3 Previous unpublished research by the authors on the same population revealed preferences for a diverse range of musical genres in the sample – adding another potentially relevant measure of diversity.

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9 Q methodology: Patterns of subjectivity in academic misconduct

Gillian Finchilescu and Saloshni Muthal

Introduction

Q methodology (Q) is a hybrid of qualitative and quantitative methodological procedures, hence its description as a 'qualiquantological' research procedure (Stenner & Stainton Rogers, 2004). The methodology has been used in a wide range of disciplines, yet it has received relatively little attention within psychology, the discipline from which it originated. Additionally, it has received little coverage in traditional texts on quantitative or qualitative methods (Watts & Stenner, 2005). However, as this chapter will show, Q has distinctive features that make it particularly suited to identifying the dominant and peripheral narratives or perspectives on any given issue. It is particularly useful with sensitive and marginal populations whose voices may not be heard through solely qualitative approaches. Qualitative approaches often seek to identify dominant discourses, while purely quantitative approaches, such as surveys, often conceal marginalised viewpoints (Capdevila & Lazard, 2008). Furthermore, the procedures of Q allow these voices to be heard with minimal bias arising from instrumentation effects or researcher-imposed meanings, allowing the true voices of the population of interest to emerge (Stephenson, 2014).

The aim of this chapter is to introduce the method and hopefully stimulate its use among psychological researchers. The chapter begins with an introduction to the logic of Q methodology, with a brief overview of psychological studies that have used the methodology. This is followed by a demonstration of how to do a basic Q study using a recent research project on perceptions of academic misconduct (Finchilescu & Cooper, 2018).

The philosophy and logic of Q

Q was developed by William Stephenson during the 1930s with the purpose of bringing 'science into subjectivity' (Stephenson, 2014, p. 38). It was developed as a 'scientific, objective approach to the investigation of self' (Stephenson, 2011, p. 218). Q involves a set of procedures used to explore individuals' subjectivity:

that is, the self-referent understandings, beliefs and opinions which they use to make sense of the world (Kitzinger, 1999). In this sense, subjectivity is highly contextual, in that it is based on one's current environment, existing body of knowledge and current circumstances and thus has meaning only in the context of the immediate environment, losing its meaning when the context shifts (Stephenson, 2014). Stephenson refers to this subjectivity as 'operant' (2014), taking the term from behavioural science. An operant has two qualities that make it unique. Firstly, it is produced naturally without any artificial induction and so it has no obvious or external cause, and secondly, an operant is defined by its relationship with and its impact on its immediate environment (Watts, 2011). Stephenson posited that a person's subjectivity is empirically observable, meaningful and relational, which is transformable into operant factor structure through the process of Q-sorting.

Q-sorting involves presenting the individual with a set of stimuli (statements, images, objects) that fully represent possible views on the issue in question. The individual then sorts these stimuli along a dimension that is meaningful – most like me/least like me, strongly agree/strongly disagree and so forth. While sorting the stimuli with reference to the self, the relative positions of these allow the meaning of the stimuli to that individual to unfold. Thus, unlike traditional psychometric scales (such as an attitude scale), it is not assumed that all respondents understand the statements in the same way. Also, such scales have predetermined meanings, and the scale has the objective of placing a participant on a predetermined dimension (high/low, strong/weak) attached to the construct being measured. In Q, participants sort or evaluate every statement in relation to every other statement, thus revealing their underlying values, opinions and beliefs about the topic under investigation (Paige & Morin, 2016). For example, responses to the statement 'Only unlucky students get caught cheating' could have a number of meanings. A respondent who does not consider cheating to be bad is likely to agree that being caught is bad luck. Alternatively, a respondent who believes cheating is bad, but that there is insufficient vigilance against it, may also agree with this statement. Yet another individual who also believes that cheating is morally bad may disagree with the statement, believing that all transgressors will or should get caught. In Q, the positioning of other statements about cheating will allow the individual's self-referent viewpoint about cheating to emerge. Thus, in Q, opinions about items are self-referent and it is the gestalt point of view or the full array of opinion that matters more than the individual ranking of single statements.

In summary, Q attempts to overcome both the *deductivist* logic of science, which starts from a theory or set of propositions that observations serve to confirm or refute, and the *inductivist* approach, which 'observes or studies the facts to establish a generally applicable *description* of the observed phenomenon' (Watts & Stenner, 2012, p. 39, emphasis in the original). Q posits abduction, which attempts to find an *explanation* for the observed phenomenon, to build up relevant insights and theories. Thus, Q 'stands for *discovery* in subjectivity, of reality in nature, made possible by technique' (Stephenson, 2014, p. 43, emphasis in the original).

Q-factor analysis

Stephenson began his career as a psychophysicist, working with Charles Spearman and Cyril Burt in developing measures of mental abilities and personality, using the nascent technique of factor analysis. Although Stephenson came to reject this psychometric focus, factor analysis became pivotal in the development of Q methodology (Good, 2010). The standard (R) factor analysis correlates items or measures for a sample of people and factors out clusters of test items, with a view to discerning the latent construct embodied by the items. Q-factor analysis correlates persons and factors out groupings of people who share a similar viewpoint about a specific subjective event under a particular condition of instruction (Burt & Stephenson, 1939). To illustrate these differences, Table 9.1 shows what the data spreadsheets for the two techniques would look like.

Table 9.1 The data matrices for R- and Q-technique factor analyses

R-factor analysis					**Q-factor analysis**				
	Variables (the measurements taken on each participant)					**Q-sorts (the rankings provided by each participant)**			
Participants	**V1**	**V2**	**..**	**Vk**	**Statements**	**Q1**	**Q2**	**..**	**Qk**
P1	P_1V_1	P_1V_2	..	P_1V_k	S1	S_1Q_1	S_1Q_2	..	S_1Q_k
P2	P_2V_1	P_2V_2	..	P_2V_k	S2	S_2Q_1	S_2Q_2	..	S_2Q_k
:	:	:	:	:	:	:	:	:	:
Pn	P_nV_1	P_nV_2	..	P_nV_k	Sn	S_nQ_1	S_nQ_2	..	S_nQ_k
P_iVj = Participant i's score on variable j					S_iQj = The ranking given to statement i by participant j				

Source: Authors

Q studies in psychology

Over its 80-year history, Q has been employed in various disciplines such as ecology, agriculture, commerce, education and political science. The strength of Q lies in its ability to bring multidimensional perspectives, specifically those of marginalised populations, rather than just surfacing the most dominant narratives. For instance, Q has been employed in understanding psychosis (Dudley, Siitarinen, James & Dodgson, 2009); the shaping of sexuality in children with disabilities (Mckenzie & Swartz, 2011); understandings of Down's syndrome (Bryant, Green & Hewison, 2006); understanding the experiences of caregivers of aging adults (Ramlo & Berit, 2013); understanding perceptions of recovery from psychosis (Wood, Price, Morrison & Haddock, 2013); understanding experiences of hearing voices (Jones, Guy & Ormrod, 2003); understanding sexual satisfaction (McClelland, 2014); and understanding self-harming behaviour (Rayner & Warner, 2003). Furthermore, Q has been employed successfully with sensitive

populations, including patients with dementia (Westbrook, McIntosh, Sheldrick, Surr & Hare, 2013), patients with intellectual difficulties (Combes, Hardy & Buchan, 2004) and adolescent mothers (Richards, Papworth, Corbett & Good, 2007). Aside from research, Q has been effectively used for programme evaluation, policy development, conflict resolution, advertising, and design decisions. A review of all the topics and types of studies that have utilised Q is beyond the scope of this chapter. Readers are referred to *Operant Subjectivity*, the journal of the International Society for the Scientific Study of Subjectivity, for research using Q.

Q studies in South Africa

There have been very few published research papers of Q studies conducted in South Africa. Those sourced consist of four within the medical field and one in market research. Cramm, Van Exel, Møller and Finkenflügel (2010) conducted a Q study exploring compliance with tuberculosis treatment. Mckenzie, Braswell, Jelsma and Naidoo (2011), Mckenzie (2013) and Mckenzie and Swartz (2011) used Q to explore issues around disability. Fisher, Du Rand and Erasmus (2012) conducted a study in which the Q-set consisted of photographs of food to gain insight into how these were perceived by consumers. Additionally, a number of postgraduate students in psychology have conducted research using Q methodology. The majority of the located studies focused on explorations of identity: Susan Blyth (1989) investigated lesbian identity in Cape Town, as did Nomancotsho Pakade (2013), who focused on black women-loving-women living in Soweto. Steven Kaplan (1994) explored Jewish identity in Cape Town, and Saloshni Muthal (2010) considered Muslim identity in Johannesburg. Moving away from ascribed identities, Shivani Chetty (2015) explored organisational/industrial psychologists' perceptions of their professional identity.

In 2006, a law allowing same-sex marriage was passed in South Africa. Several years prior to this landmark decision, Fiona Brown (2003) explored law students' perspectives on same-sex marriage. A more sociopsychologically oriented study was conducted by Kyla Mills (2014), who investigated students' feelings about interracial mixing.

This list of theses is not comprehensive, as it is very difficult to trace South African theses given the lack of a central database. However, they give an idea of topics on which the method has been applied.

Using Q methodology to explore students' perceptions of academic misconduct

Academic misconduct, including cheating and plagiarism, has become a matter of considerable concern in many universities, which regularly provide definitions and proscriptions of these behaviours in their codes of conduct and disciplinary rules. Yet, recent surveys conducted in the United States and Canada found that close to 50% of students admit to having cheated (e.g. Gillis, 2015; Harvard Magazine, 2012). In an attempt to gain insights into academic misconduct in

South Africa, Finchilescu and Cooper (2018) conducted a Q study exploring student perceptions of this issue. This study is used to exemplify the process of doing a basic Q study.

Conducting a Q study

Conducting a Q study involves the following steps: development and validation of a concourse of statements; consolidation of the Q-set; selection of the P-set; collection of data through the Q-sort; and analysis and interpretation of the results.

The concourse: The development of a concourse (when not using a pre-existing Q-set) is generally the most important and onerous aspect of a Q study. The concourse encapsulates the 'common coinage of societies large and small, and is designed to cover everything from community gossip and public opinion to the esoteric discussion of scientists and philosophers' (Brown, 1998, p. 7). Items comprising the concourse can be *naturalistic* – that is, the statements emerging from oral or written communication with relevant stakeholders – or they can be constructed from academic theory and research, expert opinion or the media, or a combination of these. It is important that the concourse covers all the statements, opinions, beliefs and perspectives about the topic under investigation. A good way to organise the search, particularly when the study is guided by a theoretical framework, is to make use of the Fisher block design which involves identifying pertinent main 'effects' and different manifestations or 'levels' of these effects (cf. Brown, 1980).

The Q-set: The Q-set is a collection of representative, heterogeneous items taken from the concourse such that each makes a different but recognisable assertion about the topic of interest (Watts & Stenner, 2005). Q-sets can be built from the concourse in a *structured* or *unstructured manner*. An unstructured approach is best suited for instances where there is no existing theory relevant to the topic under investigation. This is the inductive route where the selection of items is based on a thematic analysis of all the concourse statements. The structured, deductive approach is best suited for those studies where there is existing theory and the researcher can systematically select statements in a structured manner based on relevant categories derived from a theoretical framework (Paige & Morin, 2016). Lastly, the Q-set should be sense checked. This can be done by getting experts, people who know the topic, to assess the statements for content and face validity. In addition, one could also pilot the statements amongst people who are similar to the participants in the study to understand how they feel about the statements and whether they feel that they do justice to the topic (Billard, 1999). With the increasing popularity of Q, Q-sets from completed studies are often shared and replicated, as was the case in this study.

The P-set: The P-set refers to the participants who perform the Q-sorting task. Q has been used for multiple-participant studies as well as for single-participant studies. Stephenson was enamoured of single-participant studies as a way of understanding an individual's subjectivity (Good, 2010). Such studies involve getting the single participant to complete a Q-sort under a number of different

instructions or conditions. However, multi-participant studies are far more common. In general, Q studies tend to use relatively few participants, many using between 25 and 60 participants. Researchers such as Brown (1980) advocate the systematic selection of participants using the Fisher block design. For instance, in our present example, a possible structure for P-set selection is shown in Table 9.2.

However, as was the case in this study, researchers often find themselves using volunteers to whom they have access – the ubiquitous convenience set.

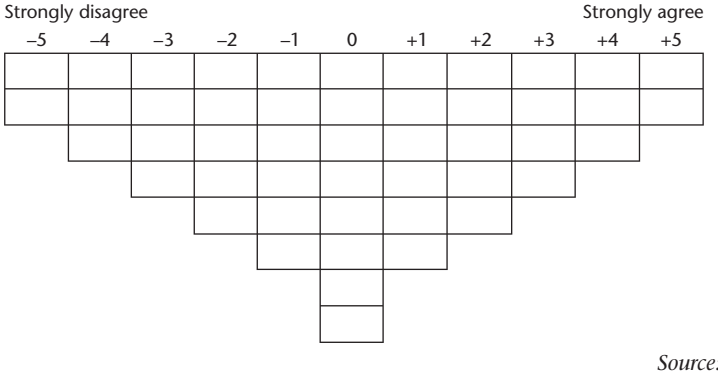
Table 9.2 Example of a Fisher block design applied to P-set selection

Main effect	Levels
Year of study	(a) First (b) Second (c) Third
Gender	(a) Male (b) Female
Academic standing	(a) Failing (b) Competent (c) Doing well

Source: Authors

The Q-sort: The Q-sort refers to the task in which participants are asked to rank the Q-set statements along a grid shaped like a normal curve. The columns of the grid specify the dimension along which the participant should rank the statements. In the academic misconduct study, Finchilescu and Cooper (2018) used 48 statements to be ranked in the grid in Figure 9.1 using the dimensions from 'Strongly disagree' (–5) to 'Strongly agree' (+5).

Figure 9.1 Example of a Q-sort grid design



Source: Authors

The number of columns and the number of rows per column are decided by the researcher. The only specification is that the number of cells must equal the number of statements to be ranked. The Q-sorting task can be accomplished through a face-to-face or online administration.

Face-to-face administration: The statements are typed on a rectangle of card or paper, with a number to identify the statement. The grid, with cells designed to fit the statement cards, is constructed on a board or large sheet of paper. In face-to-face administration, the participant is provided with the pack of statement cards (in random order) and asked to first divide the pack into three piles: those agreed

with, those not agreed with and a neutral pile containing statements about which the participant has no strong feelings. Once this is done, the participant is asked to take the 'agree' pile and select the two statements most agreed with. These are placed in the blocks under +5. The participant can then be instructed to do the same for the 'disagree' pile, placing these under –5. This is repeated for each of the other columns (+4, –4, +3, –3 and so forth). The statements in the neutral pile are placed in the 0 column and surrounding columns. After all statements are placed on the grid, the participant is asked to assess the full grid and is allowed to rearrange the statements until satisfied with the array. The statement number of the card in each cell is recorded for analysis. The participant is then probed as to why they selected the statements they placed at the two extremes of the grid.

Online administration: The instructions for completing the Q-sort are the same as with face-to-face administration, but the process is conducted using computers. A number of programs have been developed to allow researchers to set up Q-sorts that can be completed online. Some of these allow one to download the program for use on personal computers or in computer laboratories; others allow the research to be conducted on the web. Freeware examples of these are FlashQ,[1] WebQ[2] and Q-sort Touch.[3] Other programs require one to subscribe to the site for specified periods. An example of this is Q-Assessor.[4] New programs are continually being developed and older ones revised, so this list is not comprehensive. Researchers should note the conditions for their use and decide whether the design of the Q-sorting suits them.

There are pros and cons to doing both face-to-face and online Q-sorts. The face-to-face version is more resource intensive as the researcher is generally present during the sorting task. Participants generally spend more time doing such Q-sorts, but there is also more opportunity for eliciting in-depth information through the post-sort interview. In addition, the researcher is more certain that the participant did not randomly place the cards on the grid.

The online version is particularly useful with participants who do not have the time for individual interviews or are physically distant. Doing the online sort generally takes participants less time than the face-to-face version. However, the opportunity to probe for in-depth information is limited. The lack of direct control often means that the researcher can never be sure that participants did not randomly sort the statements, or whether they really engaged with the task.

Analysis of a Q study

A number of software programs are dedicated to the analysis of Q studies. The freeware PQMethod (Schmolck, 2014) is the most widely used. A recent advance has been the development of another freeware program on the R platform by Zabala and Held (2015). It is beyond the scope of this chapter to go into the details of how Q-sorts are analysed. These can be found in texts such as Brown (1980), McKeown and Thomas (2013) and Watts and Stenner (2012). However, an outline of the process of analysis and interpretation using PQMethod (version 2.35) is presented here, using the example of academic misconduct.

The collected Q-sort data were entered into PQMethod following the instructions outlined by Schmolck (2014). Analysis begins with a factor analysis of the participants (using their Q-sorts). There is considerable debate about which extraction method is best for the analysis, which is beyond the scope of this chapter. PQMethod provides both centroid analysis (QCENT procedure) and principal component analysis (QPCA procedure).

Step 1: How many initial factors to request?

Once the extraction method is decided, the next question is how many factors to specify initially. Watts and Stenner (2012) provide a useful guideline for this (Table 9.3).

Table 9.3 Starting points for factor extraction based on the number of Q-sorts

Number of Q-sorts in the study	Number of factors to extract as a starting point	Number of Q-sorts in the study	Number of factors to extract as a starting point
< 12	1 or 2	25–30	5
13–18	3	31–36	6
19–24	4	> 36	7

Source: Watts and Stenner (2012, p. 197)

In our academic misconduct example, the centroid method was selected and seven factors were requested as there were 51 participants. The important resulting table from this step is the 'Unrotated factor matrix' (though it is always worth looking at the 'Correlation matrix' to get a sense of which participants are correlated).

The unrotated factor matrix provides the loading of each participant on the seven factors followed by the eigenvalue of each factor and the amount of variance explained. These loadings are essentially correlation coefficients and indicate the degree to which the person exemplifies the factor. The loadings thus vary between –1.0 and +1.0, and squaring the loadings tells us the proportion of the variability in the individual's Q-sort explained by the factor. The eigenvalue of a factor is an indication of the amount of variability explained by the factor – it is the sum of the square of each loading in the factor.

Step 2: Deciding on how many factors to keep

This is a controversial issue. In R-factor analysis one generally uses the criteria of eigenvalues greater than 1.00 (the Kaiser-Guttman criterion) or the scree test. The scree test involves graphing the eigenvalues of the factors from largest to smallest, linking the eigenvalues with straight lines. The point at which the slope of the lines changes is taken as the ideal number. These criteria are also used by Q methodologists, though others, such as Brown (1980), argue that it is possible that meaningful factors may have eigenvalues lower than 1.0. An added criterion frequently used is that a factor should contain at least two participants

with significant loadings. Brown (1980) provides the following formula for calculating the significance (at $\alpha = .01$) of loadings:

$$\text{Equation 1: Significant loading} = (\text{Z score at the .01 level}) \times (\text{standard error of the study})$$
$$= \pm 2.58 * (1/\sqrt{(\text{no. of statements in the Q-set})})$$

In our example:

$$\text{Significant loading} = \pm 2.58 * (1/\sqrt{48}) = 2.58 * 0.1443 = \pm 0.3723$$
$$\text{rounded up to } \pm 0.38$$

A more stringent method of deciding whether a factor is significant is known as Humphrey's rule. This states that a factor is significant if the cross-product of the two highest loadings in the factor (ignoring negative signs) is greater than twice the standard error of the study. Table 9.4 gives the relevant information found in our academic misconduct study.

Table 9.4 The seven centroid factors extracted in the academic misconduct study

	Factors						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Eigenvalue	17.160	2.320	2.059	1.500	1.689	1.642	1.561
Percentage variance explained	34%	5%	4%	0%	3%	3%	3%
Number of significant Q-sorts	44	4	1	0	2	1	0
Two highest loadings (ignoring signs)	0.7890	0.4513	0.3492	0.1201	0.3812	0.3725	0.3378
	0.8226	0.4588	0.3800	0.1469	0.4886	0.3966	0.3404
Cross-product of highest loadings	0.6490	0.2070	0.1327	0.0176	0.1863	0.1477	0.1150

Source: Authors

In our example, we decided to opt for three factors, using the criteria that the eigenvalue should be greater than one and should have at least two significant loadings. Once a decision has been made, the program must be rerun, asking for only that number of factors, and with rotation.

Step 3: Rotation

The process of rotation involves realigning the participants to gain better clarity in their membership of the factors. There are two forms of rotation – oblique and orthogonal. Orthogonal rotations keep the axes at right angles (90°) to each other, trying to minimise the correlation of factors with each other. Oblique rotations,

on the other hand, allow the factors to be correlated (i.e. the axes to be at different angles to each other). In PQMethod, oblique rotations can be achieved using the QROTATE and PQROT procedures. For our purposes we used orthogonal rotation using the varimax procedure (QVARIMAX option in PQMethod).

Step 4: Flagging Q-sorts for the factor estimates and running the analysis

After completion of the rotation procedure, one has to decide which participants should be used as the best estimate of the factor (i.e. a particular viewpoint). This process is called flagging. This is done by considering the loadings in the rotated matrix and categorising the participants into those that load significantly on one of the factors, those that are confounded (load on more than one factor) and those that do not load on any. In the academic misconduct study, we used significance at $p \leq .01$, which we calculated as 0.38 using Equation 1. Alternatively, one can decide on a higher loading, such as 0.50. Extracts of the rotated factor matrix found in our example are presented in Table 9.5. Table 9.6 lists the participants who loaded on each factor. In this study the participants were given the identifying code of 1 to 51. In addition the eigenvalues and variance explained by our three factors are provided.

Table 9.5 Extracts from the rotated factor matrix of the academic misconduct study

	Factors		
Q-sort	**1**	**2**	**3**
1	0.7157X	0.1667	0.1428
2	0.3295	0.2134	0.4462X
3	0.3932X	0.4432X	0.1920
4	0.1504	0.1607	0.4294X
5	0.6290X	0.3194	0.2354
6	0.6036X	0.2085	0.4672X
11	0.1022	0.2615	0.1502
26	0.3560	0.4696X	0.3086
31	0.3187	0.5677X	0.1567
37	–0.1504	0.1834	0.2449

Source: Authors

Note: Loadings ≥ 0.38 are marked with an X.

When PQMethod's automatic flagging was allowed, many of the Q-sorts we considered confounded were included. We therefore decided to flag the sorts manually, marking those that loaded on only one factor. Thus, this solution accounts for 34 of the 51 Q-sorts in three factors. The total variance explained was 42%.

Once the flagging is complete, the final analysis step (QANALYZE) is activated. On the basis of the participants' Q-sorts flagged, a weighted average is constructed for each of the factors. This then leads to a prototypical Q-sort being

Table 9.6 Summary of the categorised Q-sorts

	Participants' identifying numbers	No.	Eigenvalue	Variance explained (%)
Factor 1	1, 3, 5, 9, 13, 15, 19, 22, 23, 24, 26, 27, 29, 32, 33, 36, 38, 49, 50, 51	20	11.7	23
Factor 2	2, 12, 16, 18, 20, 28, 45, 46, 47	9	6.1	12
Factor 3	7, 37, 40, 41, 48	5	3.6	7
	Total	34		42
Confounded	6, 8, 10, 14, 17, 21, 25, 30, 31, 34, 35, 39, 43, 44	14		
Insignificant	4, 11, 42	3		

Source: Authors

constructed for each factor which represents the common opinions of the individuals comprising that factor.

PQMethod output

PQMethod produces a large number of tables which are designed to aid interpretation. A brief explanation of some of these is presented below. All present the resulting factors' prototypical Q-sorts in a number of different ways. The titles of the tables are in inverted commas.

The table 'Factor scores with corresponding ranks' lists all the Q-set statements in order (1–48 in our example) and then presents the factor score of the statement on each factor, together with the ranking of the statement.

'Factor Q-sort values for each statement' provides the prototypical Q-sort rankings (see Table 9.7).

Table 9.7 Excerpt from the table giving prototypical Q-sort rankings of the factors

	Factors		
Statement	**1**	**2**	**3**
3. Cheating is more understandable if the lecturers are not bothered about it.	–1	–3	4
4. The University is correct in suspending students who plagiarise.	4	1	–4
21. Cheating is more understandable on a course that is irrelevant to a student's future plans and prospects.	–1	–3	–4
23. Weak students plagiarise more.	–1	1	–5
34. A student that does not understand the University's rules (for whatever reason) should not be punished if they break them by cheating.	1	–5	4
39. Most students plagiarise unintentionally.	2	5	5
41. Cheating is more understandable if family problems upset a student's studies.	0	–2	–5
48. It is wrong for a final-year student to be penalised for something that previous lecturers and tutors have never criticised or corrected.	2	3	5

Source: Authors

'Factor scores for factor 1', followed by the table for factor 2, etc., reorder the statements for each factor from the highest Z score (factor score) to the lowest.

'Descending array of differences between factor 1 and 2' compares the Z scores for factor 1 and factor 2 of each statement and provides the difference between these Z scores. This table is arranged so that the statement with the highest difference is first, followed by the other statements in descending order. This table is followed by others comparing factor 1 with factor 3, then factor 2 with factor 3.

A set of tables called 'Distinguishing statements for factor [X]' lists the highest-ranking statements for the factor as well as those that distinguish it from the other factors. The table 'Consensus statements' lists the statements which did not distinguish the factors.

Two tables provide parametric information about the factors. The correlations between the factors are presented in the table 'Correlation between factor scores'. This indicates the degree to which the factors are distinct from each other. In our example (Table 9.8), these correlations were high, which was to be expected given the large number of confounded Q-sorts.

Table 9.8 Correlation between factor scores

	Factor 1	Factor 2	Factor 3
Factor 1	1.00	0.57	0.37
Factor 2	0.57	1.00	0.29
Factor 3	0.37	0.29	1.00

Source: Authors

The table 'Factor characteristics' provides parametric information about the factors (see Table 9.9).

Table 9.9 Factor characteristics giving reliability information

	Factor 1	Factor 2	Factor 3
No. of defining Q-sorts	16	5	7
Average rel. coef.	0.800	0.800	0.800
Composite reliability	0.988	0.973	0.952
S.E. of factor Z scores	0.111	0.164	0.218

Source: Authors

Of interest is the composite reliability, which estimates the reliability of the factors. This is suitably high.

Step 5: Interpreting the factors

Q theorists warn against using the outputs in an atomistic fashion and argue that the interpretation should take a holistic view of the results. Watts and Stenner (2012) provide a schema ('crib sheet') which is very helpful in reaching an understanding of the results. To demonstrate the use of this crib sheet, we provide our analysis for factor 3 (Table 9.10). We initially looked only at the statements in the categories (a) to (d). On the second round we included the

Table 9.10 Crib sheet for factor 3

	DSL	Diff
(a) Statement ranked +5		
39. Most students plagiarise unintentionally. (+2 +5 **+5**)	X	
48. It is wrong for a final-year student to be penalised for something that previous lecturers and tutors have never criticised or corrected. (+2 +3 **+5**)	X	X
(b) Statements ranked higher in factor 3 than factors 1 and 2		
35. Students are confused about what constitutes plagiarism. (+1 0 **+4**)	X	X
34. A student that does not understand the University's rules (for whatever reason) should not be punished if they break them by cheating. (+1 –5 **+4**)	X	X
3. Cheating is more understandable if the lecturers are not bothered about it. (–1 –3 **+4**)	X	X
37. Cheating is not wrong if lecturers do not punish it. (–2 –4 **+3**)	X	X
40. Men cheat more than women. (–1 0 **+2**)	X	
24. Cheating is more understandable if a student is ill. (0 –3 **+1**)	X	
32. If a student has been too ill to keep up with their studies then it is not wrong to cheat on assessments. (0 –2 **+1**)		
11. Academic misconduct is irrelevant in the modern world. (–5 –1 **+1**)	X	
22. Cheating is more understandable if the student already has the skills and knowledge required by the course. (–4 –1 **0**)		
38. It is not wrong to cheat if other students do so. (–4 –4 **–1**)	X	
(c) Statements ranked lower in factor 3 than factors 1 and 2		
4. The University is correct in suspending students who plagiarise. (+4 +1 **–4**)	X	X
21. Cheating is more understandable on a course that is irrelevant to a student's future plans and prospects. (–1 –3 **–4**)		
28. Students don't cheat because penalties are so severe. (+2 +1 **–3**)	X	X
17. Students who have to work to support themselves should not be punished if they occasionally need to cut corners and cheat to keep up. (+1 –2 **–3**)		
45. Cheating is more understandable if the material that matters to the student is not being assessed. (–1 0 **–3**)		
13. Cheating is more understandable if courses are badly organised. (0 –1 **–2**)		
42. Students cheat to get the marks that their parents demand. (+2 +3 **0**)	X	
8. People with a strong religious faith will cheat less. (+1 +4 **0**)		
15. Parents are upset if they find that their son or daughter has cheated. (+3 +4 **+1**)	X	
30. The vast amount of information easily available on the internet means the University has to be particularly watchful for plagiarism. (+4 +4 **+1**)	X	X
47. Some people don't think cheating is wrong. (+3 +2 **+1**)	X	
2. Cheating is shameful. (+5 +5 **+2**)	X	X
43. Students are ashamed when they are caught cheating. (+3 +3 **+2**)		

continued →

	DSL	Diff
(d) Statements ranked –5		
23. Weak students plagiarise more. (–1 +1 **–5**)	X	X
41. Cheating is more understandable if family problems upset a student's studies. (0 –2 **–5**)	X	X
On distinguished list, but not in the above categories		
12. Plagiarism is a form of stealing. (+4 +0 **+3**)	X	
+4 and –4 if not on the list		
10. Cheating is more understandable if a student has important commitments outside of their studies. (–3 –4 **–4**)		

Source: Authors

Note: The figures in parentheses are the rankings of the statements for factors 1, 2 and 3, in that order.

statements that PQMethod lists as Distinguishing Statements (DSL) and ensured that all the statements ranked +4 and –4 were in the list. Finally, we inspected the Descending Array of Differences (Diff) and marked the statements whose Z scores were at least one standard deviation different from all the other factors.

The most pressing concern for this group is that plagiarism is considered misconduct. They argue that plagiarism is inadvertent ('Most students plagiarise unintentionally' [+5]) or due to misapprehension ('Students are confused about what constitutes plagiarism' [+4]). This is further supported by their strong disagreement (in contrast with the other factors) with the statement 'The University is correct in suspending students who plagiarise' (–4). The absolute disagreement with the statement 'Weak students plagiarise more' (–5) further suggests a rejection of misconduct intentionality in plagiarism.

This group also appears to view other forms of cheating as being based on misunderstandings of rules and appropriate behaviour ('A student that does not understand the University's rules (for whatever reason) should not be punished if they break them by cheating' [+4]), particularly if this is not corrected and pursued by the academic staff:

> Cheating is not wrong if lecturers do not punish it. (+3)
> It is wrong for a final-year student to be penalised for something that previous lecturers and tutors have never criticised or corrected. (+5)
> Cheating is more understandable if the lecturers are not bothered about it. (+4)

This group's rejection of intentionality in cheating can be surmised from their greater disagreement (relative to the other factors) with these statements that imply that students cheat deliberately:

> Students don't cheat because penalties are so severe. (–3)
> Cheating is more understandable if family problems upset a student's studies. (–5)

> Cheating is more understandable on a course that is irrelevant to a student's future plans and prospects. (–4)

And they are thus less sympathetic to peer or family pressures than they are to the other factors:

> Students who have to work to support themselves should not be punished if they occasionally need to cut corners and cheat to keep up. (–3)
> Cheating is more understandable if family problems upset a student's studies. (–5)

While this group does not view cheating with the same degree of immorality as they do the other factors, their ranking of the following statements indicates that they do not see cheating as completely excusable:

> Cheating is shameful. (+2)
> Students are ashamed when they are caught cheating. (+2)
> Plagiarism is a form of stealing. (+3)

In summary the individuals constituting this factor appear to hold the view that plagiarism is distinct from cheating and should not be penalised as it is unintentional and mainly caused by lack of understanding. Secondly, while clearly believing cheating is wrong, they appear to believe that a significant problem with academic misconduct is the lack of clarity about the university rules around cheating and the inconsistency in enforcing these. We encapsulated this group's opinion of cheating as 'confused transgressions'.

Ethical issues in Q

The standard codes of ethics pertaining to research and practice hold for research using Q. The topic of the research, the way in which the Q-sort is conducted and the vulnerability of the participant population highlight specific concerns for the researcher. Face-to-face administration, particularly when subsequent interviews are envisaged, prevents participant anonymity vis-à-vis the researcher. In this situation, the need for identifying information and primary data to be kept confidential is important, especially when reporting the study. In the study reported here, we felt that the participants would be franker about their perceptions of cheating if their identity was not known. Hence, computer administration of the Q-sort without names being requested seemed optimal.

When investigating sensitive topics, particularly with vulnerable populations, the duty to do no harm is paramount. The researcher needs to be empathetic to the state of the participant, and to construct the stimuli for the Q-sort carefully. For instance, in their study on young children's feelings about their parents' divorce, Thorsen and Størksen (2010) used pictures as the Q-set. Debriefing the participants at the end of a study is always desirable. Some researchers (e.g. Kitzinger, 1999) argue that debriefing is a mandatory part of Q studies. Participants should be shown the prototypical Q-sort of the group to which they belong and asked to give input into the interpretation.

Q is a person-oriented methodology aimed at investigating the subjectivity of the individual. Thus, ethical practices are essential to fulfil this objective.

Conclusion

In this chapter we attempted to locate Q methodology as an important methodology for psychological research. We also demonstrated the collection and analysis of Q data in a way that we hope will encourage researchers to attempt their own study. Q has proven to be a good method to study sensitive issues (Mckenzie & Swartz, 2011) and sensitive populations (Jones et al., 2003) and is thus conducive to programmes of research that are used as inputs into action-oriented processes (Lister & Gardner, 2006). Q is particularly well suited to ensuring that minority or quiet voices are heard (Pike, Wright, Wink & Fletcher, 2015). The Q-sort technique can be a more sensitive research tool than survey and interview methods, where there may be a conflict between personal beliefs and values and the participants' perceptions of what values and beliefs are politically correct (Bryant et al., 2006). The evaluative nature of the Q-sorting process and the rank ordering of the statements results in an active decision-making process as the participant constructs meaning through interaction with the research instrument (Mckenzie & Swartz, 2011). This requires high levels of task engagement and discrimination and it is difficult for participants to give socially desirable responses, as is often the case in traditional interviews or questionnaires (Papworth & Walker, 2008). In summary, Q is a powerful method that can be used to develop theory and to confirm or disprove theory. Its unique qualiquantological qualities make it ideal as a mixed research method.

In this chapter we outlined the basic construction and interpretation of a Q study and attempted to convey that Q methodology is not simply a statistical research technique. It has a particular philosophy that promotes the holistic analysis of operant subjectivities.

Acknowledgement

This study adapted the Q-set devised by Wink, Henderson, Coe and Read (2012), adding some items and changing some terms to make them appropriate for the South African university context. Our thanks to these authors for the generous sharing of their Q-set.

Notes

1 www.hackert.biz/flashq
2 schmolck.userweb.mwn.de/qmethod/webq
3 www.qsorttouch.com
4 q-assessor.com

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Section Two

Qualitative methods

10 Systematic case study research in clinical and counselling psychology

David J. A. Edwards

The central place of case study research in psychology

The systematic observation and study of individual cases is, claims Bromley (1986, p. ix), the 'bedrock of scientific investigation'. However, when we look at courses on research methodology in psychology, where case study research often does not feature, or is treated as very much a second-class citizen, we might be forgiven for thinking that Bromley was exaggerating. In this chapter I show that Bromley was right. Meaningful knowledge has to be built on, and relate to, observations of specific phenomena in the world. This means that the study of cases *is* the foundation. Historically, we see this in the work of Charles Darwin (1809–1882), who was fascinated by the observations of natural phenomena from everyday life made by 'naturalists, explorers, colonial administrators, missionaries and others with whom he corresponded all over the world' (Sheldrake, 2004, p. 4). The careful study of cases has long been the foundation of medical science and practice. In 1769, Giovanni Morgagni, for example, described over 700 clinical cases in which he could link clinical symptoms to autopsy findings (Eells, 2007).

Case study research can play an important role in all branches of social science (Baxter & Jack, 2008; Bromley, 1986; Hancock & Algozzine, 2011; Yin, 2014) and readers wanting guidance in applications not covered here are encouraged to consult these sources. However, most of the points examined in this chapter have broad relevance to any case study research. This chapter focuses on case-based evaluation of therapy,[1] and a case refers to the assessment and therapy process of an individual who has sought help for psychological problems. There is already a rich trove of these going back to the nineteenth century (Ellenberger, 1970). Andries Hoek, a Dutch medical doctor, describes the successful treatment in 1851 of a woman with multiple psychological traumas, using a hypnotic uncovering method. This case study provides evidence that sophisticated forms of psychotherapy were being practised before Sigmund Freud was born, in 1856 (or Pierre Janet in 1859). Van der Hart and Van der Velden (1987, p. 266), who examine the case, observe that 'Hoek was probably not aware of the theoretical and therapeutic importance of the uncovering approach he reported'. Freud's case studies

are famous for being beautifully written (Billig, 1999) and, although his conclusions on specific issues have been regularly disputed by critics, his accounts present enough clinical detail to allow for meaningful discussion from different theoretical perspectives. In the extended case study of 'Miss Beauchamp', in a 500-page book, Prince (1906) offered rich clinical detail of dissociative processes in personality and how these can be addressed in therapy. A personal account by another of Prince's patients of her successful treatment for 'dissociated personality' was published in two articles in the *Journal of Abnormal Psychology*, of which Prince was the founding editor (Anonymous, 1908a, 1908b).

It seems only natural to base clinical practice on a science built on the careful observation of cases. As Flyvbjerg (2006, p. 222) puts it, 'Context-dependent knowledge and experience are at the very heart of expert activity. Such knowledge and expertise also lie at the centre of the case study as a research and teaching method.' Yet half a century after Freud's and Prince's case studies, this kind of attention to cases had been dismissed as unscientific within the social sciences, with the exception of anthropology (Mitchell, 1983). One reason for this was concern about whether clinicians' case descriptions and the conclusions they drew from them could be regarded as trustworthy. Readers have to take the author's claims at face value and often have no way of checking whether the account of the case was accurate or the interpretations well grounded. As Spence (1986, p. 211) points out, the author may succumb to 'narrative smoothing' and simplify and distort what really happened in a way that is misleading but makes a good story.

What is scientific knowledge? A clash of epistemological paradigms

As shall be seen, there are ways of addressing these concerns about trustworthiness, but a more significant reason for the marginalisation of case studies was a conflict between paradigms with respect to the definition of scientific knowledge (Edwards, Dattilio & Bromley, 2004). Based on the successes of nineteenth-century physics, psychologists sought to establish their own science on similarly respectable foundations. This meant measuring and quantifying variables and finding mathematical relationships between them that would provide general laws. This approach to building knowledge is epistemologically different from that of what Glaser and Strauss (1967) would later call building grounded theory. Two prominent psychologists pointed this out in the 1930s. Lewin (1931) drew attention to the difference between Aristotle's approach to knowledge founded on a search for general laws, and that of Galileo whose focus was on specific concrete observations, from which all theory needed to be derived and needed to be able to account. Similarly, Allport (1937) made the classic distinction between idiographic research that examines the specifics of individual cases, and a nomothetic approach that looks for general laws or principles. More recently, Miller (2015) pointed to Toulmin's (2003) distinction between scientific rationality, which is based on the search for certainty with respect to general laws, and

human reasonableness, which can pragmatically address 'local problems that may never appear again in the same form' (Miller, 2015, p. 51).

Nomothetic researchers dominated the social sciences in the second half of the twentieth century. They believed that there could be only one kind of scientific knowledge, so they dismissed qualitative case studies out of hand as the knowledge they provided seemed incompatible with what they believed to be science. The strengths, even the centrality, of the case study for science, cannot be appreciated within the nomothetic perspective (Flyvbjerg, 2006). Yet, in clinical and counselling psychology, the findings of nomothetic research are of limited value in offering guidance on how to deal with the details of individual cases. Consequently, for decades, many practitioners ignored the research literature as irrelevant (Dattilio, Edwards & Fishman, 2010; Edwards, 1998). Unfortunately, nomothetic researchers also ignored the last stage of the research process – communicating findings to the people who can act on them. Traditional research reviews have little impact on practitioners even if they actually read them. But practitioners can relate to and draw from a case study (Stewart & Chambless, 2010). My own practice was significantly influenced by case studies I read, such as those of Bugental (1965, 1967) and Lazarus (1985).

Fortunately, with the resurgence of qualitative research in the last decades of the twentieth century, there has been a greater appreciation of the importance of the idiographic approach to knowledge development. Even in qualitative research though, the idiographic emphasis may be lost because, in looking for common themes across several participants (e.g. in typical applications of qualitative analysis), researchers easily lose touch with the complexities of the individual lives of those who took part (McLeod & Elliott, 2011). In case study research this can be avoided by making the individual case 'the unit of interest and the unit of analysis' (Eells, 2007, p. 35). Although case study researchers are also interested in commonalities and differences between cases, cross-case comparisons are always a second step in the research process, after the complexities of individual cases have been closely examined.

Proponents of mixed methods research argue that the epistemological conflict between idiographic and nomothetic paradigms can be resolved by recognising the complementarity of the two kinds of knowledge. Both approaches can be combined within a single study in which not only are qualitative and quantitative methods used together, but the kind of knowledge each generates is used alongside the other as a means of correcting the distortions or limitations inherent in a single approach (Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie & Turner, 2007).

A particularly promising application of this would be the conduct of case studies within therapy trials (Fishman, Messer, Edwards & Dattilio, 2017). In such studies, a randomised controlled trial (RCT) would evaluate the efficacy of one or more approaches to therapy, then detailed case studies of participants in the trial would be written, typically of at least two cases: one that responded well to treatment and one that responded poorly or was a treatment failure. For examples of this, after the RCT was published, see Burckell and McMain (2011),

Goldman, Watson and Greenberg (2011) and Watson, Goldman and Greenberg (2007, 2011). However, in a truly mixed methods study, it would not be enough to publish the findings of the RCT and of the case studies separately. The main publication would need to synthesise the insights gained from both kinds of analysis. This is done in several chapters of Fishman et al. (2017).

Conducting a systematic case study

The many forms of case study research include what are often called single-case experimental designs where the main focus is on quantified variables and their patterning across time (Barker, Pistrang & Elliott, 2015; McLeod, 2010). However, this chapter focuses on the systematic case study, also called the pragmatic case study (Fishman, 2013; McLeod, 2010; McLeod & Elliott, 2011), in which a qualitative case narrative is a central part of the report. This is a comprehensive approach that provides a rigorous way of investigating therapy interventions and, as shall be seen, safeguards can be built in that enhance the trustworthiness of any conclusions drawn. There are five basic steps: assessment; case formulation; intervention planning; contracting; and implementation and evaluation of impact.

Assessment phase

In the first step, the assessment, the practitioner gathers information to gain a thorough understanding of the case and to determine whether a psychological intervention is appropriate. Although some therapy approaches do not use a formal assessment, there are dangers to this. For example, a client with what may seem like stress headaches may actually need a brain scan, not counselling. Or consider the case of Sally (Miller, 2015) who, though previously a good student, was having difficulty concentrating on her work. The counsellor guided her to work behaviourally to increase her self-discipline, but this had no impact. Only in passing, at the end of session three, did Sally mention her father's recent death. In session four, in response to further questioning, Sally revealed that he had committed suicide and she was the one who had found him dead. He had been depressed since her mother's death several months before as a result of lifelong alcoholism. In this case, what looked like an academic problem was in fact a case of unresolved traumatic grief.

Edwards and Young (2013) present a systematic approach to assessment that would protect clinicians from launching into an intervention prematurely, as happened in Sally's case. Such an assessment is itself a research process and provides a sound basis for a systematic case study. The clinician should choose some self-report rating scales that can be completed by the client on a regular basis as a way of tracking progress (Young & Edwards, 2013). There are two broad types of scale, symptom and process (McLeod, 2010). Symptom scales measure specific problematic symptoms associated with the client's distress, such as depression or anxiety, or, more specifically, anxiety associated with traumatic flashbacks or worrying, or social avoidance.

Process measures tap aspects of the way clients relate to the therapist and the therapy approach. The therapeutic alliance is a particularly salient process factor as it has a big impact on the progress of therapy (Norcross, 2011). The alliance refers to a combination of three factors: the extent to which therapist and client agree on the goals of therapy; the extent to which they agree on the tasks of therapy, which might lead to reaching the goals; and the overall quality of the bond between them. Many measures of the alliance are available (Horvath, Del Re, Fluckiger & Symonds, 2011), including the Working Alliance Inventory (WAI) and the Agnew Relationship Measure (Stiles et al., 2002; see Hill et al., 2011, for a case study in which the WAI was used). Alliance ruptures impact negatively on the course of therapy and by tracking and identifying them, clinicians can safeguard the process of the therapy (Safran, Muran & Ewbanks-Carter, 2011). Indeed, the processes involved in an alliance rupture and its subsequent repair may be of particular interest in a case study (Rabu, Halvorsen & Haavind, 2011). Other measures of process could include such factors as the client's motivation and readiness to change (Prochaska & Norcross, 2001) and the credibility to the client of the therapy approach.

The use of such scales incorporates quantification into the case study and the use of standardised scales allows for comparison with other cases. In this respect, the systematic case study is a mixed methods approach. However, from an idiographic perspective, scales used in case studies do not need to be standardised. Researchers can devise their own scales that measure the particular features of the case they are interested in (Bilsbury & Richman, 2002; Elliott et al., 2015; Hill, Chui & Baumann, 2013).

Case formulation, treatment planning and contracting phases

The assessment provides the basis for the second step, the development of a case formulation, a basic step in most approaches to psychotherapy (Eells, 2006). This embodies a set of clinical hypotheses about the factors that led to the development of the client's difficulties and their perpetuation in the present. In Sally's case, for example, the clinical hypothesis would be that her concentration difficulties were caused by her attention being distracted by thoughts and emotions related to her unresolved traumatic grief.

This is the basis for the third step – making an intervention plan. Interventions are selected that are likely to address the client's difficulties and bring about change, if the clinical hypotheses in the case formulation are accurate. The choice of interventions is based on evidence from the literature about how interventions work and what is indicated for what kind of problem. For Sally's case, the disruptive effects of traumatic grief on everyday functioning, and the value of guiding clients to face the painful feelings evoked and deal with the mourning process, are well documented (Ehlers, 2006; Prigerson et al., 1997). With a well-founded formulation and treatment plan, the individual case offers an opportunity to examine the clinical theory and practice that has been developed for that particular kind of problem. For a case study in which traumatic grief was part of the problem, see Karpelowsky and Edwards (2005).

The fourth step is to make a contract with the client about the implementation of the intervention. This may be a fairly informal process in which the therapist explains what has been learnt from the assessment, how s/he understands the client's problems and their causes (the formulation), and how the planned intervention might be expected to be helpful. There are four reasons why this step is important. First, as a consumer of services, the client has the right to know what the therapist is offering and on what basis it is offered. Second, it provides a foundation for the therapeutic alliance which is based on a shared understanding of the goals of therapy and the means by which those goals will be worked towards (Horvath et al., 2011). Third, clients are likely to be more motivated to engage with the therapy process when they understand the rationale for it. Fourth, for a research project, it is important that research participants give informed consent to whatever procedures and processes they are asked to engage in (McCleod, 2010).

Intervention phase

In the intervention phase, the plan is implemented and the processes that take place are tracked. Therapy interventions are always unique because therapists behave responsively to their clients (Edwards, 2010; Van der Linde & Edwards, 2013). How the client responds to suggestions or information or empathic or interpretive remarks will in turn affect the therapist's behaviour (Kramer & Stiles, 2015). So as the therapy unfolds, whether over a few sessions or many, it will be a process with its own distinctive features. The best way to capture the detail is for the sessions to be recorded, at least on audio. In much psychotherapy research, video recordings are routinely used as these capture additional dimensions of the data (e.g. Hill et al., 2011). Having access to recordings enhances the trustworthiness of the research process, especially when transcripts are included in the case narrative. Carl Rogers (1942) was a pioneer here: in his account of the case of Herbert Bryan, he broke new ground by including transcripts that illustrated the principles of client-centred therapy (Edwards, 1998).

It is also important to ensure that the therapy approach remains faithful to the case formulation. This can be done by the clinician reflecting on each session and having supervision with someone who understands the treatment model. Of course, new information can come to light that may change the case formulation and therefore the therapist's approach, and this is itself an element of the responsiveness that is part of psychotherapy.

During this phase, some or all of the self-report scales used in the assessment phase should be given to the client on a regular basis. Such scales are useful clinically, in that they alert clinicians to whether progress is being made and allow them to address problems that are flagged when the scales show that the client is not getting better or is not engaged in the therapy process or does not have an alliance with the therapist. When clinicians respond to such information, it enhances the effectiveness of the therapy (Lambert & Shimokawa, 2011). For research purposes, such scales provide additional data about the client's experience and contribute towards evaluating whether the client received meaningful help.

Data collection

The data collected during these phases include session recordings, notes made by the clinician during or after each session, information provided by the client (who may, for example, be asked to write down a brief life history, record thoughts and feelings in challenging situations between sessions, or keep a journal), and responses to the self-report scales. In some cases, during the assessment collateral information might be collected from family members. For the case study, all this is research data, the raw material from which the case study will be constructed. It is also recommended that *research interviews* are conducted with the client about his/her experience of the therapy and about the positive and negative aspects of the experience after therapy is completed, and even after every few sessions. This can be done by an independent interviewer using a structured interview such as the Client Change Interview Protocol (Elliott, n.d. a) or Helpful Aspects of Therapy Form (Elliott, n.d. b).

Data condensation

Data condensation methods are used to reduce a large body of data to manageable proportions (Miles, Huberman & Saldaña, 2014). One form of data condensation is the scoring of the self-report scales and displaying the scores at different times on a graph. Two important qualitative data condensations are an *organised summary of the assessment data* and the *case formulation and treatment plan*. Although these are clinical steps, they are also research steps and remind us that much of what working clinicians do involves skills that are the same as qualitative research skills. The case formulation and treatment plan are more than data condensations, though. They are interpretive steps wherein clinical theory is applied to the assessment data to derive an approach to treatment. However, a sound case formulation is never speculative but must be thoroughly grounded in the information available, both the explicit information about the client, and the implicit information gained from observing the client's responses and psychological states as the assessment proceeds.

The most challenging data condensation is the *case narrative*, which is an account of the therapy process based on the session recordings. To prepare for this, some or all of the recordings are transcribed (McLeod, 2010, discusses just how much is needed). The material must then be shortened to fit in with the requirements of the medium in which it is to be presented: thesis, book chapter or journal article. The narrative will be *selective* in that the researcher will select sessions or sections of sessions that are salient and omit those that are of little or no relevance. What is relevant, however, is determined by the second feature of the narrative – that it is *thematic*. Writing a case narrative is always an interpretive step which, as in much qualitative research, draws on central themes that emerge from the interpretive questions that the researcher wants to answer and from further reflection on the case material. These themes and questions become lenses through which researchers look back on the case material and draw out answers to the questions that concern them. In constructing the narrative, we need to describe the processes of relevance to our questions because this is what provides evidence for the conclusions we will later draw.

An important characteristic of the case narrative is that it is a particular way of communicating to readers aspects that cannot be conveyed in other forms of research writing. A well-written narrative can take readers into the therapy room and engages them existentially and emotionally with what took place there. It should therefore be written in 'a way that allows the reader to enter into the lived experience of the therapy' (McLeod, 2010, p. 103). This means writing 'thick descriptions that include the detail, complexity, context, subjectivity, and multifaceted nature' (Fishman, 2013, p. 406) of the experiences being presented; that can engage readers in a manner that is 'compelling'; and that 'discloses, transforms and inspires' (Finlay, 2011, p. 26). For examples, see Edwards (2013), Padmanabhanunni and Edwards (2015), Payne and Edwards (2009) and Van der Linde and Edwards (2013).

Ethical aspects of clinical case study research

Because clinical case study research involves publication (e.g. in a thesis or journal article) of material that discloses sensitive information about an individual's life and experience, particular ethical concerns arise. First, researchers must attend to participants' *privacy*. Clients' attitudes to privacy can range from not being willing for any of the material to be used under any circumstances, to feeling something like 'if my experience can help others, then I am happy for it to be put out there'. To address privacy concerns, identifying information can be reduced by using pseudonyms for all people mentioned in the narrative; giving broad rather than specific information about such things as the client's home town or profession or the profession of family members; giving inaccurate information that does not impact on the psychological aspects of the study (e.g. we might write, 'Melissa's family lived in another province, and her father, an engineer, travelled frequently on projects', where Melissa is a pseudonym, her family lived in another city in the same province and her father was an architect).

Second, participants need to feel that their experience has been fairly represented. This is easy where there is a good working alliance, and therapist and client have worked collaboratively and share an understanding of the problems being addressed, the goals of therapy, and how the therapy is contributing towards reaching those goals. Where therapist and client are at odds and do not have a shared understanding of these factors, the participant may well feel aggrieved by the way the case is presented. To address these concerns, participants can be thought of as co-investigators engaged in a 'co-operative inquiry' (Reason, 2003) and invited to read and comment on the case study. A carefully worded informed consent procedure can be designed to address these issues and could include requesting consent at different points in the research process, and even having a third party obtain the consent to protect the participant from feeling pressured by a need to please the therapist. For a thorough discussion, see McLeod (2010) and Miller (2004).

Third are concerns arising from the dual role when, as typically happens, the author of the case study is also the therapist. Given the huge contribution to

science of case studies written by practitioners (reviewed earlier), it is important not to see this as a reason for practitioners not to write case studies. The dual role has advantages: the therapist has engaged deeply with the participant's experience and will do so further in writing the case study. Such deep engagement is central to good phenomenological research, and the therapist's deepened understanding may benefit the client. However, there is the concern that in writing the narrative, therapists will select and distort information in ways that fit in with their theoretical or ideological perspectives. This is an aspect of the concern about the trustworthiness of arguments and conclusions; ways to address this are examined more broadly in the next section.

Drawing conclusions and enhancing trustworthiness

Qualitative researchers are always concerned about 'standards of quality and verification' (Creswell, 1998, p. 193). Lincoln and Guba (1985) use the term 'trustworthiness' of findings, which they break down into credibility, transferability, dependability and confirmability. Credibility refers to claims about causality. For example, if the author claims that the therapy helped the client, the credibility of this would depend on the quality of the evidence presented in the case study as well as the consideration of competing explanations. Transferability refers to how useful the findings might be in a different context. For example, would findings from how therapy does or does not work in an inner-city clinic in America be of interest or relevance to a clinic in a South African township? It also refers to the extent to which findings can inform meaningful action. For example, might the behaviour of therapists who read the case study be altered in a helpful direction? Dependability means that 'the process through which findings are derived should be explicit and repeatable as much as possible' (Morrow, 2005, p. 252), which means an audit trail should be available that adequately describes the process. Confirmability refers to whether independent readers of the study would come to the same conclusions on the basis of the evidence presented.

Trustworthiness is about how well founded and socially meaningful the conclusions are. An oft-repeated criticism of case study research is that we cannot generalise from any one case. This displays an ignorance of how knowledge is built in qualitative research based on a grounded theory/hermeneutic approach. Generalisation takes place by reading the details of the case in light of existing knowledge and theory. We interpret one case and learn from it based on what happened with other cases or what the literature says, based on experience with similar cases or related phenomena. So we can often draw conclusions or at least advance strong hypotheses from single case studies. But these need to be argued for from the data. In quantitative multivariate research, there is a formal testing of hypotheses using statistical methods. In qualitative research, by contrast, conclusions are drawn through 'analytic generalization' (Yin, 2014, p. 40) or 'abduction' (Haig, 2008, p. 1021), which means using the evidence of the data

and a chain of argument. This is the kind of reasoning clinicians use (Vertue & Haig, 2008).

There are many ways to enhance the trustworthiness of qualitative research in general (Kvale & Brinkman, 2009; Morrow, 2005; Shenton, 2004) and of case studies in particular (McCleod, 2010; McCleod & Elliott, 2011). Strategies for strengthening conclusions that include testing and ruling out alternative explanations are extensively described in the qualitative research literature (Miles et al., 2014; Taylor & Bogdan, 2016) and are elaborated by Bromley (1986) and Yin (2014) in relation to case study research. Elliott's (2002) hermeneutic, single-case efficacy design is a structured approach to establishing trustworthiness in relation to the question of whether the therapy helped the client. Elliott summarises the kinds of evidence to document and shows how two sets of arguments can be written out, for the claim and against it. Independent judges are then asked to review these and comment and adjudicate (Elliott et al., 2009; MacLeod, Elliott & Rogers, 2012; Stephen, Elliott & Macleod, 2011).

Not all cases are worth turning into case studies. We usually only write up those from which some worthwhile conclusions can be drawn. But with their rich contextual information, cases lend themselves to many different kinds of conclusion, which may not just be about the effectiveness of the therapy method. Case studies of treatment failures, for example, allow us to look at when a therapy approach is not appropriate or needs to be modified (Fishman et al., 2017; see Rizvi, 2011, for an example). In a series of case studies, Edwards and his students examined the effectiveness in South Africa of a cognitive therapy treatment model for posttraumatic stress disorder (PTSD). Some of these were treatment failures (Padmanabhanunni & Edwards, 2012, 2013b, 2016), but the case data provided a basis for important reflections and conclusions about treating clients who have limited resources. Others provided evidence for treatment effectiveness (e.g. Boulind & Edwards, 2008; Padmanabhanunni & Edwards, 2013a, 2014, 2015), but each case brought into focus the challenges of the particular contexts and traumatic events facing each client.

Although most of these case studies were planned, case studies can be written retrospectively from therapies that are complete, provided there are sufficient data (McLeod, 2010). Raby and Edwards (2011), for example, retrospectively wrote up the case of Paul, a boy who was successfully treated (by Raby) in a few sessions following years of unsuccessful treatment by a range of health professionals. There was an extensive documentation of the history of Paul's presenting problems and of the previous failed treatments, as well as of the treatment process, even though no recordings were made. One aim of the study was to understand why the correct treatment had not been offered previously, and another was to look at the implications for children's rights within a public healthcare setting of the way Paul and his family had been dealt with by some of the health professionals involved.

Whatever the conclusions the author of a case study wants to argue for, they will be strengthened by many aspects of the systematic case study method presented above: the use of recordings; the process of case formulation based on a thorough assessment and a well-grounded clinical theory and incorporating

explicit clinical hypotheses; the use of repeated self-report measures; and the use of research interviews. For the case narrative, an independent judge can be employed to read the transcripts and the narrative and comment on whether there are omissions or distortions that mean that the narrative is not a fair presentation of what happened.

Concluding remarks and suggestions

Although case study research can be technically complex and challenging, it is very worthwhile to document and examine closely the processes that occur within therapy cases. Readers who want to write case studies are encouraged to read some of the case studies cited above. Many South African case studies are included and there are others to draw on (Drake & Edwards, 2012; Edwards, 2013; Edwards & Bailey, 1991; Edwards, Henwood & Kannan, 2003; Edwards & Kannan, 2006; Leibowitz-Levy, 2005; Mashalaba & Edwards, 2005; McDermott, 2005; Whitefield-Alexander & Edwards, 2009). Padmanabhanunni's (2010) PhD thesis, based on seven South African case studies of the treatment of PTSD, is available online, and many of the present author's case studies can be accessed from his ResearchGate page.[2]

Internationally, the journal *Clinical Case Studies* publishes case studies that follow a structure similar to that recommended in this chapter. There are set headings that include the research basis for treatment, the presenting problems and case history, diagnostic assessment, case conceptualisation, course of treatment and complicating factors, treatment implications and recommendations to other clinicians. The journal *Pragmatic Case Studies in Psychotherapy* is free online.[3] Most issues of the journal include case studies with commentary by experts that addresses methodological as well as clinical concerns. Some issues are entirely devoted to case study research methodology. A special issue of the journal *Counselling and Psychotherapy Research*, introduced by McLeod and Elliott (2011), includes several case study articles. A free online source of psychological case studies has just been launched by the University of Essex in the United Kingdom,[4] and it is likely that the number of studies available will expand considerably over the next few years.

Finally, it is recommended that case studies in the literature are read with a critical eye, bearing in mind the discussion about trustworthiness and the process of establishing a well-founded argument. Not all published case studies do well when measured against these criteria.

Notes

1 For convenience, the term 'therapy' will be used to refer to any counselling or psychotherapy interventions.

2 https://www.researchgate.net/profile/David_Edwards16/publications

3 http://pcsp.libraries.rutgers.edu/index.php/pcsp

4 http://singlecasearchive.com/about

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11 Doing psychobiography: The case of Christiaan Barnard

Roelf van Niekerk, Tracey Prenter and Paul Fouché

Introduction

This chapter has two aims. Firstly, it provides an overview of psychobiographical research: that is, the study of extraordinary individuals using psychological theory to interpret their lives, characteristics and contributions. Secondly, it provides an illustrative case study focusing on the career development of Christiaan Neethling Barnard, the South African cardiac surgeon who performed the first human heart transplant in 1967 (Van Niekerk, 2007; Van Niekerk, Vos & Fouché, 2015).

Psychobiographical research: Description and definition

Psychobiographical research integrates 'the science of psychology and the art of biography' (Howe, 1997, p. 237). Biographers employ psychological constructs to interpret facets of their subjects' lives (Howe, 1997), whereas psychologists often make use of biographical material to study aspects of the human condition. The difference between these two complementary disciplines relates to the explicit and formal application of psychological theories in the interpretation of biographical data (Fouché & Van Niekerk, 2010).

Psychobiographies are qualitative, longitudinal case studies of aspects of an individual's life course (McAdams, 1988) that share several features. These include:

- the use of qualitative data (Van Niekerk, 2007);
- the utilisation of indirect methods to analyse biographical characteristics of their subjects (Simonton, 1999);
- the use of biographical data collated by others and accessible within the public domain (Van Niekerk, 2007);
- a comprehensive review of a psychobiographical subject (Van Niekerk, 2007);
- a lack of contact between psychobiographers and their subjects (Simonton, 1999);
- subjects that are always named and chosen on the basis of the historical and psychological significance of their contributions (Simonton, 1999; Van Niekerk, 2007); and

- data collection that is not primarily motivated by the solution of predetermined research problems (Van Niekerk, 2007).

Brief history

Although psychobiographical research has attracted considerable interest during the last four decades, it was a neglected research genre for much of the previous century (Fouché & Van Niekerk, 2010; Roberts, 2002). The publication of Freud's contentious *Leonardo da Vinci and a Memory of His Childhood* (1910) is frequently cited as the formal beginning of psychobiography (Runyan, 2005). Several prominent personality theorists (e.g. Henry Murray and Gordon Allport) contributed indirectly to the development of psychobiography via their pioneering work in personology from 1930 to 1950. However, Erik Erikson (1958, 1969) revitalised this approach with his comprehensive analyses of Martin Luther and Mahatma Gandhi, respectively.

The 1980s brought a renewed interest in psychobiography, mainly as a result of important publications by William Runyan (1982, 1983, 1984, 1988) that offered guidelines on improving the methodological rigour of psychobiographies. Furthermore, psychobiography's profile was raised during 1988, when the *Journal of Personality* devoted a special issue to psychobiography and life narratives. In the years to follow, contributions by Dan McAdams (1988, 2009), Irving Alexander (1990), Alan Elms (1994), Dean Simonton (1994), William Todd Schultz (2005a) and Joseph Ponterotto (2014) established psychobiography as a research genre.

Olivier Burgers (1939, 1960) made the first contributions to psychobiographical research in South Africa with his analyses of Cornelis Langenhoven and Louis Leipoldt, respectively. Only three other psychobiographies of prominent South Africans were written between 1960 and 1999. They focused on the lives of Ingrid Jonker (Van der Merwe, 1978), Gerard Sekoto (Manganyi, 1996) and Jan Smuts (Fouché, 1999). Nonetheless, the current status of psychobiography as an established research genre in South Africa is reflected in the growing number of completed academic psychobiographies since 1999 (see the Appendix). Furthermore, the *Journal of Psychology in Africa* recently devoted a special edition to psychobiographical research under the guest editorship of Fouché (2015), while the *Indo-Pacific Journal of Phenomenology* released a special edition on psychobiology and phenomenology in August 2018.

In conclusion, psychobiographical research has gained momentum over the last 25 to 30 years (Fouché, 2015; Fouché & Van Niekerk, 2010; Ponterotto, 2014). Psychobiography has become a popular method for conducting psychological analyses of extraordinary individuals. In fact, psychobiography is currently the largest subfield of psychohistory (Fouché, 2015) and represents a prominent specialisation area of psychology (Ponterotto, 2014). Global trends suggest that the field of psychology is expanding its scope and that psychobiography has broader practical applications. For example, the United States' Central Intelligence Agency employs psychobiographers to produce data used in developing foreign policy and making military decisions (Clark, 2007).

Psychobiographical methodology

This section outlines the methodological framework for psychobiographical research by reviewing the typical components of a method section. Each component includes illustrative case material focusing on Barnard's career development.

Aims

Psychobiographical research strives to produce insightful interpretations of life history data through the systematic application of psychological theory. The research aims generally include the formulation of a detailed life history; interpretation of life history data in terms of specific theoretical frameworks; and an informal evaluation of the appropriateness and applicability of the theoretical framework.

The psychobiography of Barnard (Van Niekerk, 2007; Van Niekerk et al., 2015) had four aims closely aligned to those described above: accurately and coherently formulate Barnard's life history; interpret Barnard's career development according to the theoretical model of Greenhaus, Callanan and Godschalk (2010); evaluate the applicability of this model to Barnard's career development; and contribute to psychobiographical research focusing on the lives of extraordinary South Africans. The authors decided to interpret Barnard's life history according to the stage-based career development model of Greenhaus et al. (2010), for several reasons. The model follows a comprehensive, eclectic, multidimensional approach to career development and is based on the contributions of distinguished scholars such as Erik Erikson (1963), Roger Gould (1972), Daniel Levinson (1996; Levinson, Darrow, Klein, Levinson & McKee, 1978), Abraham Maslow (1970), Edgar Schein (1978) and Donald Super (1980).

Research design

Psychobiographical research is situated within the broader qualitative paradigm. More specifically, it can be described as longitudinal life history research with an idiographic/morphogenic single-case design (Denzin & Lincoln, 2005; Flick, 2006; Ponterotto, 2014; Runyan, 1984). The idiographic/morphogenic aspect refers to the investigation of single cases within real-life settings, a focus on the uniqueness and complexity of individuals, and an appreciation of uniqueness within the context of the whole person (Howe, 1997; Prenter, 2015).

Barnard's psychobiography employed the design described above as it facilitated the interpretation of Barnard's career development according to an existing theoretical model and within its social context.

Psychobiographical subject and sampling

Psychobiographers typically employ purposive sampling to select subjects. This allows researchers to use their own judgement to select participants who best meet the purposes of their studies (Swartz, De la Rey, Duncan & Townsend, 2008). Psychobiographers are drawn to study the lives of remarkable individuals whose life histories appear to have significance and applicability regarding particular theoretical frameworks.

Barnard was purposively sampled as the psychobiographical subject on the basis of four considerations: he received international recognition for his pioneering medical contributions; his career was characterised by achievements, controversy and a multitude of problems; his career is portrayed in many documentary sources; and a psychobiography on his career had not yet been published. Although Barnard is mainly remembered for organ transplantation, he also gained an international reputation for contributions relating to heart valves; pacemakers; the treatment of rare heart defects, tuberculous meningitis and intestinal atresia; and scientific publications (Hawthorne, 1968; Logan, 2003; Louw, 1992).

Data collection, processing and analysis

The data collected by psychobiographers is typically available in the public domain (Simonton, 2003) and fits into two categories – primary and secondary sources. Primary sources include documents and media produced by the subject, such as autobiographies, interview transcripts and creative work. Secondary sources include documents and media produced by others, such as biographies, newspaper and magazine articles and internet sources. Although the objectivity of published materials is often questioned, several established benefits support their use. These include accessibility, convenience, stability and ease of verifiability (Yin, 2009).

Barnard's psychobiography included several primary sources (e.g. Barnard, 1992; Barnard & Brewer, 1993; Barnard & Pepper, 1969), as well as secondary sources (e.g. Barnard, 2003; Barnard, 1971; Blaiberg, 1968; Cooper, 1992b; Hawthorne, 1968; Logan, 2003). The authors improved the trustworthiness of the findings by employing multiple data sources, which allow for data triangulation, permit confirmatory cross-referencing and facilitate a comprehensive understanding of life history data (Yin, 2009).

Psychobiographers typically have access to a large volume of life history data of varying quality and thus require strategies for reducing material and rendering it manageable. Similarly, Barnard's life had been recorded in much detail by himself (Barnard, 1992; Barnard & Brewer; 1993; Barnard & Pepper, 1969), biographers (e.g. Cooper, 1992b; Hawthorne, 1968; Logan, 2003), family members (e.g. Barnard, 2003; Barnard, 1971), colleagues (Cooper, 1992b) and patients (e.g. Blaiberg, 1968). During the data processing stage, psychobiographers have to differentiate between salient data and irrelevant data that can safely be disregarded (Schultz, 2005b). At this point, they often employ strategies proposed by Alexander (1988, 1990) to guide the extraction and prioritisation of data. Alexander's first strategy, *letting the data reveal itself*, requires sifting and selecting data for further analysis. The second strategy, *questioning the data*, requires the use of a theoretical framework to guide the extraction and categorisation of data into thematic areas. In Barnard's study, the data collection and analysis procedure was guided by Alexander's (1988, 1990) strategies. Three questions were posed: How do Greenhaus et al. (2010) conceptualise and operationalise career development? What primary and secondary data sources will enable researchers to describe Barnard's career development? How does Barnard's career development compare with the theoretical conceptualisation proposed by Greenhaus et al.?

Huberman and Miles (2002) propose the use of a conceptual matrix to systematically categorise and display data. Matrices help researchers to focus on appropriate data; make careful comparisons; highlight gaps, discrepancies and themes in the existing data; and also facilitate the drawing and verifying of conclusions. The processing and analysis of Barnard's biographical data was guided by a matrix comprised of the stages proposed by Greenhaus et al. (2010) on the *x*-axis and Barnard's career development data on the *y*-axis (Table 11.1).

Table 11.1 Data processing and analysis matrix

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**
Stages	Occupational and organisational choice	Early career: Establishment and achievement	Middle career	Late career
Age (Years)	0–25	25–40	40–55	55+
Developmental tasks	Consider alternative occupations Make tentative occupational choice Complete required training programmes Obtain job offers Enter the organisational context	Develop expertise Utilise career strategies Acquire organisational values Gain acceptance as a colleague Demonstrate competence Decide what type of contribution to make Explore opportunities Implement strategies to achieve career objectives	Confront the midlife transition Maintain productivity Upgrade skills Act as mentors for younger colleagues Consider changes in individual and environmental factors	Accept leadership responsibilities Adapt to change Remain committed Adapt to increased age
Bio- and autobiographical data*				

Source: Authors

Note: * This row is reserved for the life history data related to each of the four stages.

Ethical considerations

Psychobiographers are bound by the ethical rules, standards and guidelines that apply to other research genres. Although there are no specific guidelines for psychobiographical research, a number of ethical issues require consideration when conducting a psychobiography (Elms, 1994). This is critical, because unlike other forms of psychological research, the subjects of psychobiographies, as well as

their relatives, friends and colleagues, are named in the studies. The ethical risks associated with psychobiographical research include privacy threats, embarrassment, reputation damage, as well as issues regarding consent (APA, 1976; Fouché, 1999; Prenter, 2015).

Four steps were implemented to safeguard ethical standards in the Barnard study. Firstly, the researchers approached Barnard to obtain consent for the study (Barnard provided written consent for the study just before he travelled to Cyprus, where he subsequently died as a result of an asthma attack). Secondly, only published data related to Barnard's career development, available in the public domain, were collected and analysed. The authors also took special care to treat the data with respect, empathy and prudence. Lastly, the data were interpreted in a transparent manner.

Psychobiographical findings and discussion

This section focuses on Barnard's career development and is structured chronologically according to the stages proposed by Greenhaus et al. (2010), namely occupational and organisational choice, and early, middle and late career.

Occupational and organisational choice (1922–1952)

Barnard was the third of five siblings and grew up during an era characterised by racial segregation. The political climate impacted the family because Barnard's father was a religious leader and his mother served as the organist for a so-called coloured congregation. A school friend, Stella Oosthuizen, commented: 'He had a chip on his shoulder, an inferiority complex because his family were poor and his father worked with coloured people' (cited in Logan, 2003, p. 32). However, the data (Barnard & Pepper, 1969; Logan, 2003) suggest that Barnard was a well-adjusted and competitive learner.

Barnard's decision to study medicine at the University of Cape Town in 1941 was preceded by limited career exploration and motivated by several factors, including a desire for status and money, the early death of two siblings – one as a result of a heart condition – and the availability of a government scholarship (Barnard & Pepper, 1969). The data indicate that he was satisfied with his career choice and that his academic success enhanced his confidence.

However, Barnard negotiated significant challenges during the organisational entry process (Barnard & Pepper, 1969; Logan, 2003), which comprised five distinct career activities: an internship, temporary employment in a maternity hospital, two years in private practice, a brief period of unemployment, and two years at City Hospital in Cape Town. During this time, he also married and started a family. When Barnard had completed his medical training, he was uncertain about the direction he wanted to take and opted for private practice. Shortly after joining the practice, Barnard's interpersonal style caused conflict with his partners and they asked him to leave (Cooper, 1992a; Logan, 2003). He was briefly unemployed before being offered a position at City Hospital, where he focused on the treatment of tuberculosis.

The data (Barnard & Pepper, 1969; Logan, 2003) suggest that Barnard was unrealistic about the challenges associated with his occupational options and therefore made an inappropriate choice by underestimating the restrictions that a group medical practice would impose on his work behaviour (Barnard & Pepper, 1969; Cooper, 1992a; Logan, 2003). These organisational entry difficulties extended the first stage of Barnard's career development and resulted in him starting the next stage at the age of 31.

Early career (1953–1962)

This stage comprises two phases, namely establishment and achievement. The *establishment phase* began with Barnard's appointment at City Hospital, as this event stabilised his career (Cooper, 1992a):

> By now, in his early thirties, Barnard had discovered his true talents – the drive to see a way forward where others saw only obstacles, a fascination with research and new ideas, the nerve to take a step others might ponder . . . (Logan, 2003, pp. 78–79)

Barnard successfully adapted to his new work environment, attracted the attention of his supervisors, and secured a position as a surgical registrar at Groote Schuur Hospital (GSH) in Cape Town. There, he achieved success as a researcher, was awarded two degrees (MD, MMed) within two years and accepted an offer to study at the University of Minnesota (UM). He was awarded two additional degrees (MSc, PhD) 28 months later and received an offer of employment from UM. One of his lecturers at UM, Professor Lillehei, described him as follows:

> In those two and a half years he accomplished what normally takes about five or six years . . . I think everybody who knew him in those days was struck by his intense ambition and ability to work . . . (1992, pp. 215–216)

During the establishment stage, Barnard achieved several medical breakthroughs and had the opportunity to visit leading international cardiac units. However, he experienced intense stress due to ill health (rheumatoid arthritis, infectious hepatitis) and marital problems (Barnard & Brewer, 1993). Nevertheless, the establishment years represented a productive stage of his career during which he gained invaluable experience and mentoring from experts.

The onset of Barnard's *achievement phase* coincided with his graduation from UM. He declined the UM offer of employment and returned to GSH, where he was promoted several times in quick succession. At this stage Barnard had a clear focus regarding the contribution he wanted to make and thus recruited a team to support his work (Barnard & Pepper, 1969; Hawthorne, 1968; Logan, 2003; Louw, 1992). Furthermore, he attained an international reputation for innovative surgical procedures. In 1958, Barnard performed the first open-heart surgery in South Africa (Hawthorne, 1968) and two years later he transplanted the head of a dog (Logan, 2003). He also established an extensive international network

and renowned medical schools attempted to recruit him. Barnard's career was now well on track: 'As a heart surgeon he had almost unequalled range; there was no operation he could not perform' (Cooper, 1992a, p. 43).

Despite experiencing multiple personal problems (Barnard & Pepper, 1969), the data suggest that Barnard successfully managed most of the developmental tasks of the early career stage. Only interpersonal relations posed a major challenge for him:

> Barnard's impetuous temper in and out of theatre was gaining notoriety . . . Many would avoid working with him altogether or eventually left for jobs elsewhere. He sought and expected perfection from the people around him. Those who failed to make the grade suffered abuse. (Logan, 2003, p. 106)

In short, Barnard's career development was stabilised during the early career stage, during which he achieved extraordinary success. However, interpersonal conflict, which had disrupted his career development during the previous stage, re-emerged and undermined his collegial relations.

Middle career (1963–1976)

Barnard's midlife crisis emerged in 1963 when he was 41 years old (Barnard & Brewer, 1993; Cooper, 1992a; Logan, 2003). He declined international employment offers, recommitted himself to his career, and remarried and established a new family unit in an attempt to circumvent his midlife crisis. He simultaneously experienced career ambivalence and ongoing conflict with colleagues. Barnard's middle career stage was characterised by five themes: organ transplantation, promotion, international reputation, publications, and personal crises. His methodical and rigorous preparation for organ transplantation spanned 25 years and culminated in him performing the first kidney transplant in South Africa and the first human heart transplant in the world (both in 1967) (Barnard & Pepper, 1969; Logan, 2003). In addition, Barnard published four books and received several honorary degrees during this stage, thus cementing his international reputation. However, he had to contend with a demanding professional schedule while facing a number of crises, including marital problems, divorce, ill health, his son's substance-related problems, his brother's death in a motor vehicle accident, the suicide of a close colleague, as well as clashes with political leaders as a result of his progressive political views (Barnard & Brewer, 1993). Barnard's declining interest in performing surgery marked the end of his middle career stage.

Late career (1977–2001)

Barnard continued to experience personal crises during the late career stage:

> My world was starting to crumble around me, but worst of all, I began to lose interest in surgery. On many mornings, I'd look for excuses not to go to hospital . . . Never in my wildest dreams, would I ever have thought the day would arrive when I'd hate putting on a pair of surgical gloves. (Barnard & Brewer, 1993, pp. 321–322)

He was devastated by the deaths of his son and his ex-spouse and, to compound matters further, his health-related difficulties (arthritis, asthma, hip problems, skin cancer) were unremitting. In addition, the American College of Surgeons admonished him for marketing skin products. Nonetheless, Barnard's late career stage lasted 24 years and he continued to perform surgery until he retired at the age of 60. For Barnard, retirement did not signal disengagement from occupational activities. Instead, it was a productive stage during which he initiated several projects and adopted a variety of roles, including as a research consultant and scientist-in-residence, cattle farmer, restaurateur, marketer, author of 14 books and patron of the Christiaan Barnard Foundation (Logan, 2003). Furthermore, his professional status and popularity kept him in demand with local and international audiences. Similarly, changes within his family life continued to draw media interest. During this stage, Barnard divorced twice, remarried once, fathered two children and witnessed the birth of two grandchildren.

In summary, the available data suggest that Barnard was confronted with challenges relating to his self-image, reputation and dignity during the late career stage. Nonetheless, he enjoyed an active late career and continued to make a remarkable contribution. Generally, Barnard ensured that his postretirement years were meaningful until his death as a result of an asthma attack at the age of 79.

Conclusion

The findings indicate that Barnard's early and middle career development stages were closely aligned with the propositions formulated by Greenhaus et al. (2010). In contrast, the first and last stages deviated to an extent from the model. Specifically, the extended occupational and organisational choice stage delayed Barnard's entry into the early career stage by approximately six years. Furthermore, there were no indications of career disengagement during the late career stage, as Barnard initiated several projects and remained active until his sudden death.

Overall, the relevance and accuracy of the Greenhaus et al. (2010) model is confirmed by the study. In addition, the value of life history research as a means to investigate career development over the entire lifespan is reiterated. The examination of complete lives enables researchers to map out developmental processes, assess the appropriateness of theoretical models, and identify areas where theoretical propositions and lived experiences differ. Psychobiographical research will likely play an increasingly important role in refining career development theories in the future.

Value of psychobiographical research

Generally, the value of psychobiographical research can be divided into at least eight areas. Psychobiographers contribute to *knowledge production* in several subdisciplines of psychology, including developmental psychology, personality psychology, psychopathology, career psychology and positive psychology (Prenter, 2015). Non-invasive methods are employed to investigate different aspects of the *life histories of extraordinary individuals* (McAdams, 2009; Simonton,

1999). In a young democracy such as South Africa, highlighting the exceptional achievements of citizens can contribute to national pride.

Psychobiographers acknowledge the importance of examining life histories in detail (Elms, 1994). This *idiographic lens*, which places the individual at the centre of analysis, is not unique to psychobiography. Theorists such as Freud, Jung, Maslow and Piaget developed influential models by analysing single cases (Schultz, 2005b). Psychobiographers argue that behaviour should be studied in *context* (McAdams, 1988; Simonton, 2003). The incorporation of social, historical, economic, cultural and political factors contributes to the comprehensive scope and real-world applicability of psychobiographical research. Psychobiographical research is *longitudinal* in nature and allows for a comprehensive examination of life events as they unfold across the lifespan (Edwards, 1998). Psychobiographers investigate life histories from a *subjective*, *phenomenological perspective* (Kőváry, 2011; Schultz, 2005b). These investigations produce knowledge that cannot be obtained through other designs. Psychobiography is *theory-driven* research that offers a vehicle for confirming, refuting and refining existing psychological theories (Carlson, 1988; Roberts, 2002; Schultz, 2005b). Lastly, psychobiographies are valuable *educational tools* (Kőváry, 2011) that can enhance students' and researchers' understanding of the human mind and behaviour (Fouché & Van Niekerk, 2010).

Likewise, the Barnard study made valuable contributions to psychobiographical research, career psychology and Barnard's life narrative. More specifically, the study employed a theoretical model that had been neglected in psychobiographical research, while addressing the paucity of psychobiographies and focusing attention on the career development of an extraordinary South African medical pioneer (Zunker, 2010). The study also offered an objective reinterpretation of Barnard's life story and explicated some remarkable aspects of that life – for instance, how a child born into disadvantaged circumstances became the world's most recognised medical specialist (Bonds, 1992; Logan, 2003), how he coped with adversity, and how he prevented multiple crises from derailing his career (Barnard & Brewer, 1993; Barnard & Pepper, 1969; Cooper, 1992a; Louw, 1992). The study also highlighted the need for further research: that additional aspects of Barnard's life be examined by scholars from various social and medical disciplines, using similar methodologies but different theoretical lenses; that career psychologists employ alternative theoretical models to analyse Barnard's career; and that life history research be undertaken on other medical pioneers.

Limitations of psychobiographical research

The criticisms levelled at psychobiographical research focus mainly on ten issues:

- the narrow focus of single case studies (Anderson, 1981; Schultz, 2005b);
- the tendency to be reductionist – that is, to attribute too much importance to specific events or inadequate evidence (Anderson, 1981; Schultz, 2005b);
- the influence of researcher bias, which may result in the distortion of biographical data (Anderson, 1981; Clark, 2007);

- the impact of sociocultural differences between psychobiographers and subjects (Anderson, 1981; Capps, 2004; Fouché, 1999; Ponterotto, 2014; Runyan, 1984);
- the lack of generalisability of psychobiographical findings (Roberts, 2002; Runyan, 1984). However, this research method aims to generalise findings to the theory used, rather than to a population (Carlson, 1988; Roberts, 2002);
- the lack of personal contact between researchers and subjects (Schultz, 2005b);
- the perception that psychobiographies are mainly conducted on the socially elite and privileged (Runyan, 1988; Simonton, 2003);
- the formulaic application of psychological concepts, principles and theories to support particular interpretations (Anderson, 1981; Capps, 2004; Runyan, 1988);
- the tendency to either pathologise or idealise subjects (Clark, 2007); and
- the questionable reliability and validity of psychobiographies (Edwards, 1998).

However, these quality-related criteria are not considered to be directly applicable to qualitative research, which employs the criterion of trustworthiness instead (Lincoln & Guba, 1985).

The authors acknowledged four important shortcomings of the Barnard study: the scope of the study did not do justice to the extensive data relating to Barnard's life; the study focused on only one domain of Barnard's life; the findings only reflect data available in the public domain; and the authors did not have an opportunity to validate the findings with Barnard or his relatives.

Conclusion

This chapter provided an overview of psychobiographical research as well as a case study focusing on the life of an extraordinary South African pioneer, thus serving as a guide on how to conduct a psychobiography. Furthermore, the chapter illustrated the value of psychobiographical research for interpreting the lives and contributions of exceptional individuals through the systematic application of psychological theory.

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Appendix

South African master's and doctoral psychobiographies

Subject	Researcher	Degree and year	University
1. Cornelis Jacobus Langenhoven	Burgers, M. P. O.	MA (1939)	University of the Witwatersrand (Wits)
2. Louis Leipoldt	Burgers, M. P. O.	DLitt (1960)	Wits
3. Ingrid Jonker	Van der Merwe, L. M.	PhD (1978)	University of the Free State (UFS)
4. Jan Christiaan Smuts	Fouché, J. P.	DPhil (1999)	University of Port Elizabeth (UPE)
5. Helen Martins	Bareira, L.	MA (2001)	UPE
6. Bantu Stephen Biko	Kotton, D.	MA (2002)	UPE
7. Balthazar John Vorster	Vorster, M. S.	MA (2003)	UPE
8. Wessel Johannes (Hansie) Cronje	Warmenhoven, A.	MA (2004)	UPE
9. Mother Teresa	Stroud, L.	DPhil (2004)	UPE
10. Albert Schweitzer	Edwards, M. J.	MA (2004)	UPE
11. Cornelis Jacobus Langenhoven	Jacobs, A.	MA (2005)	UPE
12. Karen Horney	Green, S.	MA (2006)	Rhodes University (RU)
13. Wessel Johannes (Hansie) Cronje	Warmenhoven, A.	PhD (2006)	RU
14. Christiaan Neethling Barnard	Van Niekerk, R.	MA (2007)	Stellenbosch University
15. Ray Charles	Biggs, I.	MA (2007)	RU
16. Hendrik Verwoerd	Claasen, M.	MA (2007)	Nelson Mandela University (NMU)
17. Melanie Klein	Espinosa, M.	MA (2008)	RU
18. Herman Mashaba	McWalter, M. A.	MA (2008)	University of Johannesburg (UJ)
19. Isie Smuts	Smuts, C.	MA (2009)	NMU
20. Helen Keller	Van Genechten, D.	MA (2009)	NMU
21. Jeffrey Dahmer	Chéze, E.	MA (2009)	NMU
22. Emily Hobhouse	Welman, C.	MA (2009)	UFS
23. Mahatma Gandhi	Pillay, K.	MA (2009)	NMU
24. Kurt Cobain	Pieterse, C.	MA (2009)	NMU
25. Vincent van Gogh	Muller, R.	MA (2009)	NMU
26. Ralph John Rabie	Uys, H. M. G.	MA (2010)	NMU
27. Ernesto 'Che' Guevara	Kolesky, C.	MA (2010)	NMU

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Subject	Researcher	Degree and year	University
28. Frans Martin Claerhout	Roets, M.	MA (2010)	UFS
29. Alan Paton	Greeff, M.	MA (2010)	UFS
30. Paul Jackson Pollock	Muller, T.	MA (2010)	NMU
31. Christiaan de Wet	Henning, R.	PhD (2010)	RU
32. Bram Fischer	Swart, D. K.	MA (2010)	UFS
33. Desmond Tutu	Eliastam, L. M.	MSocSci (2010)	University of Fort Hare
34. Brenda Fassie	Gogo, O.	MA (2011)	UFS
35. Olive Schreiner	Perry, M.	PhD (2012)	UFS
36. Winston Churchill	Moolman, B. A.	MA (2012)	NMU
37. Friedrich Nietzsche	Booysen, D. D.	MA (2012)	NMU
38. John Wayne Gacy	Pieterse, J.	MA (2012)	NMU
39. John Winston Lennon	Kitching, P. H	MA (2012)	NMU
40. Francis Bacon	Kerr, N.	MA (2012)	NMU
41. Josephine Baker	Eckley, S.	MA (2012)	NMU
42. Rev. James Warren 'Jim' Jones	Baldwin, G. A.	MA (2013)	NMU
43. Martin Luther King	Twaku, U.	MA (2013)	NMU
44. Ellen Kuzwayo	Arosi, Z.	MA (2013)	NMU
45. Helen Martins	Mitchell, D.	MA (2013)	RU
46. William Wilberforce	Daubermann, B. P.	MA (2013)	NMU
47. Helen Suzman	Nel, C.	PhD (2013)	UFS
48. Beyers Naudé	Burnell, B.	PhD (2013)	UFS
49. Steve Jobs	Ndoro, T.	MBA (2013)	RU
50. Antwone Fisher	Wannenburg, N.	MA (2013)	RU
51. Michael Jackson	Ruiters, J.	MA (2014)	RU
52. Richard Trenton Chase	Nel, H.	MA (2014)	UFS
53. Martin Luther King	Pietersen, S.	MA (2014)	NMU
54. Steve Jobs	Moore, N.	MA (2014)	NMU
55. John Henry Newman	Mitchell, G. P.	MA (2014)	NMU
56. Dambudzo Marechera	Muchena, K. C.	MA (2014)	NMU
57. Christiaan Neethling Barnard	Lekhelebana, V. A.	MA (2014)	NMU
58. Roald Dahl	Holz, T.	PhD (2014)	UFS
59. Pope John Paul II	Pillay, K.	PhD (2014)	NMU
60. Glenda Watson-Kahlenberg	Connelly, R. E.	PhD (2014)	NMU
61. Wilford Woodruff and Gordon Bitner Hinckley	Saccaggi, C. F.	DLitt et Phil (2015)	UJ

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Subject	Researcher	Degree and year	University
62. Winston Leonard Spencer Churchill	Human, S. C.	MA (2015)	University of South Africa
63. Charlize Theron	Prenter, T.	MA (2015)	RU
64. Marie Curie	Roets, E.	MA (2015)	RU
65. Bashar al-Assad	Kerrin, C. K.	MA (2015)	UJ
66. Vuyiswa Mackonie	Baatjies, V. P.	MSocSc (2015)	University of KwaZulu-Natal
67. Margaret Hilda Thatcher	Marx, M.	MA (2015)	NMU
68. Brand Pretorius	Harwood, C. S.	MComm (2016)	NMU
69. Steve Jobs	Du Plessis, R.	MA (2016)	UFS
70. John Lennon	Osorio, D.	MA (2016)	UFS
71. Temple Grandin	Wannenburg, N.	PhD (2016)	RU
72. Paulo Coelho	Mayer, C. H.	PhD (2016)	University of Pretoria
73. Milton Hyland Erickson	Ramasamy, K.	PhD (2017)	NMU
74. Ellen Johnson Sirleaf	Manana, S.	MComm (2017)	NMU
75. Coco Chanel	Verwey, L.	MA (2017)	UJ
76. Bangabandhu Sheikh Mujibur Rahman	Hoque, A.	MA (2017)	UJ
77. Steve Jobs	Van Staden, D.	MA (2017)	NMU
78. Gary Player	Futter, T.	MA (2017)	NMU
79. Theodore Robert Bundy	McGivern, K. B.	MA (2017)	NMU
80. Robert Nesta 'Bob' Marley	Willis, L. S.	MA (2017)	NMU
81. John Wayne Gacy	Coetsee, E. E.	PhD (2017)	UFS

12 Narrative research in career counselling: The career construction interview

Jacobus G. Maree

Introduction

This chapter demonstrates the use of a qualitative method, narrative research in particular, within the context of career counselling. Such an approach was necessitated by the changing discourse in career counselling which requires more in-depth consideration of a client's life experiences. Narrative research is an umbrella for a number of approaches that focus on individuals' written, spoken or visual representations to tell their story (Clandinin & Huber, 2010). Arguably, narrative research methods do not have a standard set of procedures due to the linguistically subjective nature of narrative approaches (Reisman, 2008). Narrative research is therefore both a method and the subject of study within a research study (Reisman, 2008). For this reason, any discussion of narrative approaches is intricately tied into a disciplinary, theoretical, social and individual context that provides a framework for the narrative to unfold within. This chapter uses the career counselling context as well as a case study to illustrate how the narrative approach facilitates positive career counselling. Ultimately, the chapter and case study highlight the artificial delineation in the researcher–practitioner divide. It demonstrates the utility of narrative research whilst at the same time illustrating the meeting of career counselling goals for the research participant.

Growing interest in qualitative approaches to career counselling

Coinciding with the dramatic changes in the world of work, interest in qualitative approaches to career counselling has increased markedly over the past 35 years or so (McAdams, 2001; McIlveen, 2012). This is reflected in the growth of narrative theories and the practical application of postmodern career counselling strategies and assessment instruments. There is general agreement today that 'traditional' (positivist) approaches to career counselling have largely ignored the importance of considering also the subjective aspects of clients' 'profiles' (career-life stories).

According to McAdams (2001, p. 100), '[a]s personality psychologists began to turn their attention to people's lives, they found notions such as "story" and "narrative" to be especially useful in conveying the coherence and the meaning of lives'. Cochran's (1997) pioneering work contributed significantly to the acceptance of a narrative approach in career counselling. He devised and used new narrative strategies and techniques to enable clients to find meaning in their responses to career counsellors' questions. He also used older narrative strategies and techniques to help clients achieve the same aim. However, it was Mark Savickas who brought about the defining changes in career counselling over the past decades and the eventual acceptance of a narrative approach in career counselling as equal to a quantitative approach. Savickas (2015) explains that narrative career counsellors should describe their clients as social actors (playing character roles), motivated agents (pursuing goals in a career-life context) and narrative authors (scripting their own performances). The process of scripting one's career-life story enhances exploration of the personal meanings people attach to events and thus facilitates resolution of the many kinds of challenges they face. It also helps them discover meaning and the magic in their career-lives. Savickas's conceptual framework aligns well with the goals of narrative research.

This substantiates the fourth wave (postmodern) view that the emphasis in career counselling has shifted from maturity to adaptability; from personality to identity; from being counselled in a passive manner to taking part actively in the process of life designing (Savickas et al., 2009) and life construction; from finding work to finding meaning in one's career-life; and from fitting one's life into one's career to fitting one's career into one's life.

Increased acceptance and implementation of a narrative approach to career counselling

Amundson (2005) agrees with Savickas (1997, 2000) that a qualitative, postmodern approach such as the narrative approach (Cochran, 1997) can be best understood by using constructivist meta-theory as a lens to interpret advances in career counselling. Because the global economic meltdown has contributed to the demise of numerous career counselling and development support systems, people need to acquire the necessary skills to deal effectively with career-related transitions pre-emptively. A narrative approach to career counselling (in addition to a traditional style of career counselling) appears to be a particularly useful strategy in this regard.[1]

Maree (2013) contends that narrative career counselling (Cochran, 2011) and career construction counselling (Savickas, 2002a, 2002b, 2007) both fall within the postmodern paradigm. Life design counselling (Savickas et al., 2009), on the other hand, augments the differential (matching) and developmental paradigms that held sway in the twentieth century. Developed from the naturalistic or interpretive research and praxis paradigm described by Savickas (2005, 2007) and Hartung (2011), postmodernism does not constitute a 'new' theory

or 'approach' or 'conceptual framework' in career counselling. It is simply an assemblage of theories and approaches with similar features (Watson, McMahon, Mkhize, Schweitzer & Mpofu, 2011). It emerged from the belief that 'reality' is created by entities that differ in terms of personal, historical and cultural characteristics (Hergenhahn, 2005). It is argued that clients are infinitely more than the sum total of their test scores (Taber, Hartung, Briddick, Briddick & Rehfuss, 2011) and that the use of quantitative approaches in isolation ignores clients' distinctiveness (Duffy & Dik, 2009).

Using the case study of Precious (pseudonym), a purposefully selected Pedi-speaking black woman, this chapter illustrates the use of a narrative method to meet both research and practice goals. Precious volunteered as the 'client' in a live demonstration during a two-day workshop on life design counselling for career construction. As a registered psychometrist, Precious has an honours degree in industrial psychology.

Data gathering strategy

The career construction interview (CCI) was used to elicit data and the 'three early recollections' technique was used to augment the CCI process (Table 12.1). The essential tenets and framework of the career story (construction) interview have been elucidated in many publications (e.g. Maree 2013, 2015b, 2016; Savickas, 2011a, 2012, 2015). Career counsellors construct their narrative based on five story-constructing questions pertaining to clients' role models; their favourite magazines, television programmes and websites; their favourite story (book or movie or book turned into a movie); their favourite quotations; and their earliest recollections. Once a 'sacred space' (relationship of trust) has been established, clients are asked to recount their three earliest recollections (which can be regarded as metaphors that reveal their central preoccupations). The interview ends with counsellors asking clients if they have anything else to add. The intervention was aimed at enhancing the participant's involvement in her career construction process and facilitating co-constructive conversation.

Ensuring the quality of the research

Trustworthiness was ensured through implementing various strategies during the data collection and analysis phases. More particularly, credibility was ensured through peer debriefing and participant review; dependability was ensured through verbatim reporting of the data and low inference explanations; and confirmability was ensured by avoiding selective use of the data. By detailing what I did, carefully describing my research method and context, and foregrounding my assumptions, transferability was enhanced (Creswell, 2013).

Crystallisation was utilised to bolster validity (Nieuwenhuis, 2016; Richardson, 2000). Instead of trying to uncover fixed, causal relationships, qualitative strategies were used to deepen understanding of phenomena. By conducting dialogue with the participant, I, as the researcher, corroborated what was shared with me. Crystallisation confirms and reflects the multilayered and complicated nature of

Table 12.1 Career construction interview

Question	Rationale
How can I be useful to you as you construct your career?	People are regarded as the sole experts on their career-lives. They are invited to communicate their goals and set the scene for counselling.
Whom did you admire or who were your three role models when you were young and why?	Role models represent people's self-concepts and central life goals. The traits they display have enabled them to deal with personal challenges and thus exemplify traits that can help people deal with central life problems.
What is your favourite a) magazine, b) television programme and c) website (or app)? Why?	Magazines, etc. indicate environments that fit people's lifestyles and in which they prefer to enact their selves.
What is your favourite story – book or movie or book turned into movie?	The favourite story reveals characters who face problems similar to those faced by other people and shows how the characters solve the problems. This story thus demonstrates how people can best tackle central problems in their lives.
What are your three favourite mottoes or quotations?	Favourite mottoes or quotations reveal people's advice to themselves at a given point in time.
What is the first thing you remember about your life? What are your earliest recollections? I am interested in hearing three stories about things you recollect happening to you when you were young.	Early memories reveal key problems or challenges people face as well as their central preoccupations.
After narrating their recollections, clients are asked the following question: 'Now imagine that these stories will appear in tomorrow's newspapers. Each story will have a different headline, and each headline will contain a verb. You are invited to write these headlines.' Lastly, clients are invited to provide an inclusive heading for all three recollections.	

Source: Compiled by author, from Savickas (2011a, pp. 55–65)

the phenomenon studied (a woman who had indicated a need for career counselling). Crystallisation enabled me to go beyond merely reading gathered data to reflect on the participant's experiences during the data analysis process and helped me identify recurring themes and subthemes in the data.

Ethical considerations

Informed consent was obtained from the participant and steps were taken to ensure her well-being and anonymity, as well as to ensure confidentiality. In concluding the demonstration mentioned earlier, three participants were invited

to tell the other participants what Precious's career-story meant to them personally. The participants were reminded that they were not allowed to breach confidentiality by, for example, discussing the case with anyone else. In addition to informed consent and the confidentiality of observing members, the case study also presented an interplay of both research and counselling ethical considerations.

First, counsellors who may want to use the technique are reminded to implement 'standard' measures to ensure clients' welfare throughout the intervention. This includes obtaining verbal informed consent from clients 18 years and older and written informed assent from younger clients. Confidentiality should be guaranteed and maintained, and clients should be asked to confirm every facet of the information obtained during all phases of the intervention. The latter point is particularly important for both the client and in ensuring the credibility of the information generated from the research. Referred to as member checking, paraphrasing and checking interpretations are both a methodological and an ethical obligation in narrative research. Care should be taken to ensure that clients fully understand the intervention, and that sufficient time is allowed for clarification.

Second, counsellors are reminded that elicitation of the three early recollections may prompt deep-seated emotions and key life themes. If anything 'major' emerges during the intervention (e.g. the client starts abreacting or shows signs of posttraumatic stress or depression), the counsellor should be able to deal with the situation and, if necessary, refer the client to someone who is qualified to help him or her (e.g. a psychiatrist or a clinical psychologist). Our theoretical and conceptual framework as counsellors and our rationale are clear as are the outcomes that we hope to achieve. Our objective is to enable clients to narrate their career-life stories, authorise these stories and move forward. Ultimately, our aim is to empower clients to advise themselves, to choose and construct not only careers but also themselves, and, eventually, design successful lives in which they will be able to 'hold' themselves and others, make social contributions to society at large, and also make time for friends and family members. The envisaged outcomes are easily measurable, and colleagues are accordingly urged to conduct research, report on their findings and thereby advance knowledge in the field.

Third, counsellors should impress upon their clients that they (the clients) – and not the counsellors – are the experts on their own lives and that they will, while listening to counsellors read their career-life stories back to them, actually be listening to their own voices. This will empower them and help them accept responsibility for their decisions in the knowledge that they are free to make their own choices and that they are not subject to fate or circumstances beyond their control.

Fourth, the creation of a 'safe' or 'sacred space' (Savickas, 2011b) is essential to develop the therapeutic relationship between counsellor and client. Fifth, counsellors should continually evaluate clients' actions and movement – that is, how their career-life stories are evolving. Lastly, counsellors should keep abreast of the latest developments in the field to ensure that they apply 'best practice' at all times.

Limitations

The subjective interpretations of the counsellor could be seen by some as a limitation. Moreover, more research in diverse and group-based contexts is needed, particularly in non-western and non-North American developing country contexts.

Case study results

Precious, a 33-year-old black woman, is uncertain about the 'next step' in her career. She successfully applied to study medicine at a South African university after school but did not do well and was informed that she would not be allowed to proceed with her studies after one year.

> What nobody knew was that I lost my beloved father early that year. I was devastated but had no one to turn to. I became very rebellious. [Sighs heavily] I applied at another university just to learn that the only course available for me was industrial psychology. I know I could have gone into something different but I accepted that course. That was fine. It was a critical decision. [Presses lips tightly together] I completed my BCom degree and secured a great job. [Smiles; stops talking and remains silent for a few seconds; looks up] I became a human resources director at a relatively young age [30 years]. I was given freedom to 'shape' the institution. Employees rely on me. I feel valued as an employee myself; I believe my contributions are appreciated. [Sighs heavily again]

Precious's responses to the questions in the career-story interview are given below.[2]

How can I be useful to you as you construct your career?

> I feel unfulfilled . . . not in a good space. I am at a crossroads, already having discovered myself, my strengths . . . now what? [Sighs] My options are the following: just carry on with what I am doing. By that I mean that I have recently gone into training and development [TD] and I am led to believe that this is probably the better option with a view to the future. Maybe expanding the TD side so I do not just do delivering and training. However, forever presenting topics that I know well will not bring me fulfilment. What I have discovered is that maybe my future lies in the counselling side . . . should I follow that route? I just don't know what that would mean in a work context because we have a number of contracted counsellors. Tell me: Do I go that route? Maybe design a programme for the youth? Do career counselling? Combine all three (training, development, and counselling)? [Sighs, then smiles wryly] I think I need to redesign my career almost. Studying? Definitely, yes, but part-time and it has to be something that I really wanted to do.

Role models

Whom do you admire or did you admire when you were growing up?

Moipone. [Frowns] She always wore pretty dresses; looked neat and beautiful. I so much wanted to look like her. [Sighs, bites her lower lip] I came from very poor background and I admired girls who dressed up in pretty clothes. I got one dress a year . . . at a young age, dresses get smaller, though!

[Sighs] I used to escape into the world of fairy-tale books. That was my escape. I would pretend to be one of the happy characters in the book.

Lebogang. She always brought lunch to school. It seemed so cool to have lunch at school; not to worry about being hungry. And to look important as a result of being able to bring lunch to school. When I think about it, I realise that most of my friends were from privileged, good schools, so I admired them. [Laughs gloomily] She was always happy. Talked about her happy family, shared happy stories with us. [Tears well up in her eyes] My dad was away from our house most of the time. We would only see him once every two months for a short while. I missed him . . . missed him a lot.

Oprah. I greatly admire the way in which she took herself out of a disadvantaged background and dismal poverty. I also admire the huge social contributions she makes. The manner in which she counsels others. In fact, I admire all ordinary people who rose from adversity and turned their suffering into something positive; into living successfully.

[Smiles] I know you said I should not refer to family members in this context but my father received his master's [degree] at the age of 50. I deeply admire that achievement; his resilience.

Magazines/television shows/websites

What magazine do you read regularly? What television show do you really enjoy? What is your favourite website?

[Sighs heavily] Mmmm . . . *Destiny*. I love reading the inspiring stories about people. I am very interested in the challenges they faced in the course of time. They also acknowledged the love and grace of God in process and that is important to me.

Survivor. [Sighs, looks down] What interests me is the way in which they fight their way to the top. How they establish relationships, bond and form alliances. Relationships and bonding and forming alliances helps people go to the top.

Any website where I can read up on how a person became rich and famous and able to help others . . . for instance the story of Oprah Winfrey.

Movie/book

What is your favourite book or movie? Recount the story.

> [Sighs] Mmmmm . . . *Why Did I Get Married?* It is about different couples. Each couple has its own, different challenges. I am in my second marriage now and I could relate to one specific story about a guy who cheated on his wife. She was a nice, soft, forgiving person who finally got the courage to leave her cheating husband and find a wonderful man.

Mottoes

What are your favourite sayings or mottoes? Recount three sayings you remember hearing or create your own.

> 'Touch a person's heart and their hands fall into place.' To me, this means that you can get anything out of anyone if you treat them kindly.
>
> 'Your test in life becomes your testimony.' In other words, you should try to turn your adversity into something positive. You can turn the situation around and give to others; change lives as a result of what you have gone through.
>
> 'Life is what you make it.'

Precious's three early recollections

Precious shared the following three stories with her counsellor.

Young girl unprepared for unfair treatment

> [Sighs; looks to her right and turns her head downwards] One day, I was six years old, I [was] sitting on the school grounds with my friends. I did not have anything to eat. [Tears well up in her eyes] No, I had nothing to eat and was waiting for someone to give me something to eat. What I did not realise was that they had decided not to share their food with me any longer. One of them was saying: 'We are not going to give you food any more.' [Cries softly] Am I allowed to cry?

Emotions associated with this recollection: 'Embarrassment and a sense of being treated in an unfair manner . . . almost betrayal (because I always believed that one should share when one has food to share).'

Vulnerable children lose their way because of unkind treatment

> [Wipes tears from her eyes] First, some background: A neighbour always gave my sister and me a lift from school because my mother could not pay for transport. He would put us in the boot of his hatchback. When the car stopped, we would get out and run away so nobody would see us.

> Here is my story: One day, I was still six years old, the neighbour refused to give us a lift and we had to walk home . . . quite a long way and not a straight route either. We walked for hours and lost our way in the bush. By that time it was dark and my mother was very worried about us and started looking for us; I was the youngest child. We were terrified. By God's grace we met this man; he asked us, 'What are you doing here?' We said we were lost and he took us to [the] nearest road or something; dropped us off near our home. [Sighs; tears well up in her eyes] I find it too difficult to recall more details. [Cries softly] I remember how Mommy sobbed.

Emotions associated with this recollection: 'Fear, anger.'

Embarrassed child hurt by ignorant parents' act . . . but survives

> [Sits still, stares pensively in front of her] I was seven years old when this happened. One day, the principal walked into our class and started calling the names of people who had not paid school fees. I think they did that on purpose so you would be humiliated. He informed all of us that we would no longer be allowed to attend his school. We left school that day, went home and told Mother what he had said. Mommy insisted that we should go back to school. However, whereas previously when she would go to the school and discuss matter[s] with [the] principal he would allow us back, this time that did not work. We had to go back home.
>
> [Stops talking; sits very still, stares in front of her] I don't remember . . . we stayed at home for a while, then tried to go back to school but, eventually, had to leave that school for good.
>
> [Sighs heavily] Looking back now, I am immensely proud of myself for having attained great heights. And I understand my passion for trying to help others like me.

Emotions associated with this recollection: 'Embarrassment. The feeling of being forced to do something against my will. The belief that I needed to pay for an adult's act.'

Sighing heavily, Precious provided the following encompassing heading for all three stories: 'Surviving inferiority, humiliation and hurt kindled by adversity'.

Feedback commenced with a discussion and analysis of the three early recollections.

Analysis of Precious's three early recollections

(Precious's reflections on her stories are in inverted commas.)

Precious's response to the initial question (and the feelings she is currently experiencing of being stuck in her work environment) reveals the challenge she is facing and also her strategy to deal with the challenge. She is seeking a fresh perspective on her career journey. Despite the fact that she is doing well

financially and has job security, she knows that she is not really doing what she 'should' be doing. Feeling unfulfilled in a detached teaching and training environment, she is at a crossroads: either carry on and be unhappy or start studying again to equip herself with the skills needed to work with employees in a more intimate and personal manner.

Precious's *first memory* (of friends unexpectedly treating her unfairly without really understanding the hurt they caused her – a major life theme) reveals a key life challenge early in her life. She has learnt that life is not fair and that people cannot be trusted unconditionally. Currently, she believes that those in a position to promote her career do not understand her needs and, consequently, are letting her down by setting her on a career path that will deepen her feelings of unfulfillment and deny her the opportunity to realise her deepest need (i.e. her desire to counsel people facing a crossroads in their career-lives). 'I felt so embarrassed about our poverty [another central life theme], which caused me to feel ashamed. I do not want others to ever feel like I did then.'

The first verb Precious used in her first recollection is 'sitting'. She is not moving forward in the direction she would like to go. This verb explains why she is consulting the counsellor. She is keen to begin to make the contribution she believes she can and should make but she is 'sitting still'. She is unsure about how she should engage with the career world to make her dream come true, and her advice to herself is to stand up for herself so she can begin to move forward in her preferred direction. While Precious recounted (narrated) these stories, the counsellor facilitated narratability by strategically and unobtrusively repeating recurring words, expressions and key phrases used by her. He was at pains to ensure that she clarified the meaning of what she was saying so that she could listen to and hear herself.

Precious smiled contemplatively and replied as follows when the counsellor invited her to reflect on her second recollection:

> I am smiling because I keep asking myself: Why do people do things when they should know better? That disturbs me a lot; all the time. I live my life not to hurt anybody. I cannot hurt people. Even at work: I would rather take on other people's work than see them suffer. [Another major life theme: her desire to help others who are in need] I actually went through therapy when I discovered that I held five jobs at work. I keep asking myself: Why do people make decisions when they should know better, like I did when I entered into my first marriage? Sometimes it makes me feel as if I am not 'normal'.

Precious's second recollection thus confirms the pain she experienced when she was let down by an adult; a person 'in control'. She believes she is currently facing a similar situation: by not being given the opportunity to embark on a journey that will enable her to realise her dreams, she is bound to lose her way again. This will again result in her following a (career) path that resembles a kind of wild goose chase.

When the counsellor asked Precious to reflect on her third recollection (which reveals her advice to herself on how she could go about resolving the challenges uncovered by the first two recollections), she commented as follows:

> I believe the emotions that I associate with this story say it all: embarrassment seems to be part of my life. Likewise, the feeling of being forced to do something against my will and the realisation that I often need to pay for an adult's inappropriate decision.
>
> [Sighs] Based on that, the positive side is that I just give. Even when I cannot really afford to give. On the negative side, I feel that I do not deserve . . . promotion, love, success. I almost feel guilty when I give myself something. I even have to fight with myself over my car, which, I believe, should be given to others who deserve it more than I do. My sister is just the opposite: she would just buy and buy. Then she hoards until she gives her stuff away. [Presses lips tightly together] She does not give despite having so much. I just want to give . . . and I now realise that I want to do so because of what I have been through. I want others to have, not only me. That is not me. I do not want to ever be selfish. I do not want others to suffer like myself.

Precious wants to provide a holding environment for others; to help others feel safe and secure; to feel 'held'. She realises that the more she does so, the more she will be helping herself actively to heal the emotional scarring she suffered in the past. Precious is no longer willing to be forced to accept others' decisions about what she should do, which caused her suffering in the past. She has made a conscious decision to put an end to that – in her own best interests but, more importantly, in the best interests of other people who are as vulnerable as she once was.

Analysis of the career construction interview

Precious's responses to the questions asked in the course of the CCI confirm and support the themes and subthemes that emerged during the discussion of her three early recollections.

Role models

Her three role models (Moipone, Lebogang and Oprah Winfrey) not only confirm her key life goals, but also present the solutions she foresees to her central life challenges. She wants to rise above poverty and a troubled environment. She wants to dress well, to have a happy family, to feel important. Most of all, she wants to be able to help others who have suffered as much as she has (arguably her major central life theme). For Precious, it is crucial to ensure that the basic needs of others are met (another central life theme). It is important for her to be kind, caring, loving, compassionate, giving and to counsel others (yet another major central life goal). 'This is so important to me.'

Account of a television series

Why Did I Get Married? deals with the challenges couples experience in trying to deal with the problems encountered in present-day society. Just as the husband

of one of the wives was unfaithful to his wife, her own husband had been unfaithful to her. Once again, the central theme of unfair and unkind treatment (even betrayal) and abandonment surfaces. Like the betrayed woman, Precious is a kind-hearted, soft, forgiving person who eventually mustered the courage to leave her cheating husband and find a new, wonderful man.

Mottoes

Precious's mottoes reveal her advice to herself at that point in her life. They shed light on possible ways in which she can deal with her central life challenges to heal herself and others; to find out what she can do to enable her to really live and not just exist. She wants to help others achieve their dreams by treating them with respect. She also believes that it is essential to turn her adversity into something positive and make it a gift to others. By turning her own troubled situation around and turning her pain into a gift to others, her life story will help change the lives of others as a result of what she has gone through. Lastly, she believes that her destiny is in her own hands. She does not want to blame others. Instead, she believes that she is self-sufficient and able to realise her dreams.

Favourite magazine, television show and website

Precious's responses to this question reflect the work environment in which she wishes to enact her self-concept. She wants to inspire people. She wants to understand the suffering of others and help them overcome stumbling blocks and realise their potential. She wants to display the love and grace of God in the process. She is also willing to 'fight' to realise her dreams. She is aware of the importance of good interpersonal relationships and of bonding with other people. She thus displays a keen realisation of the importance of acting in an emotionally and socially intelligent manner if one wants to be successful in the occupational environment. Lastly, she wants to become wealthy, but mainly because this will enable her to help others.

Sequel

In concluding the session, the counsellor told Precious that she reminded him of the author of a moving, autobiographical fairy tale that was about to be released.

> Your audience and I are deeply moved by your touching and inspirational life story. We sense the presence of a genuinely compassionate, empathetic woman who realises that life is what one makes of it; whose test in life has become her destiny. A woman who knows how to elicit the very best from people. Her tale is entitled something like *Setting the Fairy Inside Free*, by Precious Maile [pseudonym]. What you have endured so successfully and courageously has now become your greatest strength and will enable you to help many thousands of people who are suffering not only survive but, in fact, turn their suffering into victory and a gift to others.

The counsellor and Precious then discussed possible options for dealing with the challenge she was facing. She showed little hesitation: she did not want to

leave her current job, but she had made up her mind that her real ambition was to work with young people, especially those in disadvantaged circumstances, to help them deal with their problems and offer them (career) counselling. To achieve this aim, she would have to register as an educational psychologist. Her biggest concern was: 'I just don't know how I will be able to study full-time to first complete my undergraduate studies in education.' She was greatly relieved to learn that she would receive recognition for her current qualifications and that she could study part-time at postgraduate level in order to qualify for admission to a master's degree in educational psychology.

Her concluding comment was: 'I am greatly relieved now, having "discovered" that I will not be leaving my current employer and our employees in the lurch while studying to become who I have always wanted to be.'

The career counsellor agreed that Precious's envisaged strategy would enable her to reconcile her wish to remain loyal to her current employer with her desire to help other people. Staying on in her current working environment would also provide her with an ideal holding environment. Applying her own career-life story would equip her with the skills needed to negotiate challenging transitions ahead and convert her own suffering and the suffering of others into victory and meaningful social contributions.

(As an aside, the career counsellor referred Precious to both a clinical and a counselling psychologist to help her contend with the unresolved issues ['unfinished business'] that emerged directly and indirectly during the elicitation of her career-life story.)

Discussion

The findings of the case study reported on in this chapter confirm the findings of previous studies (Barclay & Wolff, 2012; Cardoso, 2012; Del Corso & Rehfuss, 2011; Glavin & Berger, 2012; Savickas, 2015; Taber et al., 2011). They confirm the usefulness of the narrative approach (i.e. the CCI as a particular narrative strategy and an example of the broader life design counselling paradigm) in the case of black African clients. The findings also indicate the usefulness of drawing on the narrative approach and strategy as 'a scaffold for making sense, declaring purpose, forming intentions, and prompting action' (Savickas, 2015, p. 27). The client's revitalised attitude and her readiness to deal with transitions in a more adaptive way are evidenced by her eagerness to embark on her new studies: 'I regret the fact that I was not aware of the options open to me much earlier so I could have begun with my studies in educational psychology much sooner.'

The emphasis the client placed on helping others and putting the interests of others before her own is not surprising when one considers the role of ubuntu, *ujamaa* and *isinti* (Ibdawoh & Dibua, 2003; Nussbaum, Palsule & Mkhize, 2010) in African societies.

Whether narrative counselling can be applied successfully in research-based and group-based contexts is discussed next.

The utility of narrative (career) counselling in group-based contexts and in research settings

Over the past 33 years, supported by 14 leading international career counselling scholars, I devised and developed the Career Interest Profile (CIP) (Maree, 2015a). This qualitative career questionnaire yields narrative information and enables career counsellors to uncover people's identity, their perceived strengths and weaknesses, their advice to themselves and their key life themes. Taken together with the Maree Career Matrix (Maree, 2016), the questionnaire exemplifies the global move away from using the 'expert' type of test-and-tell approach in relative isolation (still the dominant approach in large parts of the developing world in particular) in favour of an integrative, quantitative-plus-qualitative approach towards career counselling. This approach and strategy enables career counsellors to merge and integrate 'stories' (positivist) and 'storied' (qualitative) approaches to career counselling, individually and in group-based contexts, to provide contemporary career counselling to their clients. Clients are seen as authors of their evolving career-life stories, capable of displaying self-sufficiency, self-reliance, resourcefulness and adaptiveness. The CIP has been translated into various languages and has been used extensively in career counselling-related research, here and abroad (e.g. Di Fabio & Maree, 2011, 2013a, 2013b).

Reflexivity and self-reflection in the context of narrative research approaches

The approach and strategy advocated here confirms Duarte and Cardoso's (2015) and Barclay's (2015) view that narrative career counselling enhances researcher reflection and promotes clients' self-reflection and reflexivity. Moreover, it corroborates Maree's (2015b) and Del Corso's (2015) finding that career counsellors can facilitate clients' self- and career construction by focusing on their deepest emotions and that meaning-making lies at the heart of narrative career counselling (Cochran, 1997, 2011). It also confirms Hartung and Cadaret's (2017, p. 16) contention that '[i]n an uncertain and unstable world, individuals must now turn inward through self-reflection'. By reflecting on their thoughts and actions, clients are encouraged in a compassionate manner to reconsider their existing career-life stories and clarify the personal meaning they attach to events in their lives. Reflexivity promotes their self-understanding, improves their sense of self and inspires action and forward movement.

Conclusion

Ample evidence is available on the effectiveness of a narrative approach to career counselling. This chapter demonstrated the value of career construction in the case of a young black woman. In an earlier study, Maree (2016) provided tentative evidence of the longitudinal effect of career construction counselling on a mid-career black man. More particularly, the powerful effect of a narrative approach is shown in its ability to help clients uncover central life themes,

construct themselves, design successful lives and make social contributions. In a nutshell: narratology, in its ability to promote the discovery of central life themes and facilitate self-advising by clients as they draw on dialogicality (self-dialogue but also dialogue between client and counsellor) and enhanced authorship, can move clients forward as few other interventions (strategies) can.

Notes

1 Career counsellors who work from a postmodern (an umbrella term for a qualitative, narrative or storied approach to career counselling) perspective are as interested in interpreting clients' 'objective' test results as they are in interpreting 'subjective' aspects of career counselling.
2 The verbatim responses have been only lightly edited to preserve their authenticity.

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13 Interrogating grounded theory in meaning-making of voluntary medical adult male circumcision

Lynlee Howard-Payne

Introduction

'What is grounded theory . . . and how do you actually do it?' is a question I am frequently asked when I discuss my research with colleagues and students. This chapter introduces readers new to grounded theory research to the complex process of understanding, selecting and using this research method and methodology. I do this by reflecting throughout the chapter on my own grounded theory journey in relation to my doctoral study. The chapter commences as I guide readers through various considerations as to whether or not grounded theory research is appropriate for their particular study. Then, in outlining the origins and purpose of grounded theory, I introduce readers to a number of issues that have resulted in confusion regarding grounded theory. Having addressed these matters, I unpack the Straussian grounded theory approach, given that this was the approach selected for my doctoral thesis. The reader is then offered some thoughts as to the importance of upholding ethical codes of research practice when conducting grounded theory research. Thereafter, some final suggestions are presented for consideration when contemplating the selection and use of any particular grounded theory approach. To conclude, I advocate for the increased consideration and utility of grounded theory research methods and methodologies in scientific research, regardless of discipline or academic field.

Being a pre-grounded theorist

I never planned on being a grounded theorist, as I entered my doctorate thinking I might conduct a thematic content analysis. However, in researching my selected topic, which focused on the complexity of the phenomenon of meaning-making of voluntary medical adult male circumcision (VMAMC) in South Africa for human immunodeficiency virus (HIV) prevention, I found that there was no unified theory that could account for my various research questions. Should you find yourself in a similar position with your selected research topic, namely that there is an absence of such theory in which to locate your study,

grounded theory may be a good research method to utilise since the outcome of such an investigation would be the production of a theory regarding the phenomenon. This is particularly useful for certain levels of postgraduate study where one is expected to contribute novel knowledge to the discipline.

It seemed to me that grounded theory research would be able to address the various limitations of other research methods. For example, quantitative hypothetico-deductive methods would fail to establish a body of knowledge that fully captures the density, complexity and dynamism of meaning-making in the face of a novel HIV-prevention intervention (Fife-Schaw, 2011; Malson, 2010). Likewise, traditional narrative methods serve to offer descriptive accounts as to people's responses to particular events but are unable to provide an understanding of the *processes* that underpin people's behaviour as they seek to resolve certain problems related to those events. Grounded theory houses a relatively wide assortment of research methods and epistemological foundations from which a researcher can select in order to match the distinctiveness of the milieu with the research problem. Strauss and Corbin (1990) argue that the grounded theory approach differs from other methods of qualitative analysis due to its focus on theory generation and development, which can be either substantive or formal.

A substantive theory is located in the research of a single content area, which involves studying a particular phenomenon positioned in one specific situational setting – for example, the factors involved in individual meaning-making of HIV prevention strategies such as VMAMC in Johannesburg, South Africa. On the other hand, a formal theory is related to a conceptual area and develops as a result of a single phenomenon being investigated under diverse conditions and situations – for example, racism in high and low middle-income countries. Having decided that grounded theory research might fulfil the needs of my investigation, I went on to research the origins of this research method.

Origins and purpose of grounded theory

Grounded theory was developed by sociologists Barney Glaser and Anselm Strauss (1965) as an alternative to the prevailing research norms of the 1960s. They proposed grounded theory as a way to guide researchers on matters of data collection where they can use data of any type (e.g. video, images, text, observations, spoken word), but details are often vague regarding the actual procedures for data analysis (Harry, Sturges & Klingner, 2005). Grounded theory is a research tool which enables researchers to seek out and conceptualise the latent social patterns and structures of their area of interest through the process of constant comparison (discussed later). Initially, researchers will use an inductive approach to generate substantive codes from their data. Later, the developing theory will suggest to the researcher where to go next to collect data and which more focused questions to ask; this is the deductive phase of the grounded theory process (Glaser & Strauss, 1965). This research process is unpacked more fully later in the chapter.

Confusion regarding grounded theory

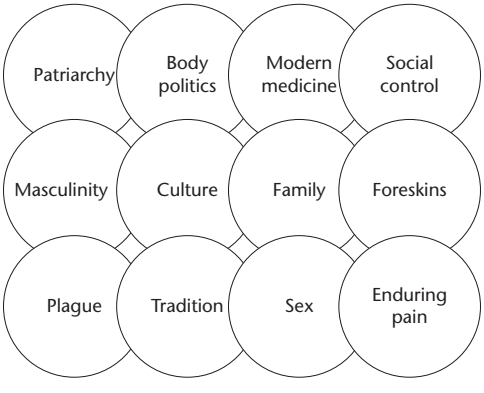
One of the primary reasons why novice grounded theorists may be perplexed as to this research method relates to the term 'grounded theory' itself. This is because the term is used in two ways: it is the research method but it is also the resulting outcome of the research, a theory that is grounded in the data (Charmaz, 2014).

Furthermore, researchers tend to get confused when pursuing grounded theory research because of Glaser and Strauss themselves. While I discuss this at great length in a journal article (see Howard-Payne, 2016), I essentially found that after presenting this new research method, Glaser and Strauss realised that they had starkly different views on the philosophical underpinnings of grounded theory research as well as the actual procedural aspects of conducting such a study. These differences resulted in Glaser and Strauss parting ways. Glaser seemed to appropriate the original or 'classical' grounded theory approach, while Strauss paired up with Corbin to pursue the Straussian grounded theory approach (Charmaz, 2014). In Howard-Payne (2016), I address the various reasons for not subscribing to the philosophical and procedural elements of Glaser's approach. Based on this, I decided to pursue the Straussian approach to my study on the meanings of VMAMC for HIV prevention in South Africa. The next section outlines the data collection and analytic process for this approach.

Straussian grounded theory approach

Before proceeding with the procedural elements of a Straussian grounded theory approach, it is essential to clarify the terminology used to describe the discrete units of analysis for this approach. As the theoretical factors involved in a study begin to emerge from the data, the initial analysis units (codes) are generated. These are considered the identifying anchors that highlight the key aspects of the data being gathered and analysed. Figure 13.1 represents some of the initial codes that emerged from my first interview conducted with my first participant.

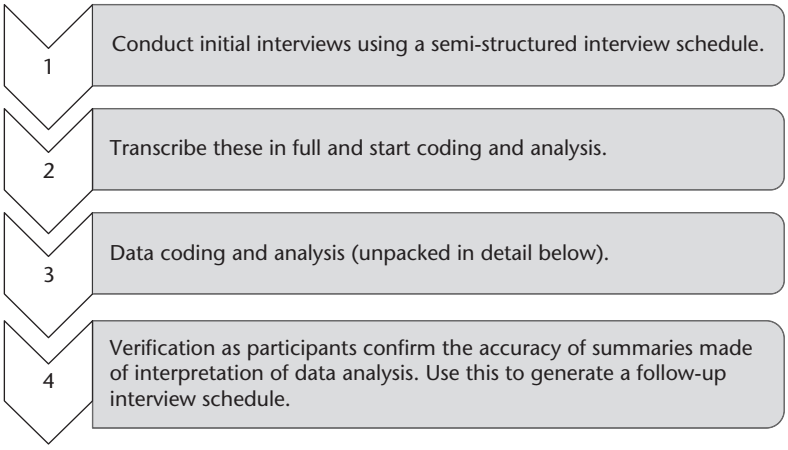
Figure 13.1 Example of the initial codes from preliminary interview with first participant



Source: Author

When codes are compared and then clustered together (based on the similarity of their content), they are elevated to concepts. As extensive groups of similar concepts are grouped together, categories are generated which are then used to construct a theory (Strauss & Corbin, 1994). For my doctoral study, the theory consists of various explanations as to the meanings that are attached to VMAMC in an effort to reduce the risk of HIV infection. In order for codes to evolve into categories, which form the basis of this theoretical account of VMAMC meaning-making, the data underwent various recursive coding and analytic processes (Figure 13.2).

Figure 13.2 Straussian grounded theory process to evolve codes into categories



Source: Author

Data coding

As proposed by Strauss and Corbin (1990), three forms of data coding were utilised (in both a simultaneous and interconnected fashion): open coding, axial coding and selective coding.

Open coding

Strauss and Corbin (1990) report open coding as being a data coding method whereby data are dissected, scrutinised, compared, conceptualised and finally categorised. As recommended by these grounded theorists, I performed a line-by-line *in vivo* coding of the data for the first interview transcript. *In vivo* coding involves allocating a label (a single word or short phrase) to a portion of data to encapsulate its meaning. The first interview was conducted with a young man who offered relatively detailed and emotive responses to the initial semi-structured interview schedule. I read this transcript carefully, underlined key words and wrote notes regarding my initial impressions in the margins of this transcript (see Figure 13.1 and Box 13.1).

Box 13.1 Researcher's summary: Impressions from interview with first participant

As expected, strong sentiments regarding cultural norms regarding 'manliness' and pain endurance emerge in this interview. It will be interesting to see how participants reconcile the fact that the pain endured during a traditional adult male circumcision 'makes him a man' but that medical adult male circumcision would be performed while the man is under anaesthesia (and will not endure the pain of the incisions made but will experience the post-op pain and recovery). Masculinity seems to be a construct that is defined rather by the vague practice of general culturally valued rites rather than what the rite entails. Masculinity is also strongly attached to the autonomy of decision-making power, separate from government, women and even parents (if adult male circumcision is not traditionally performed for cultural reasons). Patriarchy and sexism might play critical roles in whether or not a man will undergo a medical adult male circumcision.

I relied on key phrases (offered by the participant in his own words) to generate a summary (Box 13.1) that reflected an overall sense of his understandings of religious, cultural and medical male circumcision; the HIV pandemic and existing HIV-prevention interventions in South Africa; as well as general sentiments regarding South African masculinity as related to the physical body, sexuality, patriarchy and continued cultural tradition, and the ability to withstand physical pain.

Two alternative key approaches could have been utilised during this categorising process, as proposed by Strauss and Corbin (1990): firstly, a microscopic focus on a particular concept, comparing it to other concepts that arose during the labelling (coding) of the data and assessing its connection, if any, to a similar phenomenon; and secondly, a holistic approach that considers the complete data set to gain an understanding of the concepts. I initially utilised the holistic approach to categorise the data elements by constructing a summary of the first interview, and then shifted into a microscopic method when the next five interviews were analysed line by line, thus initiating the coding process.

Once all the *in vivo* codes were generated, I listed and matched them with condensed code phrases that reflected the core ideas of what was offered by the participants. I relied on manual coding to code and organise the data. Once the codes generated had been listed, I reduced the number of codes by grouping similar codes together into clusters. The data components were compared for parallels, dissimilarities and uniformity of sentiment, so as to generate coded categories that were relevant to the emerging theory.

After code phrases were grouped together to form clusters, these clusters were reduced into meta-clusters, which were labelled. This was achieved as I determined the properties of the identified clusters and delineated the scope of these properties until no novel information could be generated – that is, until theoretical saturation had been reached. This was accomplished by questioning the cause of a particular cluster, the timing of its occurrence, as well as the manner in which the cluster functions. It was in posing these self-directed questions that I gained further insight into the meaning-making of HIV-preventive VMAMC

in South Africa, and contributed to the transitioning process that generated the final theory. It is important to ensure that the labels assigned to clusters are descriptive as well as conceptual. For example, I noted that some initial labels applied to my data set were too descriptive and lacked conceptual consideration. In one instance, an initial label was noted as 'fathers want their sons to look similar to them' but this was relabelled as 'familial patriarchy'. This was later revised in further cycles of data analysis as categories were reorganised to better reflect the VMAMC meaning-making patterns in the data.

As the data coding and analysis progresses, labels become concepts as a comparison of a particular incident is made with previous such incidents, followed by segregating it into as many conceivable codes as possible. As the frequency of this incident increases, comparing a new incident (with respective codes) would then result in the generation of concepts and, ultimately, the properties of the resulting categories (Strauss & Corbin, 1994).

I embraced the process of constant comparison-making to promote codes to a conceptual plane by outlining the conditions under which this concept occurred, offering an account for the incident, as well as forecasting when it was likely to occur (Charmaz, 2014). This generated the foundation of the theory that materialised. Whether or not a code was elevated to a conceptual plane depended on its value in describing and accounting for a particular incident. I was able to evaluate such value by tracking the codes in further rounds of data collection, as well as by associating it to other conceptual categories.

Via the constant comparison method of analysis, concepts are grouped together to generate categories. Strauss and Corbin (1990) regard categories as classifications of concepts, which emerge as concepts are compared with each other during the comparative phase of data analysis. During this phase there is constant comparison between groups of people within the area being investigated. In my study, the groups of participants were men from the general public and student-doctors. This constant comparison technique enabled me to detect trends in the data as well as interactions between these trends. According to Strauss and Corbin (1990), categories must be considered higher-order, more abstract forms of codes or concepts.

The next process in the open coding procedure requires the researcher to identify subcategories, which are defined as the properties of categories that can be located along a dimensional range (Charmaz, 2014). For example, I identified data extracts that were related to the emerging category of 'men's health' and sought to identify the different issues related to this category as well as their properties and dimensions. Initially, properties such as 'masculinity', 'the "normal" male body', 'familial patriarchy', 'critical sensations of the penis', 'decision-making power' as well as 'risk and blame' were identified and the dimensions of these properties were made. However, these were revised in further cycles of coding to better reflect the VMAMC meaning-making patterns within the data.

Axial coding

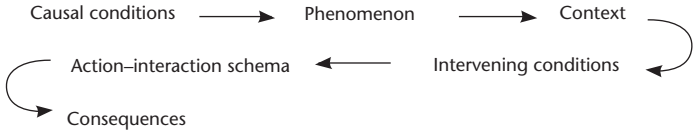
Axial coding involves reassembling the data in a novel fashion whereby the different categories are linked in order to develop a grounded theory (Strauss &

Corbin, 1990). Axial coding occurs at a single category at a time and, in doing so, the researcher is able to have that particular category at the centre of the analysis, thus highlighting its relationship to other categories. This process also plays a crucial role in identifying the core category. Axial coding comprises four discrete but synchronised actions:

1. the speculative connection of subcategories to their related categories is identified;
2. the verification of these postulates alongside the data is addressed;
3. the supplementary expansion of the emerging categories' properties is performed; and
4. the exploration of the variation in the phenomenon is undertaken (Strauss & Corbin, 1994).

Such efforts form a part of the axial coding process, and engaging with the data in this fashion enabled me to better appreciate the relationship between the different categories and their elements. Figure 13.3 outlines this axial coding process.

Figure 13.3 Schematic representation of the processes involved in axial coding



Source: Author

I engaged with this coding process by asking questions about the relationships that emerged through the constant comparison method. In order to test the theoretical explanations for the relationships that I started to develop, I relied upon the literature within various areas of public health, traditional and medical circumcision, as well as a number of key psychological theories of masculinity, so as to outline and compare the relationships among these categories.

In addition, I sought to detail the emerging categories of the conditions that result in particular views of VMAMC in response to the perceived risk of HIV infection, and to identify the contexts that shape meaning-making. Thus, I had to engage with the action–interaction schemas by which VMAMC meaning-making is realised, and address the outcomes of these schemas so as to yield a grounded theory that is both detailed and specific.

For instance, the initial open code of 'masculinity through traditional male circumcision' (TMC) was considered as being essentially connected with other open codes, while also being linked with higher-order categories such as 'men's health' and 'tensions between tradition and medicine'. I did so by relating the concepts of 'gender identity development' and 'politics of VMAMC' to 'shifting notions of masculinity', and positioning this within the emerging category of 'men's health'. Later cycles of data analysis required me to recategorise these concepts, which resulted in the final presentation of my grounded theory.

I consistently reflected back upon the central phenomenon, the context in which it occurred, as well as the causal and intervening conditions that seemed to reflect the participants' meaning-making. For example, participants who considered themselves to be at low risk for HIV infection had certain perceptions of existing HIV-prevention interventions as being successful, thus making HIV-preventive VMAMC a radical and unnecessary prevention strategy. Other participants who considered themselves or their communities to be at higher risk of infection felt that existing HIV-prevention strategies were not effective enough in addressing the HIV pandemic, and so felt that VMAMC was a viable and indispensable intervention strategy.

Participants who had recently become sexually active were more concerned with their personal risk of HIV infection and were more open to considering the value of VMAMC in reducing their risk of infection than those participants who claimed to never have been sexually active. The same could be said of participants in the adult male group who had young sons as compared to those participants who had no children. During open coding, such data extracts were labelled 'favouring of TMC', but this was reconsidered during axial coding as being related to the concept of 'risk and blame'. It was noted that 'the male body' and 'patriarchy' were important with regard to 'men's health' as intersected by 'plurality and fusion'. This intervening condition proved centrally important to VMAMC meaning-making as it essentially spoke to the fact that participants experienced the legitimacy of diversity and inclusive understandings of the meanings of VMAMC (Tsirogianni & Gaskell, 2011), and these seemingly contradictory elements are connected to result in a complex unit of meaning-making (Martin & Sugarman, 2000). This 'plurality and fusion' resulted from men considering a number of their masculine roles (both traditionally hegemonic as well as contemporary perspectives regarding masculinity) and the way in which they should or could be performed in relation to VMAMC and TMC.

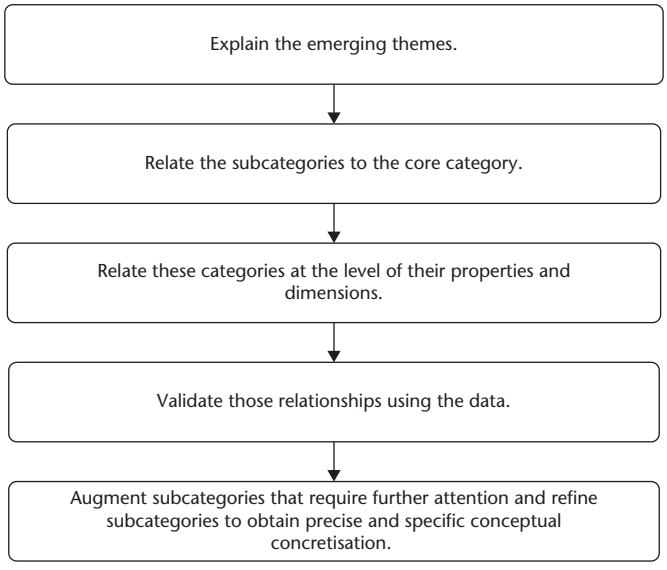
Selective coding

While Glaser (1999) maintains that a classic grounded theory could have a number of core categories, Strauss and Corbin (1994) hold that the core category is the pivotal theme of the data in which the other identified categories can be included. It has been argued that when data reflect a number of focal themes, a number of core categories can be identified (Glaser, 1999). Given that two relatively discrete groups were included in the sample for my study, as well as the fact that multiple cultural perspectives regarding TMC were represented by the various participants, it is conceivable that several core categories could be identified during the selective coding of the data. However, while several significant phenomena were exposed during the construction of the themes, the Straussian approach to grounded theory compels the researcher to select only one core phenomenon. I thus continued to code and analyse the data until such time as a single core category emerged, namely that of 'tensions between tradition and medicine'.

As advocated by Strauss and Corbin (1990), I initiated the selective coding process by constructing a record of concepts (as produced through the axial

coding process) and developed them into a diagnostically discursive written theory by adhering to the five actions in Figure 13.4.

Figure 13.4 Selective coding process



Source: Author

Selective coding converts the relevant records (in the form of lists and schematics) into a discursive summary that describes the themes of the theory. As noted, while several significant phenomena emerged during the construction of the themes, the factors involved in individual meaning-making of HIV-preventive VMAMC were established as the phenomenon during the conceptualisation of the study, while three emerging subcategories were identified. My objective was to emphasise grounded theories that embody a basic social process and a basic social problem, as well as to remain aligned with the aim of my study.

The basic social process and the basic social problem are issues shared by the individuals who participated in the study, but they may not have been overtly expressed by them (Strauss & Corbin, 1990). As grounded in the interview data, I found the basic social problem to be *performances of masculinity*, which resulted in the basic social process of participants having to *negotiate tensions between tradition and medicine*.

It was with this in mind that I repositioned the existing categories and their properties, a process guided by configuring trends monitored within the data. The consequence of exposing these patterns in the data is that the conditions of the theory's occurrence are augmented. In my study, three patterns were recognised and labelled: 'citizen rights and responsibilities in times of HIV', 'men's health' and 'politics of implementation'.

Data collection from this point on was directed towards substantiating the overall theory and the patterns of factors in individual meaning-making. This was performed as I surveyed the data to locate corroborating data, but at the same time I considered data that were unusual or contradictory. Participants

were systematically offered the theory to invite their input (regarding its usefulness and applicability to their understanding of VMAMC) and given an appraisal of its development. The concluding cycle of interviews (for each group of participants) was directed towards gaining confirmatory insight into the interpretation of their accounts, and the theory was amended with this final data gathered.

Some concerns, one of which was related to the defining features of *patriarchy*, emerged from the final cycle of interviews, which were more oriented towards the hypothetical scenarios generated by the interview questions regarding the action of VMAMC for HIV prevention for men who have already undergone a TMC. Another concern was the pessimism and negativity attached to the perceptions of public health and the Department of Health in general, which may have corrupted the pattern of 'the role of the state' and 'autonomy and action' with regard to making health decisions.

Data analysis

Two forms of data analysis occur for a Straussian grounded theory approach: formal analysis through theoretical sampling; and informal analysis, which involves memo writing through the constant comparative method (Strauss & Corbin, 1994).

Formal analysis: Theoretical sampling

Theoretical sampling commenced as I gathered initial data, in this case based on a broad set of semi-structured interview questions regarding general views about TMC, VMAMC and the HIV pandemic in South Africa. This procedure allowed for testing the relevance of such interview questions (where they proved to be inappropriate, they were replaced and retested), which became more intensely focused as the theory started to develop and as the data were categorised and a comparison of these categories was performed (Strauss & Corbin, 1990). The initial research question – What are the individual meaning-making factors regarding VMAMC for the purposes of HIV prevention? – was presented in the form of an elaborated initial individual semi-structured interview schedule to adult and young males from Alexandra township, where the data collected were transcribed and coded. This gave rise to tentative theoretical categories, which further informed more focused data collection rounds.

As a result, there was a further refining of conceptual categories that were re-examined in relation to earlier data, where a particular theoretical category was adopted (Charmaz & McMullen, 2011). This process was conducted until such time as there was sufficient integration of data from various rounds of data collection, and a sound theoretical model could be presented where the key factors that influence the meaning-making of VMAMC for the purposes of HIV prevention were outlined in a relational manner. I had to contend with the absence

of pre-set theoretical samples to be used in generating codes, concepts and categories, thus it was only at the conclusion of the research that the number and type of categories that were sampled could be identified. In order to cultivate the expansion of a category (to the greatest extent possible), an extensive and varied scope of concepts was included, with the limitation of the research aims brought to the fore. If one is cognisant of the inclusion of concepts, one can directly manage the overview of the conceptual levels, and by having command over concept similarities and divergence, I was able to establish the identification of categories and their properties. The minimisation of concept divergence resulted in the identification of central category properties, while the converse assisted in the expansion of this instituted framework (Strauss & Corbin, 1990).

The two criteria used to guide theoretical sampling are basic in their conceptualisation but complex in their execution: theoretical purpose and relevance (Harry et al., 2005). Whether or not theoretical sampling should persist is resolved by the degree to which additional sampling would add value to the progression of the theory. This decision is informed by the emerging theoretical categories. I adopted the position held by Strauss and Corbin (1994) to conclude the sampling of certain concepts at the point when the category reached theoretical saturation, which occurred when the inclusion of supplementary data failed to further develop the properties of that category.

Strauss and Corbin (1990) also reference the tendency for fresh categories to surface, even at the final stages of the research process, and recommend that such categories not be saturated. For this reason, I focused further on the saturation (to the greatest extent possible) of the core theoretical category.

Informal analysis: Memo writing and constant comparisons

Informal analysis should be engaged with at the initiation of the data gathering process (both during the actual interviews by asking clarifying or elaborating questions, and post-interviews through the process of memo writing), in order to gain some understanding of the data obtained from the interviews (Strauss & Corbin, 1990).

Memo writing

As discussed previously, I organised memos during theoretical sorting, diagramming (which I found to be valuable for providing visual representation of summarised key points raised from each interview and how these related to other interviews) and integrating of memos. Memo writing occurring at this stage in the research process was highly conceptual as I sought to understand the magnitude and characteristics of the categories emerging from the data (Harry et al., 2005). The content of a number of these memoranda was included in the final structure of the grounded theory.

Constant comparison method

The grounded theory data coding and analysis process for my study involved elaborating and refining the theoretical categories that emerged from the data.

According to Strauss and Corbin (1990), categories can be considered higher-order, more abstract forms of codes or concepts, and are essentially the most credible conceptual explanation. Categories are established through the constant comparison method whereby all possible explanations for the data are considered, a hypothesis is formed for each potential account, and such hypotheses are empirically checked by re-examining the data (Charmaz, 2014).

The constant comparison method was conceptualised by Glaser and Strauss prior to the divergence of their schools of grounded theory and continued to be used by both Glaserian and Straussian grounded theorists after the institution of these separate schools. This was primarily due to its critical function (conjunction with theoretical sampling) in establishing 'categories, properties, and hypotheses' that create the foundation of the developing theory. Glaser and Strauss (1965) include four phases in this process: incidents that are considered pertinent to each category are compared; the categories and their properties are amalgamated; the theory is bordered; and the theory is finally reported. These four phases are addressed in detail below.

Comparison of incidents

Two rules direct the process of comparing incidents (Glaser & Strauss, 1965): 1) the researcher must compare the incident with previous incidents in the same and in other groups of the category, while coding the incident for a category; and 2) the researcher should stop coding at the point where a conflict in thinking develops and should make a note of these thoughts in a memo.

Grounded theory places great emphasis on the importance of memo writing as it allows the researcher to chronicle any ideas, queries and objectives, and to delineate what may be obvious or embedded in the data collected. Such chronicling allowed me to conceptually digest the data gathered hitherto and to formulate a way forward for future data collection (Charmaz, 2014).

It is also suggested that a gamut of categories be constructed so as to allow the researcher to classify their scope, stipulations, significance and associations. Glaser and Strauss (1965) account for two forms of concepts that surface from the comparison of incidents: 1) concepts that are extracted from the language or terminology used in the description of the process, behaviour or responses related to the research situation; and 2) those concepts that are established by the researcher in an attempt to account for and justify those processes, behaviours or responses. Although it was a challenging task, I tried to avoid prematurely privileging any particular set of categories before engaging fully with the data gathered.

Integration of categories

The second phase of theory generation involved integrating categories and their assigned properties (Strauss & Corbin, 1990). This occurred organically as theoretical sampling and analysis were performed simultaneously (where the collection of data was directed by the questions raised by the gaps in the theory as it was being generated).

Theory delimitation

Once there is an integration of categories, the third phase of developing a theory includes delimiting the theory at two points: 1) those of the theory, where the theory is adapted to elicit clarity by removing unrelated occurrences of knowledge as well as expanding those of value to the area of study; and 2) those of the categories – where the theory begins to surface, the number of categories is condensed in line with the delimitations of the theory. This reduction, as lesser sets of complex concepts emerged to yield a more prudent theory that was able to meet a wide scope of applicability, moved me to the final stage of theory development (Charmaz & McMullen, 2011).

Writing the theory

The grounded theory culminated as I wrote the theory by satisfying three requirements: 1) the framework must produce a systematic and logically substantive theory; 2) it has an obligation to be reflective of truth and accuracy (in terms of precisely reflecting the interview data); and 3) its final presentation should be considered practical by its audience.

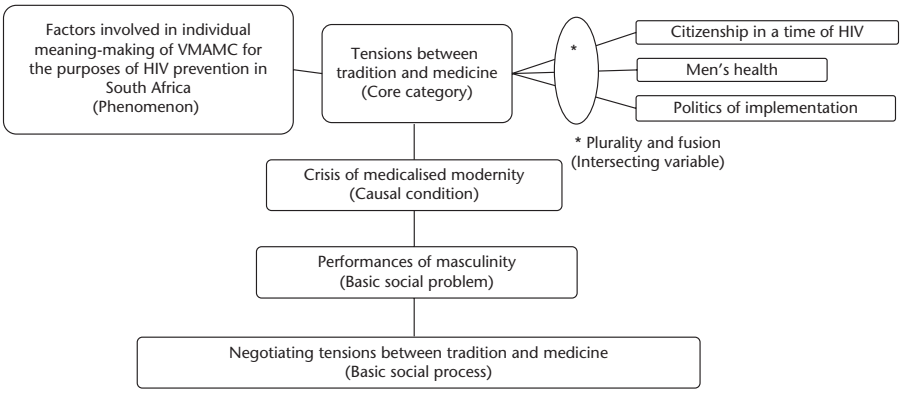
This stage of theory generation was considered an integral part of the investigative process due to the additional insights, ultimately included in the final theory via the writing and rewriting of the theory, which was refined as a result of the continued engagement with the data. This final process afforded me the opportunity to substantiate and explicate conjecture, address and resolve remaining problems, and ensure that all concepts were comprehensive and clear in their presentations.

What does a final Straussian grounded theory look like?

The final grounded theory must be comprised of one core category, which is underpinned by various subcategories. Each subcategory will be comprised of properties that are made up of various dimensions. As you keep track of your memos, you will see how your codes were linked (theoretically) and you can trace this pattern throughout your subcategories. The one issue that links your subcategories will be labelled as your interacting and intervening variable. You then have to identify the theoretical cause of that variable, which will be labelled as your causal condition. This will be comprised of implicit and explicit strategies, namely the theoretical concept that drives the cause (implicit) and how it manifests (explicit). To tie your theory together, you need to identify the basic social process (which is most typically the way in which your core category manifests itself) and the basic social problem (the theoretical cause of the core category). Figure 13.5 represents an overview of my final grounded theory.

I rewrote my theory countless times until I felt that everything was adequately accounted for in my data set. Until that point, confusion reigned, which is a comfortable state to be in for a grounded theorist! Having unpacked the

Figure 13.5 Overview representation of substantive grounded theory on meaning-making of HIV prophylactic VMAMC in South Africa



Source: Author

intricacies of a Straussian grounded theory approach, I now briefly consider some of the practical implications of this research method as it relates to ethical codes of research practice.

Some ethical considerations for grounded theorists

One of the core aspects of a Straussian grounded theory is the recursive collection and analysis of data whereby participants are invited to verify the researcher's interpretation of their previous interview so that the interview schedule can be refined and follow-up interviews conducted with that same participant. What this means, practically speaking, is that researchers might have lengthy interviews with a single participant on several occasions. This requires commitment, not only from the researcher, but from the participants who generously offer their time and knowledge to the research on an ongoing basis. Without some form of compensation for this time and knowledge, researchers are unlikely to retain participants over a period of time (Cotter, Burke, Stouthamer-Loeber & Loeber, 2005). As the number of interviews increased, my participants started to ask for money, free healthcare, free medical aid or health insurance, free medical circumcisions and/or free education as compensation for their continued participation in my study. Since ongoing involvement by participants is crucial for developing grounded theory research, it may be tempting for a researcher to offer participants what they feel is fair compensation. The matter of adequate compensation may introduce issues for ethical consideration for grounded theorists.

The ethical debate to be considered is, 'At what point does compensation become coercion?' Coercion can be defined as 'an overt threat of harm [that] is intentionally presented by one person to another to obtain compliance'

(Wertheimer & Miller, 2008, p. 389). A core ethical standard that all researchers must uphold relates to informed consent and voluntary participation (Appelbaum, Lidz & Klitzman, 2009). Of course, this is a point that can and should be debated, but one may argue that to offer money, free education or healthcare services to participants from low-income communities in South Africa as a form of compensation for their research participation is in fact coercion (Grant & Sugarman, 2004; Wertheimer & Miller, 2008). Researchers must resolve this ethical debate for themselves as they weigh the merits and consequences of 'adequate compensation' against the potential threat of coercion. I urge researchers to be aware of this dilemma in grounded theory and to resolve this issue by consulting with their respective ethics committees during the proposal-writing phase of the research process. Furthermore, it may be worthwhile to spend more time than usual discussing with potential participants what would be expected of them (in terms of their ongoing participation) and what you are offering by way of compensation if they choose to participate in your grounded theory research.

In my study, I chose to seek out new participants rather than attempt to offer the compensation requested by participants who became dissatisfied with only being offered refreshments during the interviews. Not only was it not financially feasible for me to provide money, free healthcare or free education to the participants, but I felt it breached the ethical standard of non-coercion. Of course, the challenge of ongoing recruitment and retention of participants in grounded theory research can be disheartening if researchers are unable (practically and/or ethically) to provide the type of compensation that some participants request, yet the resolution to uphold ethical standards of conduct is paramount in research practice. Having presented the challenges that a novice researcher may encounter when embarking upon grounded theory research, including upholding the ethical codes of research practice, I now offer a final suggestion for starting a grounded theory study.

Final suggestion

While many tips could be offered for individual grounded theories, I offer what I consider to be a critical suggestion as researchers start their methodological journey. I believe that it is essential for researchers to clarify what type of grounded theorist they may be from the outset of the study. This can be established by reading seminal work from Strauss and Corbin, or Glaser; however, the work of Charmaz, which was not discussed in this chapter, is also compelling and worthy of engagement. In considering their philosophical assumptions regarding grounded theory research, readers can identify relatively early on whether or not they agree with the authors' position on the research paradigm, epistemology and ontology. For example, a researcher who is attracted to the idea of objectivity, and casting aside all personal and professional expectations for a study, may be well suited to a Glaserian grounded theory approach. If researchers are unconvinced by this philosophy but rather feel compelled by the notion that axial coding can be used to understand the complex conditions of an investigative

phenomenon, then they may find the Straussian approach well suited to their study.

Researchers may find reading certain seminal works easier than reading others because that particular grounded theory approach resonates more profoundly with their view of the world and how their research is located within that world. As with most types of research, the grounded theory approach selected often reflects a researcher's true identity, which is vital to the successful completion of any study.

Embrace being a grounded theorist

Despite the apparent confusion regarding grounded theory research, once researchers have taken the time to grapple with the various issues addressed in this chapter, they will find that it is a unique research method and methodology for a number of reasons.

It is a flexible method that is structured in a way that allows researchers theoretical and practical room to address research problems as they arise. This requires researchers to be creative in their approach to the research process. As a result, grounded theory is intellectually exciting because it requires researchers to read widely, often beyond their typical disciplinary borders.

Embracing the notion of emergence will facilitate the simultaneous inductive–deductive thinking that is the foundation of grounded theory research. While this requires researchers to be highly organised people with (relatively) good memories, it also allows them to be independent thinkers.

A good grounded theorist likes to solve puzzles and understand how different features of the resulting grounded theory are related to each other. This is thought-provoking and generally exciting as it often requires researchers to consider the more obscure aspects of their research in order to provide a comprehensive theoretical framework that addresses the phenomenon under investigation.

Finally, being a grounded theorist challenges early career academics to tackle insecurities regarding thoughts that theory development is reserved only for more experienced professors or the 'legends', such as Freud and Darwin. Grounded theory research encourages researchers, regardless of the stage of their careers, to contribute to knowledge production, particularly if the resulting theory addresses unique contextual phenomena.

Conclusion

This chapter relied on my experience of using a Straussian grounded theory approach for my doctoral study on meaning-making of HIV-prophylactic VMAMC in South Africa. In relaying this experience, I presented the origins and purpose of grounded theory research but also provided readers with an outline of the challenges that come with trying to make sense of this unique research method and methodology. Ultimately, this chapter advocates that researchers

make more use of grounded theory research to conduct empirically sound studies that present novel theory which is grounded in the data. This will ensure that scholars have continued access to improved, contextually relevant theory in which to locate their own research.

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14 Feminist approaches: An exploration of women's gendered experiences

Peace Kiguwa

Introduction

Feminist research approaches are diverse in their emphasis and method. However, all feminist-oriented research consists of core features that address the ontology and epistemology of feminist theoretical frameworks. This includes the focus on and objective to critically engage women's lived social realities with a view to changing them for the better. More recently, intersectionality as a guiding methodological and ethical framework attests to the diversity of women's lived realities and feminist approaches more broadly. This chapter provides an overview of feminism and feminist research approaches, focusing on the interpretive and critical research paradigmatic approaches. It aims to explain what is meant by a 'feminist' approach in research. In doing so, the chapter aims to assess the usefulness of feminist research agendas in doing gender work. The chapter demonstrates that there is more than one feminist approach, and that these different approaches have strengths and weaknesses that can enhance research and contribute to social change more broadly. Before presenting the central tenets and principles of feminist approaches, the chapter first briefly discusses the ontological and epistemological underpinnings of feminism and feminist research, with a view to engaging why some gendered research and analysis is not feminist in approach and orientation. This distinction is important as the meanings of 'feminist' and 'gender' tend to be misleading in that they are often understood to refer to the same thing. Doing work and research on gender is not always feminist in orientation.

What constitutes feminist research?

Consider the following two narratives:

> Our mothers and grandmothers taught us that circumcision is very important for women and girls. I was given pharaonic circumcision when I was eight years old living in Shendi. I still remember the operation being very painful, but to this day I believe it is necessary; and it

> is more effective than the sunna that people want to follow these days. In the Sudan, our ancestors of a long time ago knew better than people these days, who do not want to keep their customs. Female circumcision is a good good custom because the removal of the external genitalia is necessary for girls. These parts, especially the clitoris, can get very big. I heard from some people that women who are not circumcised have clitorises that are as big as a little boy's penis. I haven't seen it myself, but people who told me swore that this is the case. Now, do you think a woman should allow that this happen to her daughters? I believe it because just as the rest of a girl's body parts grow when she grows up, her clitoris also grows. But these days people don't want to pay attention to that. People try to do the sunna, but the real circumcision is pharaonic because a lot of doctors and some women are trying to teach people that their ways are wrong. Circumcision is what makes one a woman, because by removing the clitoris, there is no way that her genitals will look like a man's. The woman with a big clitoris is just like a man. How can a woman carry such a long organ between her legs and pretend that things are normal? For this reason, all my daughters were given pharaonic. I continue to believe in it and I hope that people don't abandon it. This custom should not be changed because without, women's bodies are not beautiful. A woman should do everything in her power to keep her body beautiful and she should do the same for her daughters. (Saadia, 62 years old, in Abusharaf, 2001, p. 123)

And:

> When I was six years old, a traditional midwife circumcised me and I suffered from pain. I remember that before my circumcision, no one told me about it, or explained why it was important. This is something people do all the time; it is part of their old customs, which do not need to be explained. It is a painful experience: you can't urinate, you can't walk, and you can't have anything to ease the pain. The nights were very long when as children we were not able to sleep because of the throbbing pain. You have to understand why our mothers were keen to do it. They did it out of concern because they did not want to break with their tradition. Although I know it is painful, and I know it causes problems, I know that circumcision has many benefits, which are more important than its troubles. For that reason I did not object to my daughter's circumcision. I supported her circumcision because it is custom and because I wanted to be like everyone else in the neighbourhood. My daughter is now experiencing trouble; when she gets her period she can't move. I think that the problems I would face with my family would be greater and harder to deal with had I decided to abandon this custom altogether. The pressure did not come from my husband. My husband did not have any say when our young daughter was circumcised. I did not consult him. But my relatives, especially my mother and my aunts,

> were the ones who wanted pharaonic. I am convinced that circumcision is painful, but our relatives do not want to do it to hurt us. They are just following their community and their families. I feel that in the name of custom my relatives did that to me, and in the name of custom, I did it to my daughters. All of these things are in my mind. I understand them, but I have no way of changing them even though other more educated women come to tell us how bad circumcision is. (Asha, 48 years old, in Abusharaf, 2001, p. 133)

These narratives can be read in many different ways, even within feminist theory and practice. Regardless, they touch on an issue that is of central concern to much feminist work: the autonomy of women's bodies. The autonomy that women have over their own bodies and the violence that may be enacted against these bodies have inspired much theorising, research and policy framing the world over. Some of these policies have been informed by feminist research and work, while others have come under attack by many feminists for failing to consider women as autonomous subjects with particular kinds of rights. Returning to the two narratives, both participants present another bone of contestation: what makes a social practice a 'feminist' issue? The narratives are especially challenging for those feminists that consider such practices to embody violence against women's bodies. What does one do, then, with a narrative by a woman who seems to actively support female circumcision? Depending on your epistemological approach, these two narratives would be read differently – both in terms of how we choose to problematise the narratives as well as in terms of what we consider to be appropriate interventions. As will be seen, researchers working within different paradigmatic approaches tend to ask very different questions about their social worlds, and consider very different interventions in these social contexts. We will return to the two narratives later in the chapter, but for the moment consider the following interview excerpt:

> A taxi-driver openly described how he and his friends would cruise around at weekends, looking for a likely victim to abduct and 'gang-bang'. His story was unselfconscious and undefended: he showed no awareness that he was describing rape, much less criminal behaviour. When the interviewer pointed out that his actions constituted rape, he was visibly astonished. What was most striking was his spontaneous and indignant response: 'But these women, they force us to rape them!' He followed his assertion by explaining that he and his friends picked only those women who 'asked for it'. When asked to define what this meant, he said, 'It's the cheeky ones – the ones that walk around like they own the place, and look you in the eye.' (Moffett, 2006, p. 138)

Students in my gender class have often debated the paradigmatic framing of such research as feminist given its focus on and exploration of men's voices in understanding gendered subjectivities and violence. This is an important issue: is feminist research only ever concerned with women as subjects, and with

exploring women's everyday experiences and social relations? Again, depending on what paradigmatic approach you adopt, the answers to this question would be very different. Given its concern with gendered sociopractice that has very real consequences for how many women and young girls may enjoy everyday social citizenship, Moffett's (2006) study is feminist in principle. In critically interrogating problematic (re)enactments of masculinity, the study contributes significantly to feminist theorising and activism related to gendered identities and practice. Nonetheless, it is generally agreed that feminist research is primarily concerned with and focused on women's experiences and accounts of being gendered subjects within society.

Is gender research always feminist?

The problematic of what constitutes feminist research touches at the core of a common misunderstanding of feminist theorising. Indeed, not all research on gender can be described as feminist in approach and orientation. Gender's articulation in much psychological research has been critiqued by some feminist scholars who have argued that there is very little interrogation of the concept of gender itself, as well as little critical interrogation of how gender has been taken up in problematic ways (Palmary, Burman, Chantler & Kiguwa, 2010; Shefer, 2004; Shefer, Boonzaier & Kiguwa, 2006). Likewise, not all feminist research is exclusively about women or focused only on women, although some scholars argue otherwise (Wilkinson, 1996), preferring to prioritise feminism's core principle of giving credence to women and the issues and experiences that affect them. I would argue that while this latter priority is important, feminism's potential impact in influencing social change for women must encompass a much broader analysis of gender as an organising structure and lived materiality that affects all gendered subjects in society. In this regard, feminist research benefits from a broader vision of critical work on gender in society and its myriad enactments and sociopolitical formations. Critical work on masculinities, for example, can thus be enhanced through a feminist lens (Boonzaier, 2014; Lau & Stevens, 2012; Ratele, 2008, 2013).

A feminist critique of the function and articulation of gender in psychological research concerns the ways that gender as a concept has been deployed apolitically. The consequences of this are that relations of power that are configured in terms of gender remain hidden and uninterrogated. Such research engages gender purely as a variable that may tell us interesting things about the social world we live in, but completely fails to provide sociopolitical analyses of the networks of power that exist within social structures and between social beings. Left unspoken is how some subjects are actively produced as gendered subjects in very particular ways that either disempower or empower them in society. Given this, gender then is less about an 'objective variable' that exists in isolation from the sociopolitical framings of the society but is rather an active process of *subjectification* that is (re)produced in different ways and contexts by gendered subjects (Butler, 1990). Judith Butler's (1990) work

on subjectification, for example, has been useful in feminist analyses of gendered schooling practices and how individuals within the education context become gendered subjects. This process of subjectification – becoming subjects – is interwoven in other intersecting networks of language, social practice and performances of masculinities and femininities (Davies, 2006; Hey, 2006; Nayak & Kehily, 2006).

Research on gender that fails to engage gendered subjectivity as contextualised and political in function and form has been problematic for feminist researchers for a variety of reasons. Such research tends to engage gender in organic and essentialising ways that view gender as immutable and static in form, content and performance. For this reason, much feminist research attempts to break free from the practice of engaging gender as merely a variable. Rather, gender becomes a performative re-enactment that is imbued with sociohistorical and political influences. Our gendered practice and behaviour cannot simply be read as attitudinal and sociocognitive dimensions of human personality but rather as a category that is both constructed and performed within constrained sociopolitical contexts. For feminist researchers, gender is not just material and personal embodiments but also a politically contested category that informs how we think about other intersecting lived materialities. For example, some feminist scholars have explored the gendered constructs of home, community and nation to demonstrate the normative ways that such everyday meanings and constructs are lived and constructed (Palmary et al., 2010). In an investigation of how gendered discourses inform individuals' naming of some behaviours as sexual harassment within institutions of higher learning, Kiguwa and colleagues (2015) demonstrate that how certain behaviour practices and modes of performance are defined as sexually deviant will influence how some behaviours are named as constituting sexual harassment. For example, a woman who fails to comply with what is considered 'appropriate' dress code was constructed by the participants as inviting unwanted attention:

> Participant 7 (male): Again, a woman who invites attention and then complains that it is unwanted is problematic.
> Facilitator: How do they invite it?
> Participant 7: You have to look at how she presents herself, the dress, the behaviour, like is she flirty, all those things.
> Participant 3 (female): [nods] . . . yes, many female students in fact flirt with the lecturers. So they can't now complain of harassment.

The excerpt illustrates how discursive constructs of gender – through constructs of respectable femininity – are deployed in justifying some acts of violation against women's bodies as warranted, even invited by women themselves. Language is here used to justify and absolve male perpetrators from any sense of responsibility in gender-based harm and violence against women. Furthermore, the implied and false agency that is accorded to women implicitly works to render the agentic act of reporting sexual harassment as problematic. The implied passivity of male sexual subjects is simultaneously constructed through victimhood that falls prey to aggressive femininity. In this way, treating gender as a category that

is imbued with historical, cultural and social meanings of femininity and masculinity is important. Such an analysis enables us to engage gendered practices in our everyday contexts as actively political and social in meaning, practice and outcome. Gender is actively constructed not just through language but also in our lived embodied experiences of what it means to be a man and/or woman, to be identified as embodying particular kinds of gendered bodies. Other research focused on non-normative sexualities further illustrates and makes complex this simple binary of being male and female (Matebeni & Msibi, 2015). How we read certain bodies as non-binary or how non-binary bodies present a challenge to traditional meanings of gender and sexuality highlights the politics of gender in our everyday lives. Feminist knowledge production seeks to unsettle the apolitical meanings of gender and sexuality that are evident in mainstream research, which treats gender as just another objective variable with no social and political history informing it.

General principles of feminist research

Feminism's different strands and approaches (see Kiguwa, 2004, for an overview) informed by different paradigmatic framings mean that feminist researchers do not always agree on the core principles of feminist research. Nonetheless, some unifying and central tenets of feminist approaches are evident in much of the practice and methods of feminist research.

Firstly, as Wilkinson (1996) has noted, feminist research aims to attend to women's marginalised and often silenced voices, not just in the social world but also in the production of knowledge (Boonzaier & Shefer, 2006). Part of this emphasis on women's knowledge is the concern over the dominance of positivist and quantitative research methods and approaches in constructing knowledge about the world and about a dominant group of people – men. As a response, early feminist research sought to address this significant gap not only by revisiting and including women's voices and their narratives of their experiences, but also by challenging the dominance of one method in gathering and making sense of knowledge. By engaging with multiple methodological methods, feminist research aims to demonstrate the utility of understanding multiple worldviews in different ways. As a core principle then, the prioritising of women's experiences and voices remains at the heart of much feminist research and practice. For example, Photovoice research methodologies have recently emerged as critical political tools for bringing to the fore marginalised voices and experiences of gender and sexuality. Researchers in South Africa have used Photovoice to document the lived experiences of sexual and gender minorities (Cornell, Ratele & Kessi, 2016; Zway & Boonzaier, 2015). Through such visual narrative, a narrative and feminist analysis of the sociopolitics of space, institutional culture, safety and security, amongst other concerns, can be explored through the worldview of participants. Such retelling is also a powerful and effective means of inviting heteronormative society to look again at its taken-for-granted practices and cultures. In 'Thinking Women's Worlds', Bradbury and Kiguwa (2012)

make use of such exploratory methodology to engage the lived realities of being differentially gendered bodies within higher education contexts.

Secondly, the adoption of a multiple methodological framework remains an important strategy of feminist research. Indeed, feminists have argued for a long time that it is impossible to have one unitary methodological method or approach (see Harding [1986] for an overview). Feminists have thus relied on both quantitative and qualitative approaches in trying to make sense of the social world and lived realities of many women. Some feminists, however, take a strong stance regarding the adoption of quantitative methodologies (Wilkinson, 1996), arguing that the very values of these methodologies are problematic in themselves, such as being male-centred (Boonzaier & Shefer, 2006; Harding, 1986, 1991).

A third core principle of feminist research has been actively espoused by feminist standpoint theories that have drawn attention to the political importance of understanding and engaging differences between and amongst women (Boonzaier & Shefer, 2006; Callaghan & Clark, 2006; Doucet & Mauthner, 2006; Lentin, 1993). Standpoint theories argue that women's experiences of being and becoming gendered subjects must take centre stage in how we theorise and make sense of the social world. Differences between and amongst women are here understood not only to present multiple ways that we can understand the world, but also to provide insight into the different axes of power that women the world over experience and are faced with. Standpoint theories argue that it is politically important for women's voices and experiences to speak to and about these differences, and for women to tell their own stories and become narrators of their own experiences. In so doing, standpoint theories challenge the passivity that women have been accorded in the knowledge production process. Standpoint theories have come under some criticism by scholars questioning the implied essentialism in arguing that women's experiences take centre stage in how we make sense of and interpret the world (see Scott, 1991). Experience is here taken not as the evidence or origins from which we may theorise ourselves and our social world, but rather as the very thing that we should aim to explain and account for (Scott, 1991).

Feminist research also seeks to be reflexive in nature and practice. This fourth principle emphasises the impossibility of neutrality and objectivity in any research, arguing that by its very nature, the practice of research is political – both in conceptualisation and effect. Given sociopolitical and historical contexts in which gender is one of many complex organising tools, our very constitution as gendered subjects is political. Understanding the power complexities and nuances that are part of this constitution requires that we as researchers partake in a continuous process of reflexivity that alerts us to our biases in research, the relations and intricacies of power that exist between us and our participants, and the potential effects and unintended consequences of our research findings. Reflexivity in research also means considering the implications and myriad ways of posing research questions, framing particular issues and experiences as 'problems' that require intervention, the powerlessness of our participants in framing and presenting their own issues and concerns and so on. Boonzaier and Shefer (2006) go further in arguing for self-reflexivity in how our own investments

influence particular research agendas and outcomes, and how our social identities may be implicated in the research process as a whole.

Feminist researchers working within a critical analytic paradigm have highlighted a fifth core principle of all feminist research: an exploration of the analytics of power in society and the intersecting effects on women. Feminism is thus explicitly political in orientation, conceiving of a gendered subject that is both a social and a political configuration of intersecting sociopolitical and economic systems (Callaghan & Clark, 2006). Feminism as a social movement and epistemology aims to challenge the arbitrary dichotomy between individual and social explanatory frameworks of gender. The famous slogan 'the personal is political' speaks to the heart of this problematic, preferring to engage the psychosocial dimensions of gendered subjectivity and practice.

In this sense then, Callaghan and Clark (2006) pose another central principle of feminist theory: an ontological view of patriarchy as a central organising principle in society. By so doing, feminist researchers challenge ahistorical and apolitical views of individuals and social relations that do not consider the inherent privilege and power of certain groups in society. Gender as an organising principle limits who people can be and what they can be in different contexts. Nonetheless, the myriad ways that subjects exercise agency and resist structures of inequality and gendered subjectification, albeit within constrained conditions, is also highlighted as important political work that feminist researchers must undertake.

Finally, the principle of intersectionality that has recently come to centre much feminist theorising and research remains a fundamental praxis for feminist work. Intersectionality's roots in black feminist critique have also highlighted the importance of other marginalised feminisms, such as black and African feminism that aims to engage and make visible the voices and experiences of women of colour. Such an approach engages differences between women not just as a speaking-back to western feminism, but rather as new and alternative ways of reimagining gender and ways of relating to patriarchal systems that can create new resistances (Gqola, 2001, 2011). By exploring these marginalised voices and experiences of being in the world, intersectionality as a guiding principle remains a core political tool of feminism. Feminist scholarship on intersectionality is diverse (Davis, 2008; McCall, 2005; Nash, 2008). Some scholars have argued that intersectionality as a guiding principle has provided much-needed critical analysis of *within*-group conflicts and tensions (Jordan-Zachery, 2007). In so doing, intersectionality challenges much standpoint theoretical analysis that presents homogeneous constructs of gender. Such a framework makes it possible to consider how women themselves may be differentially positioned within multiple axes of power that in turn influences how they embody gender. For example, in a Photovoice narrative account, my transgendered student and I explore our different sexual and gender positionings within the tertiary institution where we work and interact. My student's account of being a transgendered, black student living in student residences marked by hegemonic surveillance-style performative practice tells a story of oppression and self-surveillance that highlights transgendered students' everyday confrontations

with cisgendered and heteronormative institutional culture. This is juxtaposed with my narrative account of being a black, cisgendered, lesbian academic – with varying moments of surveillance and self-surveillance *but* also differential access and privilege in my interaction with the different social and structural bodies of the institution. Our joint experiences of being gender non-conforming bodies are thus marked by differences in privilege and access that are related to other intersecting categories of identity, space, academic status and so forth. Intersectionality theoretical frameworks require that we take seriously our differences as members of a marginalised community in our struggle against the broader patriarchal and heteronormative society.

Levels of analysis in feminist research

We can thus deduce that feminist research is far from unanimous in its form of analysis and interpretation of the social world. In engaging some of these differences, it is useful to frame feminist theorising within the three broad paradigmatic approaches in social scientific research (Neuman, 2002) and the corresponding levels of analysis that result from this. In elucidating these levels of analysis, we are able to see how the different strands of feminist theorising articulate different areas of emphasis in posing research questions and thinking through the social world as gendered. Feminist researchers have primarily conducted research using both interpretive and critical paradigmatic approaches, given the qualitative research designs of these paradigms. Positivist methods that tend to favour individualistic tools of inquiry have come under much criticism by feminist scholars. Table 14.1 provides a succinct summary of the core ontological differences amongst all three approaches. The rest of this section elucidates the interpretive and critical approaches for working within feminist frameworks of investigation.

The emphasis on how women experience and interpret their everyday lived realities is at the heart of the interpretive social scientific paradigmatic approach. Research conceptualised and conducted within such a paradigmatic framing tends to emphasise participants' lived experiences as worthy of focus, with a preference for seeking to understand how participants understand their own experiences as opposed to an imposition from outside, such as from the researcher. An interpretive approach does not impose any value judgement to such an understanding, preferring to consider women's experiences as authoritative in their own right. The approach adopts levels of analyses that also aim to understand and explore the interpersonal, situational and subjective dimensions of individuals' lives and everyday life experiences (Foster, 2006). For example, research that attempts to *understand* domestic violence and women's choices and actions to remain in abusive relationships may adopt such an interpretive level of analysis to understand subjective experiences of and feelings about the relationship. This is then used as a guiding frame of reference in exploring the choice to stay. Feminists working within a critical paradigm may be more interested in what the differential positioning of women in abusive relationships tells us about

Table 14.1 A summary of differences among the three approaches to research

	Positivism	Interpretive social science	Critical social science
Reason for research	To discover natural laws so people can predict and control events	To understand and describe meaningful social action	To smash myths and empower people to change society radically
Nature of social reality	Stable pre-existing patterns or order that can be discovered	Fluid definitions of a situation created by human interaction	Conflict-filled and governed by hidden underlying structures
Nature of human beings	Self-interested and rational individuals who are shaped by external forces	Social beings who create meaning and who constantly make sense of their worlds	Creative, adaptive people with unrealised potential, trapped by illusion and exploitation
Role of common sense	Clearly distinct from and less valid than science	Powerful everyday theories used by ordinary people	False beliefs that hide power and objective conditions
Theory looks like	A logical, deductive system of interconnected definitions, axioms and laws	A description of how a group's meaning system is generated and sustained	A critique that reveals true conditions and helps people see the way to a better world
An explanation that is true	Is logically connected to laws and based on facts	Resonates or feels right to those who are being studied	Supplies people with tools needed to change the world
Good evidence	Is based on precise observations that others can repeat	Is embedded in the context of fluid social interactions	Is informed by a theory that unveils illusions
Place for values	Science is value-free, and values have no place except when choosing a topic	Values are an integral part of social life; no group's values are wrong, only different	All science must begin with a value position; some positions are right, some are wrong

Source: Neuman (2002, p. 75)

gendered power configurations in society more generally. Poststructuralist feminists, for example, have argued for an analysis of women abuse that highlights different formations of power, through class, race, gender identity and so forth, in how women understand and respond to their situations (Boonzaier, 2006). Through language, we construct masculinities and femininities in multiple and contradictory ways that are located within specific social, historical and cultural contexts. Feminist poststructuralists thus emphasise the political underpinnings of what we may initially consider to be personal experiences and accounts.

Returning to the narrative excerpts on female circumcision that opened this chapter, the privileging of both *women's experiences and accounts of circumcision*

as fundamental to their own and their daughters' femininity would be typical of an interpretive framework. Such a method for understanding and making visible women's marginalised voices is central to this framework and requires that the researcher create and maintain an open dialogical process that allows for the participant's voice and accounts to emerge without fear of value imposition and judgement. The *co-constructions* women create as part of meaning-making are considered an important part of redressing women's exclusion from knowledge production. The meanings that women bring to bear upon their lived realities are considered an equally important research objective in social justice work. Understanding why women would actively promote the practice of female circumcision means that these voices are not discounted as embodying 'false consciousness' but rather are illustrative of agency in how choices are made about bodies and women's participation in culture. Engaging women's narratives is thus an important aspect of such interpretive methods. African feminist scholars have argued for a theoretical lens of black African women's experiences that does not reproduce Euro–western frames of reference in reading women's bodies and participation in culture (Coulibaly, 2015; Gqola, 2001; Mikell, 1995). Feminist narrative analyses aim to explore women's accounts of their everyday and social worlds with a view to understanding and making visible how women navigate sociopolitical, economic and other relational dimensions of power in society. For example, Stevens (1993) demonstrates the value of exploring how lesbians from low-income communities struggle with access to healthcare through their own narrative accounts and stories of access. In so doing, Stevens (1993) makes visible relational networks of power that exist outside of the margins of research, engaging with a marginalised community and demonstrating the structural inequalities of healthcare in real people's lives.

Through the use of visual narrative methods, feminist researchers aim not only to make such stories and experiences visible but also to highlight women's vulnerabilities as well as their resistances within a patriarchal system. In this sense, interpretive research is also critical in orientation in seeking to engage processes of social change. Indeed, many feminist researchers tend to work within both paradigms as more effective ways of understanding and engaging the social world. Puleng Segalo's work on embroidery as narrative (Segalo, 2011, 2012, 2014; Segalo, Manoff & Fine, 2015) demonstrates the importance of exploring women's narratives of self and community to understand the effects of traumatic pasts and histories in present lives. As noted, researchers working with Photovoice tools have also engaged narrative forms of enquiry to understand individuals' lived experiences as well as their social location and positioning within networks of power. In order to highlight the influence and invisible power of embodied cultural capital in how students navigate spaces of learning in institutions of higher learning, Bradbury and Kiguwa (2012) work with visual narratives to tell stories of intersections of social categories of race, class, gender and sexuality in students' feelings of belonging and non-belonging. Kihato (2010) uses visual methodologies to make visible migrant women's lived experiences as migrants. She argues that such a methodology allows for traditionally passive and invisible subjects and accounts to emerge organically and reflectively in the

research process. Doing research with populations and communities that are not able to 'speak' their experiences because of language barriers, for example, is thus made possible. Participants create meaning in the images and are able to tell stories of their material embodiment as subjects as well as construct meanings about their social situations within the world. Feminist scholars have argued for alternative forms of data collection that are able to engage stories of trauma and survival that are not triggering, invasive and limited (Motsemme, 2004a, 2004b).

Feminist scholars utilising critical paradigmatic frameworks have emphasised the need to interrogate subjective accounts and interpretations of experience. True to the principle of making the personal political, critical feminist researchers emphasise the need to engage subjective accounts of the everyday social world as more than personal experiences. Thus, the women's accounts of and support for a cultural practice that would seem to privilege male sexual pleasure to the detriment of women's safety and experience of pleasure itself would be problematised. Female circumcision as such a practice would be interrogated for its legitimation of a sociopolitical, economic and cultural system that is seen to be oppressive to women. Interrogating complicit accounts of subjectification that legitimate such systems would further be critiqued. Linking these personal experiences to broader social and political structures of inequality and power networks constitutes an important layer of analysis. Similarly, the taxi driver's accounts of gang rape would be problematised in their discursive reproductions and legitimation of gender violence. Interrogating the relational configurations of power is fundamental to how we make sense of the world with a view to changing these configurations so that they are more equitable. Critical feminist scholars working within such a framework emphasise research methods that allow for such deconstruction and critique of psychosocial configurations and networks. Critical Foucauldian and feminist scholars have indeed argued for a social analysis that engages multiple sites of practice and resistance by integrating methodological lenses (Macleod & Durrheim, 2002).

Much participatory action feminist research similarly relies on interpretive and critical frameworks in its analyses of women's lives and experiences (Maguire, 1987). Through body-mapping projects, such visual methodologies narrate the stories of marginalised communities such as sex workers, and sexual and gender minorities (Oliveira, Meyers & Vearey, 2016; Oliveira & Vearey, 2017; Schuler, Oliveira & Vearey, 2016). In so doing, marginalised voices and experiences are not only made visible but can be instrumental in challenging current practices, structures and policies that further make invisible and oppress vulnerable communities. Zethu Matebeni's (2011) work on intersectional citizenship and violence against sexual minorities in post-apartheid South Africa also demonstrates this integration of paradigms in telling women's stories. Through the notion of intersectional citizenship, Moreau (2015) highlights the problem of conflating gendered experiences of oppression as homogeneous. The black lesbian body in South Africa is understood via different and multiple discursive constructs that are related to sociomaterial resources of power. This in turn has significant consequences for how such identified bodies enjoy everyday social and material citizenship.

Doing ethical feminist research

Given feminism's central concern with the subversion of patriarchal and oppressive systems for/on women, and in spite of its diversity, the issue of ethical praxis in research remains a continuous and political project across the different strands of feminist theory. Ethics in feminist research is a political project that aims to address gaps and problems of representation in research. How women have been represented and the myriad forms of representation – such as black, queer and other marginalised positions of speaking – thus become an ethical issue for feminist researchers. The issue of 'voice' and who speaks in the research is closely related to this emphasis. Feminist researchers consider the passivity with which many women have been represented and spoken on behalf of to be deeply unethical. Ethical research must therefore entail continuous researcher reflexivity that includes how we represent, speak for, tell other women's stories and create knowledge about women and their experiences (Palmary, 2006).

Another ethical issue for feminist researchers is the political project of social change through research. Given feminism's roots in sociopolitical change for women in society, the underlying task and objective of any research concerns the need to make visible, challenge and bring about change to women's lives and in broader society. How women experience oppression and patriarchy thus remains at the heart of feminist research, and it is considered the ethical responsibility and task of the researcher to conduct research with women with the objective of social change. This is the task that much feminist research, such as participatory action research, sets for itself: conducting research with the view to intervening and bringing about social and interpersonal action that addresses social inequality. Feminist researchers are also ethically obliged to conduct research that continually exposes the intersection of personal livelihoods and everyday meaning-making with broader sociostructural inequalities and systems. This intersecting of the personal with the political is at the core of feminist theory.

Feminist theory's project of recovering marginalised voices and exploring possibilities for social justice for women has broader implications for the place of reflexivity as a core ethical principle in research. The research encounter is invariably marked by unequal relations of power between participants and the researcher. To what degree is it possible to recover and not appropriate the voices of the powerless? Even when we are most reflective about our positions as researchers, do we ever escape the trappings of power that these positions confer upon us? These are serious ethical dilemmas that feminists must continually grapple with and which remain impossible to answer in consistent ways.

Conclusion

This chapter argued that feminism's roots as a political social movement have deep implications for how we conduct research and intervene in social situations that we consider oppressive to women. The chapter discussed examples of research that exemplify these different levels of analysis. Given feminism's

multiple strands of emphasis, these methods of questioning and intervening will not always be harmonious. Nonetheless, several core principles underlie both feminist research practice as well as the ethics of research.

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15 The power of critical discourse analysis: Investigating female-perpetrated sex abuse victim discourses

Sherianne Kramer

Introduction

Poststructuralism provides a critical lens through which to understand and explore subjectivity and knowledge. Central to its ontology is that knowledge is a social product and that language and discourse are key to this production. Poststructuralist conceptualisations of the subject seek to demonstrate the limits of available and circulated discursive categories (Miller, 1998) and to depict how deeply engrained constructions or discourses are produced, reified and thereafter often accepted as 'truth'. In turn, this renders particular objects of knowledge both 'real' and thinkable, whilst invisibilising others. Conventionally, poststructuralist research uses discourse analysis to deconstruct language in order to demonstrate how knowledge is produced and what the implications are for subjects and their subjectivities (Gavey, 1989). This analytic technique is useful to investigate how the subjection of the individual to various cultural, material and historical discourses and conditions produces and/or limits particular possibilities for subject positions and in turn for identities.

Critical approaches to discourse analysis address social concerns by recognising how discourse, as a historical, social and cultural constituent, is used as a means to construct and conceal power relations (Fairclough & Wodak, 1997). This analytic approach is 'critical' in that it reveals the role of discourse in the production and maintenance of the social structure, and the unequal relations of power that exist within this structure (Phillips & Jørgenson, 2002). The key objective is to distinguish 'the links between discursive practices and broader social and cultural developments and structures' by analysing how discourse at the micro level of language in interpersonal conversation connects to macro-level institutions such as religion, politics, science, economy and the law (Phillips & Jørgenson, 2002, p. 78).

Discourse, as a historicised and institutionalised set of constructed ideas, norms, rules and practices, locates subject positions for individuals by providing categories (such as male or female) which we take for granted as self-knowledge (Wilbraham, 2004). Foucault's (1972, 1981) philosophy of history and power demonstrates that discourse is both an effect and an instrument of power that operates through selection, exclusion and inclusion. Parker's (1992) epistemological

framework for discourse analysis aims to identify 'contradictions, construction and functions of language' as a means to critically interrogate the constitution of the modern subject and its location in regimes of power and knowledge by deconstructing the emergent discourses in a given data set (Parker, 2004, p. 310). Parker's (1992, 2004) epistemological framework thus allows for a methodology of discourse deconstruction which aligns with Foucault's (1980, 1981) epistemological approach to language and power/knowledge. This critical Foucauldian approach suggested by Parker (1992, 2004) thus aims to demonstrate the way discourses construct objects of knowledge and subjects within frameworks of power.

Parker (1992) offers seven criteria (in italics below) for distinguishing discourses. Firstly, discourse is always *realised in texts*. Texts refer to 'tissues of meaning' (Parker, 1992, p. 6), or a web of related referents, which are able to evoke connotations, interpretations and allusions beyond the individual that 'authored' them. Discourses are also arrangements of meanings that make up or *constitute objects* and thus analysis requires some degree of objectification. Furthermore, discourses *contain subjects* because they make available positions for particular types of selfhoods and, in turn, identities. Discourses are comprised of metaphors, statements and allusions that can be pulled together into a *coherent and regulatory system of meanings*. However, discursive systems are not isolated but rather 'embed, entail and presuppose other discourses' (Parker, 1992, p. 13) and thus discourses are always *in articulation with other competing and collaborating discourses*. Additionally, because there are contradictions in discourses and discourses implicitly contain their own negations, 'a *discourse reflects on its own way of speaking*' (Parker, 1992, p. 14). Finally, discourse is *located in time and history*; it is contingent on context and thus always in flux. To these seven criteria, Parker (1992) provides three auxiliary criteria proposing that discourses are implicated in the structure of institutions such as religion, law, politics and science; discourse reproduces power relations; and discourse has political effects through its capacity to sustain these power relations.

Following these criteria, Parker (1992) outlines 20 steps that frame his discourse analysis process. These 20 steps involve the researcher

- turning the text into the written form (transcription);
- free-associating to different meanings;
- systematically itemising the objects of knowledge within the text;
- treating the text itself as an object of study, rather than what it appears to refer to;
- systematically itemising the subjects and subject positions in the text;
- reconstructing presupposed roles and rights of subjects specified in the data;
- mapping the networks of relationships into discourses to then be located in relations of knowledge and power;
- bringing knowledge of discourses from outside of the text to amplify the system of discursive relationships inside of the text;
- contrasting discourses against one another in order to identify the different objects that they constitute;
- identifying overlapping discourses that constitute the same objects in different ways;

- drawing on other texts to elaborate on the discursive networks within the text of analysis;
- reflecting on words used to describe particular discourses, especially those that are morally and/or politically loaded;
- identifying how and where the discourses emerged;
- describing how the discourses are dynamic and changing;
- identifying those institutions reinforced by particular discourses;
- identifying those institutions subverted by the emergence and circulation of particular discourses;
- indicating those subjects that are advantaged and/or disadvantaged by the circulation of a discourse;
- ascertaining which subjects and institutions would want to promote and/or dissolve a given discourse;
- demonstrating the ways that a discourse connects with other discourses that sanction oppression; and
- demonstrating how discourses endorse the dominant narrative and subjugate the marginalised narrative.

A critical approach to discourse analysis is a politically fuelled process (Phillips & Jørgenson, 2002). It aims to expose, interpret and override current prevailing and oppressive discursive practices (Van Dijk, 2001). While language conventionally transmits culturally normative productions of the self, the 'critical' imperative of this type of discourse analysis attempts to understand the mechanisms underlying this transmission. It is in this way that the analysis operates as the means through which resistance narratives and discourses can be produced and reproduced and, in doing so, challenge dominant narratives and give voice to excluded discursive frameworks most often belonging to marginalised groups.

Victims of female-perpetrated sex abuse: An apt object of analysis

Female-perpetrated sex abuse (FSA) has recently become the object of increased interest in the international academic literature (see Gannon & Rose, 2008; Kramer, 2010; Kramer & Bowman, 2011; Sandler & Freeman, 2007; Vandiver & Kercher, 2004). The recent acknowledgement of female crime over the course of the last three decades coincides with broader gender-specific changes, such as the entry of women into the economic workforce, media representations of and emphasis on female sexuality, and the promotion of female empowerment and gender equity (see Gavey, 2012; Gill, 2012; Lamb & Peterson, 2012). This discursive explosion concerning female sexual, political and economic empowerment is the very technology through which the female body becomes the site of deepening surveillance. Over the course of history, the accent on the 'natural' association of femininity to nurturing, caregiving, attachment and passivity resulted in limited reporting and incarceration of female offenders (Denov,

2003). Yet, as discursive frameworks for female subjection begin to include the 'thinkability' of female sexual prowess, desire and liberation, so the numbers of female sex offenders begin to 'rise' and thus the academic turn to it as an investigative object. However, given the recency and thus the exploratory nature of this interest, very little work has been directed to understanding FSA victims. While some global work has provided broad overviews of general female sex abuser characteristics, occurrences and circumstances and, to a lesser extent, specific case studies, to date there is very limited academic information about FSA victims (McMahon, 2011). Likewise, the media is currently peppered with images and stories of women who have committed a variety of sex crimes; however, the victims of these women remain invisible (Kramer, 2015).

The question therefore arises as to what accounts for the continued academic and public invisibility of FSA victims and, in turn, how and in what ways self-identified victims construct their victimhood. Foucault (1978) provides an important framework for beginning to respond to this question. In his seminal text *The History of Sexuality*, Foucault (1978) argues that sexuality is a privileged site in the historical production of the human subject. He uses the term 'apparatus of sexuality' to denote a system that comprises 'discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions' (Foucault, 1980, p. 194). Foucault (1978) argues that sexuality and the self are both products of historicised and institutionalised discursive practices or forms of knowledge that are relayed and circulated through modern power. Here power refers to all those apparatuses of knowledge embedded in religious, political, economic and legal practices and the organised hierarchical cluster of relations between them such that subjects and social practices are both the vehicles for and the effects of power (Digeser, 1992). For Foucault (1978) this power/knowledge coupling emerges at a particular historical and cultural moment and operates to produce and regulate bodies, constitute subjects and reify sexualities.

Foucault's (1978) *The History of Sexuality* is indispensable for any investigation of how subjects are constituted and in what ways this constitution is subject to the power/knowledge coupling. The unique nature of FSA is that it is constituted at the intersection of gender (female), sexuality (sex) and several forms of power (abuse). Foucault (1978) does not prioritise theorising about gender and thus using solely his theoretical framework would compromise the important role of gender in any critical study of gendered abuse. It is therefore necessary to complement Foucault's (1978) account of power, production and subjection with Butler's (1989, 1999, 2004) proposals about gender identity formation. Butler's gender theory is of particular relevance given its emphasis on gender performativity as a driver of both the reproduction of and resistance to normative gendered discourses. Accordingly, the use of Foucauldian theory as a primary framework to understand FSA victimhood must be complemented by and at times pitted against theories on the hegemony of masculinity (Bartky, 1988; Connell, 1993; Hearn, 2004) and Butler's (1989, 1999, 2004) theory on performativity, all of which provide specific examples of the way that sexuality and gender are socially

constituted. The aforementioned theories are all based on poststructuralist conceptualisations of the subject and seek to demonstrate the limits of available and circulated discursive categories (Miller, 1998). This overall theoretical framework allows for a demonstration of how deeply engrained constructions and regulations of sexuality and gender render particular objects of knowledge (such as FSA victimisation) (un)thinkable. This hybrid theoretical framework thus seems useful for an investigation of the ways that the subjection of the individual to various cultural, material and historical discourses and conditions produces and/or limits particular possibilities for the FSA victim subject position and in turn restricts possibilities for sexuality, gender and identity. It is also an appropriate ontological framework for Parker's (1992, 2004) critical Foucauldian approach to discourse analysis. Together, this ontology and epistemology are able to highlight the productive power of the apparatus of discourses, institutions and knowledge in constituting 'truth' (Parker, 2004) in relation to FSA.

By examining the intersections between power, sexuality and gender in the production of FSA victimhood, critical discourse analysis is able to explore the ways that power/knowledge provide the discursive coordinates by which FSA victims are able or unable to occupy a victim subject position. Consequently, this type of analysis exposes the role of modern power in the way victimhood is able to be produced or not be produced in a particular historical and cultural moment and, in turn, call for a more complex, variable and dynamic understanding of both gender and sexuality as instruments and effects of modern power. In essence, then, the critical discourse analysis of FSA victimhood assumes that 'power is inscribed *within* discourses', and, as such, discourse has its 'own intrinsic technology' that transmits, produces, reinforces and sustains power and in this way constitutes social subjects (Purvis & Hunt, 1993, p. 488, emphasis in the original). Such an analysis thus provides a framework for understanding how points of power are embedded within the discursive representations and practices of self-identified FSA victims and how this then determines the possibilities for their subject positions.

Method

This chapter is based on a larger study conducted by Kramer (2014) in which the primary objective was to demonstrate how constructions of gender and sexuality interact at the interface of modern power to produce the conditions of possibility for FSA victimhood. This was achieved by interviewing FSA victims to identify and interrogate the ways in which they construct victimhood. The only criterion for participation was self-identification as a victim of FSA. While sexual abuse was broadly understood in line with sexual coercion or sexual behaviour deemed inappropriate by the Criminal Law (Sexual Offences and Related Matters) Amendment Act No. 32 of 2007 (sexual assault, incest, sexual offences against children and rape), participant selection was not constrained to this definition and rather relied on self-identified victims' own constructions of sex abuse.

Once ethics clearance was obtained from the University of the Witwatersrand, a call for participants was circulated through publicly accessible channels across South Africa, including on-air radio; online blogs, social networks, magazines and newspapers; as well as in print media (magazines and newspapers). These calls resulted in approximately 35 responses from FSA victims, FSA perpetrators and people who had some knowledge about FSA cases. Of these 35 respondents, 16 self-identified as FSA victims and were thus requested to participate in the study. Two of these self-identified FSA victims indicated that they were unwilling to participate due to the fear of their victimhood being exposed. Three of the requests for participation went unanswered and one respondent agreed to participate but did not arrive at the interview location on the agreed date and was thereafter unreachable via email or telephone. Despite these difficulties, the call for participants produced a final group of ten, including five women and five men, of which one identified as homosexual. Seven of these purposively selected participants were South African (four men and three women), one male participant was Zimbabwean, whilst the other two female participants were Australian and American, respectively. These latter three participants served as international comparison cases that add value to the data by juxtaposing the local contexts and their specificities as important to the ways in which possibilities for victimhood are produced. Participants were selected according to an extreme-case purposive sampling strategy, which allows for the investigation of that which is considered 'deviant' and/or 'transgressive' in order to illuminate the normative (Patton, 2002). This is appropriate for a study that intends to investigate largely excluded forms of victimhood in order to point to the way that gender and sexuality are constituted in FSA specifically and in sexual violence more broadly.

With their informed consent, participants engaged in a one- to two-hour semi-structured interview with the researcher. The interview schedule covered areas such as participants' background life histories and their experiences of their self-identified sexual victimhoods. Participants were asked to discuss if and how they think the abusive experiences affected their lives in the long term and whether they feel that this effect may have differed if their abuser had been male. Those victims who had been sexually abused by persons of both sexes were asked to compare each experience. Participants were also asked about their understandings of terms such as 'victim', 'violence', 'abuse' and 'trauma'.

During the data collection phase, a key thread across the interviews was the use of the format as a 'confessional' space by the participant. This was most certainly emphasised by the use of particular spaces for the interviews, which positioned the researcher firmly in the field of psychology, such as conference rooms at the International Congress of Psychology and psychologist colleagues' practice rooms. Given the traditional ethical procedure that requires informed consent and assurance of confidentiality at the beginning of the research procedure, all of the participants related their stories, often for the first time, with the understanding that they were private and confidential. This ethical requirement inadvertently and ironically supported the confessional format and thus the incitement to sexual abuse discourse. In addition, given the researcher's position in the discipline of psychology, together with questions directly related to

participants' sexualities and sex lives as well as the context of the interview as an anonymous and confidential space, participants felt not only the desire to speak but also the obligation to do so. This is in line with Pryce's (2000) suggestion that the incitement to discourse operates at the nexus of the expert (or psychological) gaze and the implication that the interview is the standard device to elicit content to be interpreted and decoded. Furthermore, the interview, by virtue of its structure, implies that there is a value to confession, especially if there is an expert present. Thus, the interview itself is a key vehicle for the production and transmission of power/knowledge and the further refinement of FSA victimhood as a category for human science and (self-)knowledge.

Analysis

Parker's (1992) principles and stages for critical discourse analysis informed the way data were selected, understood and interpreted in the study. The overall analysis involved reading the verbatim transcripts according to these frameworks and stages and selecting discursive themes in the data. Themes were then either collapsed into one another to form larger themes or structured hierarchically to form sets of subthemes with an overarching theme. Themes were thereafter labelled and defined. It must be noted that this process is cyclical and requires multiple levels of rereading and recoding (Willig, 2001). Accordingly, a combined analysis took place by relating core themes and patterns within the data to discursive patterns within the larger cultural context. Specifically, metaphors, wording, expressions, idioms and colloquialisms used by the participants were systematically coded according to the most significant themes that ran through the data and interpreted in terms of how language forms part of the construction of subjectivities and contributes to either the reproduction or the resistance of hegemonic discourses (Phillips & Jørgenson, 2002). This coding process was guided by Butler's (2004) theory of performativity, especially regarding the ways that participants produced their victim subject positions. The Foucauldian understanding of discourse as a means 'to describe and critique the discursive world people inhabit and to explore their implications for subjectivity and experience' underwrote the analytic procedure (Willig, 2001, p. 91). This type of discourse analysis is geared for application to interview data that explore victims' discursive accounts of FSA because the detailed and rich analytic output allows for the demonstration of how the organisation of discourses at a particular cultural moment provides the conditions of possibility for FSA victimhood (Parker, 2004).

South African FSA victim discourses

In the overall study by Kramer (2014), victimhood was constructed through various discursive strategies and coordinates employed by the self-identified FSA victims. In line with Butler's (1989, 1999, 2004) theories on performance, the

participants mobilised discourses on gender, sexuality, criminality and victimhood in producing the conditions of possibility for taking up victim subject positions. In particular, victimhood was built on specific discourses that provided the participants with the means to construct a subjectively fathomable aetiology for their abuse. These discourses arose from participants' access to particular institutions and disciplinary frameworks such as psychology, religion, the law, tertiary education and the media. Throughout this process, FSA victimhood was negotiated as a condition arising from an 'impossible' or 'inconceivable' crime, and the interviews were thus a site for the construction of, resistance to and ultimately reification of heteronormative constructions of gender and sexuality as they intersected with criminality and psychopathology. The resultant themes demonstrate the ways in which gender, sexuality and power must be configured in order to provide the possibilities for identifying as a victim of FSA.

The discursive themes identified by the study interlink across one another and various subthemes are connected to other overarching themes and subthemes. These themes therefore present the way that 'words and phrases are linked at the level of discourse' (Parker, 2005, p. 99). This interlinking is reflective of the broader network of interweaving institutionalised discourses that are reproduced in the participants' discourses. Taken as a unit, these thematic elements thus represent the grid of discursive coordinates that imply the (im-) possibility of FSA victimhood. It is important to note that these themes do not reflect the participants' own understandings of the discourses that they participate in. Rather, the themes demonstrate particular links to discourses that the participants were not necessarily explicitly aware of. The themes thus show how participants' words, phrases, terms and expressions 'are articulated into chains of meaning that are independent of the speakers' (Parker, 2005, p. 100). By presenting the organisation of discourse in this way, the findings are able to demonstrate how speakers both police and are policed by language and how they are active participants in either the reproduction of or resistance to dominant and/or oppressive discourses. One of the key themes in this regard related to gender constructions and the way that these particular discourses continue to constrain possibilities for FSA victimology.

An example: Gender constructions that sustain the impossible crime

> I think people's perception of women is just that they're not capable of something like that. Because women are seen as the victims, always. (Participant 1)

Sexual violence is conventionally defined in dichotomised terms that imply the male aggressor and female victim (Richardson & May, 1999) and has historically been essentialised as a masculine behaviour deriving from a 'natural' masculine aggression (see Gidycz, 2011; Koss, Gidycz & Wisniewski, 1987). In order to

explain their 'impossible' statuses as FSA victims, participants identified particular gender constructions that emphasise male aggression and female passivity. Some of these constructions were purposefully identified by participants and proposed as key to FSA victimhood impossibility. However, many of the participants also unwittingly engaged with and actively drew on discourse that inadvertently essentialised gender. In both instances there was a consistent discursive appeal to dichotomous gendering. Descriptors such as 'male', 'masculine' and 'men' were understood only in their antithetical relation to 'female', 'feminine' and 'women', without any consideration of alternative possibilities for gender. This was primarily set up as the Madonna/whore versus the male aggressor. Whilst these discourses demonstrate the particular coordinates that make FSA globally inconceivable, they were simultaneously the coordinates through which the female participants were able to occupy victim subject positions.

The Madonna/whore complex versus the male aggressor

Womanhood was consistently defined by participants in narrow terms such that femininity was coupled either with discourses on victimisation and vulnerability or with constructions of the woman as a 'whore'. This was further accentuated with juxtapositions to an aggressive and sexually violent manhood.

In line with widely circulated discourses that a woman's inappropriate dress code might instigate her sexual victimisation (Du Mont, Miller & Myhr, 2003; Muehlenhard & Kimes, 1999), Participant 2 placed particular emphasis on the '*shame of being female*' and explained this shame:

> [My mother] had told me that . . . girls have sex, that's what we've been made for, that's what we're born for.
>
> The phrase that my husband actually used was 'jail bait' and it's like young women or teenagers who look older than what they are and it's like they're provocative and they're in some way responsible for making men feel temptation. That is what my mother had sort of communicated to me about the neighbourhood boys. That sense of . . . well, she called me a bitch on heat. And . . . it was my fault that these boys were doing this sort of thing.

These comments align with Cahill's (2000) suggestion that the feminine body is constructed as sexually penetrable, which renders the female subject responsible for her sexual victimisation, at least at the pre-victim stage. These extracts thus allude to engrained understandings of sexual victimisation whereby the penetrable rather than the penetrating female is possible. Despite participants' self-identifications as FSA victims, these particular coordinates in their discourses were still tied to the improbability of FSA. However, they also allowed female participants to position themselves as victims.

Whilst Participant 2 drew on the 'whore' end of the spectrum in constructing femininity, other participants relied on women-as-victim gender discourses and explained that 'women are expected to be caring and loving' (Participant 3).

In turn, the most appropriate explanation for FSA is that 'a lot of these women are actually victims anyway' (Participant 4). Participant 5 explained that female-to-male sexual submission is normative with her comment that 'I think if, if I had to meet someone that I respected and trusted enough I think it would be okay to kind of submit in a way'. This conception of the victimised and passive female was supported by the following participants' heteronormatively gendered constructions:

> And I think women sometimes . . . probably also because of their like nurturing instinct, that they are very protective and like . . . I think women maybe have an incredible instinct for justice and taking care of things and putting things right again. (Participant 1)

> Obviously within . . . society they [women] are seen as the weaker, the weaker sex. (Participant 7)

In order to support these claims as well as to explain why FSA is often considered harmless and innocuous (Denov, 2001), participants provided concrete examples of the difference between a sexually violent female and a sexually violent male. Participant 1 explained that her boyfriend 'wasn't as upset about it because it wasn't a man . . . so it was almost . . . not that severe'. She went on to identify how society actively gendered her experience:

> If it's a woman it's almost . . . but that's like a perception that society builds . . . That women aren't criminals. That women can't do anything wrong. And that's the perception that I think you grow up with . . . And it's kind of instilled in you.

Male violence was also explicated as a physical act whereas female violence was constructed as a mental and emotional form of abuse. For example:

> Because I mean men tend to be more forceful. You know. They tend to use more violence . . . But I mean with women, it's sort of a negotiation thing. (Participant 6)

> I remember that it's [the male abuse], it's something that, that was *very* like forceful. Like *much* more forceful and much more like violent. And abusive. Ya. Um . . . but with her, it was a more emotional, manipulative thing . . . Like if it's, if it's a male then it's the dominant figure and he's overpowering you and then, you know, you're kind of like this timid, you're the lady then you're vulnerable but if it's a lady then I think it makes you think as if you could have done something to avoid it because that power struggle is not part of it. (Participant 5)

> I never ever look at a female now and undermine her size; first of all, um, because I think at the end of the day it's not necessarily always a physical overpowering. It's more of a mental overpowering, um, psychological where you're broken down to a point where even physically you don't want to do anything. (Participant 7)

These extracts are important examples of the gendering of violence. Participant 5's construction of her female sexual abuser as emotional and manipulative is a key

illustration of how, in the event of a sexually violent act by a woman, physical abuse is transformed into verbal or emotional abuse. Emotion is so deeply engrained in the construction of femininity that even where there is female-perpetrated physical violence, it is both normative and acceptable to explain this event by restructuring it as emotive. This is made easier by virtue of the physical domain being so readily aligned with masculinity and, in this way, so obviously opposed to womanhood.

Participants explained FSA invisibility by drawing on examples of gendered constructions of the vulnerable and victimised female as well as by offering illustrations of typical male gendering to demonstrate the normativity of male dominance and aggression. For example:

> I mean obviously in society the male is the dominant figure. And I mean he has the power and everything. (Participant 5)

These gendered discourses are explored further in the following section, with a particular emphasis on the 'normalcy' of male sexual violence.

Male sexual violence as normative

> We live in a world where people think that only men can abuse women. (Participant 6)

Sexual abuse discourses are rooted in gendering norms that imply female victimisation and male aggression. These discourses are so immutable that any alternative conception of sexual violence is rarely considered. Consequently, both male-perpetrated sexual abuse and female experiences of rape are considered to be 'normal' (Rutherford, 2011). Participants drew on these discourses to explain reasons for non-disclosure of their FSA experiences as well as reasons for their own ambivalences about claiming FSA victimhood.

> I guess I'd expect being abused by males is sort of normal and I had fitted that into a way of surviving in the world. But being violated by my mother, I actually . . . didn't *ever* qualify that as quite normal so it was my dirty little secret that I've never said to anybody whereas there was some knowledge about the male sexual assaults . . . I think . . . in my mind I had an acceptance of male sexual abuse. I mean, I just sort of knew that it's just what happened. But . . . I didn't see it as normal, what my mother was doing. (Participant 2)

Similarly, Participant 1 and Participant 8 explained how they would have treated the situation differently had their perpetrators been men:

> I think I probably would have spoken out about it. I probably would have said something because that would be . . . almost more socially acceptable. That's kind of what I feel . . . But I think because it's a woman it's so . . . bizarre . . . It's not something you hear about all the time. You hear about men doing stuff like this all the time. But you don't hear women. And I think . . . even then . . . if it was like . . . a random man or like a family member, maybe I would have said something. But because of, ya, definitely because it was a woman, it definitely felt like

> you couldn't say something. Because it's your caregiver, you know . . . I think it is different because the moment a woman is abused by a man, it's almost . . . it's so much more open. Like people speak about it all the time. It's almost like the everyday thing now. (Participant 1)
>
> I would think if it was a guy I would have recognised it right off for what it was . . . Um, but being a woman, it took me, you know, years and years and years to make that connection . . . I think if my father was the primary caregiver and had been doing this, I would have recognised it as sexual abuse. (Participant 8)

Participant 8's comment alludes to 'the repeated juxtaposition of child care and sexual abuse', which implies that these two objects are inevitably linked (Mazur & Pekor, 1985, p. 11), despite meanings of caregiving being antithetical to meanings of abuse. This widely held perception persists despite research demonstrating the low rates of child sexual abuse (CSA) in caregiving situations (see Finkelhor, Vanderminden, Turner, Hamby & Shattuck, 2014). Given that gender constructions inextricably link caregiving to womanhood, the widely held belief that caregiving and CSA are tied begins to make FSA conceivable. However, as indicated by Participant 8, it is still easier to comprehend a male sexual abuser, even when that male is occupying a female role such as that of a caregiver.

Participant 5 reported that when she disclosed that she had been raped to her loved ones, 'they just assumed it was a guy'. She went on to say that her mom had been raped as well but her perpetrator was 'a male, obviously'. For Participant 8, 'you almost expect that a sexual abuser is going to be a guy'. Even more interesting is that male violence was regarded as so normative that its aetiology was considered irrelevant. Rather, men were treated as naturally sexually aggressive and unable to control their innate sexual urges. For example, Participant 1 referred to 'the dodgy man' that sexually abuses children and Participant 2 stated that 'I don't expect a male to understand what he's doing but I do expect a female to'. The same treatment was not applied to female sexual perpetrators. Rather, participants attempted to use the interview context as a space to develop an aetiological framework for why a woman might be sexually transgressive. This was particularly centred on the turn against maternity and the warping of a natural inclination to caregiving. This is significant, as in the same way that men were treated as naturally aggressive, so women were treated as naturally nurturing.

Conclusion

The objective of this chapter was to demonstrate the power of a Foucauldian-informed critical discourse analysis by using the example of FSA victimhood discourses. This was achieved by indicating how the analysis reads historical and material conditions for FSA victimhood through the language of the subject in order to identify possibilities for an FSA victimology. Using Foucault's (1978) understandings of the constitution of the self and his examples of the way power emerges as a cluster of relations at a particular cultural and historical moment, as

well as Butler's (1989, 1999, 2004) proposal for gender formation as backdrops, this analysis examined the ways that discourses on gender and sexuality as instrument-effects for power/knowledge provide the conditions of possibility for identifying as a victim of FSA. The constitution of sex and gender is thus channelled through an apparatus consisting of institutions, discourses and 'truths' which produce and are produced by the subject. Sexuality and gender can therefore be more critically appreciated through understanding the historical, political and material conditions that constitute them. In tracing the gendered conditions of possibility for subjects to identify as FSA victims, this chapter has charted some of the coordinates of the discourses that constrain men to perpetrators and women to victims in a mutually constitutive production of sexual abuse. This process demonstrates the power of Foucauldian-informed critical approaches to discourse analysis by providing compelling evidence for the way that such an analysis offers an avenue for rethinking the roles of gender and sexuality in outlining the parameters of 'truths' for sexual transgression, victimhood and sexual violence.

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16 Using ethnomethodology and conversation analysis to study social categories: The case of racial categories in South African radio talk

Kevin A. Whitehead

Introduction

Social science research, particularly research using quantitative approaches, has conventionally used social categories (including those relating to race, ethnicity, gender and culture) as a means to partition target populations in ways that are seen to be relevant for the purposes of the research questions at hand (cf. Schegloff, 1991, 1997). Using such an approach, researchers treat social categories, inter alia, as bases for dividing samples of participants into distinct groups for the purposes of group comparisons, as variables between which relationships are explored in correlational approaches, and as predictors of outcomes of interest in regression models (cf. Bucholtz & Hall, 2005). While research using categories in these ways remains widespread across the social sciences, it has been criticised for at least 50 years on the basis that it takes for granted, or even actively constructs, the very categories that it ostensibly aims to study (e.g. Bucholtz & Hall, 2005; Garfinkel, 1967; Heritage, 1984; Schegloff, 1991).

These criticisms, coupled with important theoretical developments in the social sciences, have been driving forces behind the development of a range of qualitative research approaches that take language use as their primary object of inquiry (for discussions of these developments and the research approaches arising from them, see Durrheim [1997] and Whitehead [2017]). Research drawing on these approaches has offered a shift away from the use of social categories as variables to be used in statistical analyses, instead providing valuable insights into the ways in which categories are constructed and used by participants in discourse. However, consistent with the dominance of interview data in qualitative research more generally (see Potter & Hepburn, 2005), much of this research has relied on data sources in which it is the researcher rather than the participants who first introduces categories of interest into the talk – for example, by recruiting participants based on their membership in a target category, or by asking questions that explicitly mention categories. As a result, the analyses in such studies tend to focus on talk *about* categories that have been topicalised by the researcher, and they are not well positioned to examine how categories *become* consequential for ordinary people as they engage in ordinary actions-in-interaction in their everyday lives outside of the interview (cf. Stokoe, 2009;

Whitehead, 2017; Wilkinson & Kitzinger, 2003). Moreover, like the quantitative approaches discussed above, this type of research also effectively treats particular categories as taken-for-granted bases for social inquiry by using them as bases for recruiting participants and formulating interview questions.

One possible reason for the relative dominance of interview-based studies, both in South Africa and elsewhere, is methodological, relating to assumptions about the 'capturability' of suitable data in 'naturally occurring interactions' – meaning interactions that are not produced solely for research purposes, and hence were not driven by researchers' particular interests, but instead would have occurred independently of researchers observing or recording them (e.g. Clayman & Gill, 2004; Potter & Hepburn, 2005). Van Dijk, for example, argues that talk about topics such as race and ethnicity occurs relatively rarely in everyday conversations, such that finding relevant data by recording naturally occurring interactions would 'amount to a search for the proverbial needle in the haystack' (1987, p. 119). As a result, researchers' elicitation of talk about categories by research participants has tended to be seen as the only feasible way to efficiently collect data relating to specific categories. However, recent research has shown that 'seemingly elusive phenomena [such as the emergence of particular categories] do occur, predictably, in the same kinds of sequential environments, doing the same kinds of actions' (Stokoe, 2009, p. 81). This demonstrates possibilities for the development of approaches to studying how social categories may systematically and recurrently become relevant in naturally occurring interactions.

Despite these possibilities, there remains a shortage of such research based on South African data sources – although there are some notable exceptions (e.g. Barnes, Palmary & Durrheim, 2001), and there are many excellent examples based on data from other countries (e.g. Kitzinger, 2005; Raymond & Heritage, 2006; Schegloff, 2007a; Stokoe, 2009). In light of this, in this chapter I describe an approach, informed by ethnomethodological and conversation analytic perspectives, that offers potentially valuable resources for investigating these phenomena. To illustrate the value of this approach, I use descriptions of the data and procedures generated in the course of a broader study in which the methodology was employed to examine the use of racial categories in audio-recorded everyday interactions from South African talk-radio shows (see Whitehead, 2012, 2013a, 2013b, 2015, 2018). In addition, I present some brief empirical examples from this study in order to demonstrate some of the analytic payoffs of the approach.

An ethnomethodological perspective

The term 'ethnomethodology' was coined in the mid-1950s by Harold Garfinkel, who used it to describe the sense-making procedures (hence 'methodology') employed by a given group of people (hence 'ethno') (Heritage, 1984). As such, a hallmark of the ethnomethodological tradition is a preoccupation with the perspectives and actions of ordinary members of society, with its aim being to investigate 'the body of common sense knowledge and the range of procedures

and considerations by means of which ordinary members of society make sense of, find their way about in, and act on the circumstances in which they find themselves' (Heritage, 1984, p. 4). This common sense knowledge, as described by Garfinkel (1956, p. 185), consists of 'socially sanctioned grounds of inference and action that people use in everyday life, and which they assume that other members of the group use in the same way'.

One particular branch of ethnomethodological inquiry has focused on common sense knowledge and everyday actions, particularly with respect to social categories. This work owes much to Harvey Sacks (1972a, 1972b), who used the term 'membership categorization devices' to describe systems of social categories, and the normative ways in which they are used and administered by members of society (also see Sacks, 1995; Schegloff, 2007c). Sacks's work showed the way in which categories serve as repositories for, and organise, bodies of common sense cultural knowledge. This common sense knowledge is socially shared, taken-for-granted knowledge about what people of particular categories are like, how they behave and so on (Schegloff, 2007c). Although this knowledge may not be scientifically or factually accurate when applied to any particular member of a category, and (especially in the case of some sets of categories, including race) it may be morally or politically contested, it has 'the working status of "knowledge"' for the ordinary people who treat it as such (Schegloff, 2007c, p. 469). Thus, categories are 'inference-rich', meaning that once a person is taken to be a member of a category, anything known about that category is presumed to be so about them (Schegloff, 2007c, p. 469). In addition, categories are associated (again, through common sense knowledge) with particular kinds of activities or conduct, which Sacks (1972b, p. 335) termed 'category-bound activities'.

This line of inquiry provides an important set of resources to bring to bear on investigations of social categories. That is, paying explicit analytic attention to the situated deployment of categories (and hence the common sense knowledge associated with them) offers insights into the mechanisms through which category-related social structures are reproduced at the level of everyday interactions. Moreover, such an approach complements research conducted at the macro level, offering a means to examine the consequentiality of broader, aggregate-level dynamics and policies for ordinary people's everyday conduct and sense-making with respect to social categories.

Analytic approach: Conversation analysis

Schegloff (2006, p. 70) has described interaction as 'the primary, fundamental embodiment of sociality', pointing out that 'talk-in-interaction' figures centrally in the concrete activities of all the institutions that make up the macro structure of societies. As a consequence, one way of studying social order at its point of production is to examine talk-in-interaction in various settings. Conversation analysis, or CA (e.g. Sacks, 1995; Sacks, Schegloff & Jefferson, 1974; Schegloff, 2007b), which grew in conjunction with the ethnomethodological theoretical tradition described above, provides an approach to studying social order in this way, using audio- and video-recorded interactions as data.

In addition to allowing for the study of social order at its point of production, a focus on recorded interactional data offers a number of important advantages. Firstly, interactional data provide a means to ground analytic claims in the orientations of the participants themselves, as a result of participants in interactions displaying their understandings (or analyses) of what has just happened through the way(s) in which they respond to it (Heritage, 1984). In this way, consistent with the ethnomethodological principle of privileging participants' categories over those of analysts, researchers' analysis of the data can be 'checked' against the analysis provided by participants, internal to the data, by virtue of the interactional nature of the data (Sacks et al., 1974). Secondly, the use of recorded data allows for repeated viewing and/or listening, which can reveal the importance of seemingly insignificant, but potentially very important, details that might be overlooked on the first viewing/hearing. Thirdly, recorded data allow for detailed transcripts of the data excerpts on which the analysis is based to be included in the write-up of the analysis, and for the data to be played at oral presentations of the findings. This provides readers and audience members with an independent empirical basis for judging whether they find the analysis persuasive.

It is important to emphasise that CA is centrally concerned with explicating actors' practices (i.e. *what* they do and *how* they do things), rather than with their motivations (i.e. *why* they do things). Moreover, this approach focuses on analysing utterances as public actions rather than, for example, treating them as indicators of underlying psychological processes. Talk is thus treated as a form of public social action, analysing it primarily for its social and interactional import, rather than for what it reveals about any particular individual's motivations, thoughts, beliefs and so on (Clayman & Gill, 2004). To the extent that such matters do enter into an analysis, they are treated as *displays* rather than as 'inner' psychological objects. That is, analysis is concerned with what actors display or make available to their co-participants (either explicitly or implicitly), rather than with whether these displays reflect a particular internal psychological state.

An ethnomethodological, conversation analytic focus thus provides a set of tools for a detailed examination of the ways in which people orient to, use and self-administer categories, and the common sense knowledge associated with them, in individual episodes of interaction. In this way, categories can be studied by examining what they are for ordinary people, and how they matter for the way people act in everyday situations, even when they are engaged in activities that are not necessarily *about* a category per se, but for which a category comes to be treated as relevant or consequential (cf. Whitehead & Lerner, 2009; Wilkinson & Kitzinger, 2003).

I turn now to a description of the data collected for the broader study mentioned above. Although these data are not subjected to a detailed analysis in this chapter, describing the data (and in particular identifying and addressing their limitations) enables further explication of the methodological orientation I have described, and the insights it potentially offers.

The data set: Radio talk

The data for the study consisted of audio recordings of shows from three different South African radio stations, namely SAfm, 702 and Kaya FM. Approximately

125 hours of broadcasts were recorded, consisting of several hours of pilot data that were recorded in May 2006 and May to June 2007, with the bulk of the data recorded over a three-month period from March to June 2008, and further recordings being made sporadically from 2011 to 2014. The data yielded a total of over 620 stretches of interaction in which racial categories were observably made relevant, either explicitly or allusively (see Whitehead, 2009). This demonstrates the degree to which instances of the visible surfacing of social categories may be plentiful even in data sources not expressly produced for the purpose of studying them.

Although data collection was conducted so as to include materials from as wide a range of speakers as possible, it is important to emphasise that a data set such as this can by no means be claimed, and nor was it intended, to constitute a random or nationally representative sample, either of South African speakers or of interactions in South African settings. In light of this, it is worth pointing out several limitations of the data. Firstly, as a consequence of my own limited language skills, I recorded only English-language broadcasts. This suggests the value, particularly in linguistically diverse societies such as South Africa, of researchers with the linguistic abilities required to examine interactions produced in a wider range of languages. Secondly, the data set includes only those speakers who have access to a radio and a telephone, thus excluding a substantial number of South Africans. Thirdly, the majority of the data was collected from one particular institutional context (radio broadcasts and listener call-ins), and it is likely that certain features of the data are products of the unique interactional organisation of this context, rather than occurring similarly in South African society more broadly (for a description of the interactional organisation of radio call-in shows, and the relevance of speakers' categorical identities in such interactions, see Fitzgerald and Housley [2002]).

While these limitations should be borne in mind in evaluating findings based on the data, it is also important to point out that a central concern for conversation analysts (and for many other qualitative researchers) is not with determining whether the interactional practices under study are used widely or frequently within a population, but rather to demonstrate the *possibility* that these practices *can* be used in some kind of interactional context. That is, if an interactional resource or practice is used even by a limited number of speakers in only one type of context, then it could *at least potentially* be used by other speakers in other contexts (cf. Silverman, 2000). In addition, a certain generic set of interactional contingencies, and a range of resources and competencies through which they can be managed, are available to all members of a society regardless of the particular context in which their interactions are taking place (Peräkylä, 2004). Thus, in producing their conduct in publicly broadcasted interactions, speakers implicitly propose that their utterances are intelligible to a wide range of listeners, who should be able to recognise and make sense of them as social actions, independently of the context in which they were produced. Consequently, while many of these contingencies and resources may be specially adapted to the demands of particular institutional environments (Drew & Heritage, 1992), they are all built on a basic set of materials that have many features in common across speakers and contexts.

The aim of the study for which these data were collected was thus to develop detailed descriptions of some interactional contingencies and practices relating to the social organisation of racial categories, rather than to make distributional claims about their operation or frequency of occurrence. Thus, even if the interactional practices identified through this approach occur relatively rarely, or are completely absent in some settings, their operation on any given occasion may still reflect the operation of broader category-related common sense knowledge. That is, the minority of cases in which such common sense becomes explicit or clearly observable, even if it does so primarily as a result of the interactional contingencies associated with a particular institutional setting, may represent simply 'the tip of the iceberg' of cases and settings in which it is shaping participants' conduct without ever explicitly surfacing.

Analytic procedure: Working with collections

An important feature of the CA approach is building and using collections of target phenomena (Schegloff, 1996). While the phenomena of interest to conversation analysts are frequently identified through examinations of single cases, building a collection of related instances of a phenomenon can serve as a means of enriching an analysis by elucidating the scope of the phenomenon and the degree to which its features are common across multiple cases (Clayman & Gill, 2004). Once such a collection has been assembled, a comprehensive analysis of the entire collection is conducted. This involves constructing an account that can accommodate the unique features of each case in the collection, while at the same time describing the generic features of the phenomenon that apply to all instances in the collection (Clayman & Gill, 2004). This analysis is typically aided by detailed transcripts of data, using a transcription system, developed primarily by Gail Jefferson (2004), which uses symbols to represent a range of potentially important features of speech production, including intonation, emphasis, pauses and overlapping talk.[1] An important caveat to the use of transcripts as an aid to analysis is that the recordings themselves, rather than the transcripts produced to represent them, remain the data and thus the source of evidence for analytic claims (cf. Psathas, 1995).

Ethical considerations

The use of recorded radio broadcasts as a data source presents a somewhat different set of ethical considerations than those associated with many other research approaches, given that the researcher had no contact with the participants and the interactions would have taken place even if they were not being recorded as data. One might question whether the participants in these interactions would give consent for their use as data if they were aware that they had been recorded for this purpose, and thus whether it is ethical to use such recordings as data without obtaining informed consent from those who appear in them. It would not be feasible, however, to track down all the participants to gain their consent, particularly since callers to the shows are typically identified only by their first

name and the city from which they are calling. Moreover, it can be assumed that participants in the interactions were aware that their talk was part of a public broadcast that would be heard by potentially large audiences, and thus that any potential harm that could result from the use of these broadcasts for research purposes would be no greater than the potential risks associated with other uses of, or responses to, the broadcasts resulting from their availability to the general public (cf. Kaufman & Whitehead, 2018). The use of these recordings as data is also consistent with research ethics guidelines, such as those of the British Psychological Society, which state that 'where it is reasonable to argue that there is likely no perception and/or expectation of privacy . . . use of research data without gaining valid consent may be justifiable' (BPS, 2013, p. 7).

Empirical illustrations

In the following sections I present examples of two of the phenomena identified in analysing the data, namely *generalising practices*, through which speakers can claim that what they are saying does not apply to any particular racial category and, conversely, *particularising practices*, through which speakers can claim to be speaking about or as a member of a particular racial category. Although they are not intended to constitute a comprehensive analysis of the practices they exemplify, these brief illustrations demonstrate the utility of the approach described above for investigating how racial categories may become relevant, and hence be reproduced, in the course of everyday interactions in South Africa.

Generalising practices

Previous research (Whitehead, 2009) has examined speakers' use of list construction practices to formulate *race in general*, thereby claiming that what they are saying does not apply to any specific racial category. In Excerpt 1, a speaker produces a similar generalising practice in the course of complaining about crime in South Africa. Just prior to this excerpt, the host asked the guest about the murder of her father some years earlier, and expressed his condolences for her loss, before suggesting that such an experience provokes some people to leave South Africa. In line 1 of the excerpt, he follows this suggestion up by asking the guest whether it had occurred to her to leave for this reason. In the course of an extended response (lines 8–21), the guest reflects on how 'difficult' it is to make such a decision (line 15), before stating, 'I don't think any South African: (.) um: (.) mm: doesn't matter which colour they are or which race they are' (lines 16–17) should be placed in such a position. The guest thus temporarily halts the progressivity of her utterance to parenthetically insert 'doesn't matter which colour they are or which race they are' into it (cf. Mazeland, 2007; Whitehead, 2009). This serves as a generalising practice by virtue of explicitly claiming that her utterance should be heard as applying to people of all possible racial categories, rather than only to a particular category or set of categories.

Excerpt 1

```
(1) [213 - SAfm 5-7-08]
1   H:  Did it ever occur to you?
2       (0.2)
3   G:  ↑Ja, um I mean ye- I must be honest and say ja, I've
4       about it.
5       (.)
6   G:  Um: (.) I think everybody thinks about it.
7       (.)
8   H:  M[m.
9   G:    [Um: (.) .hhh (0.2) ja, so it- it is a- (.) it is always
10      an option to leave, (.) and I don't blame people who leave
11      because (.) especially if y- if you have young children you
12      are always (0.2) always fearful of: (0.7) of them (u-) (0.2)
13      their their future ja=hh
14      (0.2)
15  G:  °Ja.° But it's- it's a difficult decision to make an:d (0.7)
16      um:: (0.8) I don't think any South African: (.) um: (0.2) mm:
17      doesn't matter which colour they are or which race they are
18      .h um: (.) should actually be put in a d- (.) in a position
19      to: (.) (n-) (.) to have to make that.°W::° we should all
20      feel safe at home an- an- and feel (we-) (0.2) feel safe
21      here.
22      (0.3)
23  H:  Mm.
24      (1.0)
25  H:  And it's hard to do that, you know I was in uh .hhh in
26      Paris walking arou:nd late at ni:ght, and women walking
27      alone, (0.2) at night, safe. .hhh And I remember thinking
28      "God I wish I could walk this much back home." You know?
29      Just walk.
```

By using a generalising practice in this way, the guest treats her utterance (and the complaint about crime it implements) as being vulnerable to being heard as racialised. That is, since the use of such a practice is designed to discount any possible implication that an utterance was tacitly racialised, it displays the speaker's orientation to the possibility that the utterance *may* be heard as racialised unless such a hearing is discounted. As a result, the use of this practice serves to explicitly introduce race in a context in which it was previously only (potentially) implicitly present, or not present at all. Thus, in this case, the guest's reference to 'any South African' (line 16) is, through the subsequent production of the generalising practice, retrospectively treated as a potential allusion to particular, race-specific South Africans.

The basis for the possibility of a racial hearing in this case appears to rest on, and reproduce, common sense knowledge regarding connections between emigration, crime and particular racial categories. Specifically, the host's preceding

discussion of emigration may serve to invoke the phenomenon of the large numbers of white South Africans who have emigrated to countries such as Australia, Canada and the United Kingdom in recent decades (e.g. Adepoju, 2003). In addition, the discussion of violent crime, and the fear of falling victim to it, may be heard as echoing common sense associations between blackness and criminality. These associations have long held currency among white South Africans in particular, with discourses of *die swaart gevaar* (the black danger) being used to justify segregation before and during apartheid, and being recapitulated in euphemistic links between race and crime in the post-apartheid era (e.g. Lemanski, 2004).

It thus appears that the guest's use of a generalising practice in this case is designed to pre-empt a possible hearing of her complaint as implicating black crime in particular, and as being produced on behalf of white victims in particular. This apparent use of the practice for managing the production of a potentially delicate action (cf. Whitehead, 2009) is further supported by evidence of the guest's orientation to the fraught nature of answering the host's question. This can be seen in the pause (line 2) prior to beginning her response to the host, and in the numerous hesitations in the course of producing her answer, particularly just prior to and following her production of the generalising practice (lines 16 and 18). In deploying this practice, however, she makes this potential racialised hearing explicit, and makes the common sense knowledge underpinning it more readily available for subsequent speakers to take up. In this case, the host does not pursue the racialisation introduced by the guest, instead displaying agreement (line 23) and treating the guest's complaint as consistent with his own experiences of South Africa (lines 25–29).

Particularising practices

The converse of generalising practices is practices that serve to particularise race, treating a specific racial category as specifically relevant for what is being done. One way in which race can be particularised is through the use of racial self-identifications, which speakers can deploy as a way of showing that they are speaking as a member of a specific racial category, thereby treating their racial category membership as a consequential feature of their conduct. An instance of this practice is shown in Excerpt 2, in which a guest uses a racial and age self-categorisation as a resource for complaining about his difficulties in securing government start-up funding for a guest-house business with youth involvement. Just prior to the excerpt, the guest provided a lengthy account of his difficulties in securing funding, and the host supportively aligned with this complaint.

Excerpt 2

```
(2) [193 – SAfm 4-30-08]
1   G:  .hh It's- it's- it's quite saddening eh:: it's quite
2       saddening. And- and you- you sometimes .hh wonder. And-
3       and- and obviously you- you don't wanna be eh (d-)
4       demotiva:ted,=
5   H:  =No.
6   G:  .h eh for tha- <and as a young, (.) black South African,
```

```
7       all what you need to prove .h out there, (0.2) eh: that
8       look, .h industries that have been said to be dominated by
9       these (.) e:h (eh d-) so- so- so ↑called people, .hh that
10      you can do (it) a lot more better.
11      (.)
12  G:  And you- you- you can do it lot more better, .hh with: the
13      collectiveness of- of the ↑rest of the people. .hh But all
14      what keeps you back is i- .h is- is- is money.
```

In response to the host's support for his complaint, the guest describes the emotional and motivational effects of situations like this (lines 1–4), before suggesting a need 'as a young (.) black South African' to make an impression on this industry (lines 6–10). By identifying himself in this way, the guest specifically proposes that his age and race are relevant for understanding the difficulties he has described and his position as a struggling entrepreneur. He thus uses common sense knowledge of which types of people the government might be expected to assist (i.e. youth and those disadvantaged by apartheid) as a resource for pointing out the irony of a person like him struggling in the way that he has. This is further demonstrated in his subsequent formulation of 'industries that have been said to be dominated by these . . . so ↑called people' (lines 8–9), which appears to be an allusion to the historically predominantly white ownership of such industries. The guest thus appeals to common sense knowledge of the apartheid-derived racialisation of these industries as further evidence for the incongruity between his struggles and the assumed objective of undoing continuing legacies of apartheid. In this way the caller treats his age and race as additional bases for heightening his complaint: he is not only an entrepreneur struggling to find funding, but a *young black* entrepreneur in a context where one might expect greater facilitation of the movement of people like him into industries (such as this one) that have been historically white-owned. This raises the further possibility that the guest may have been designing his complaint throughout the interview to be heard as coming from him *as* a 'young black South African', and that he explicitly self-identified in this way only after the host (even in aligning with and supporting his complaint) had consistently displayed no explicit uptake of this potential relevance of race for his complaint.

It should be noted that this analysis of the common sense knowledge apparently underpinning the guest's racial self-identification requires reading somewhat beyond what he explicitly specifies, which can be seen as a consequence of the degree to which such common sense is taken for granted without needing to be explicated in detail. Thus, by not explicitly specifying why his age and race are relevant in light of what he is complaining about, the guest displays an assumption that his recipients (the host and the overhearing audience) are capable of recognising and understanding their relevance without any need on his part to spell it out. Moreover, by passing up at least one potential place at which he could have displayed a lack of understanding in this regard (during the slight pause at line 11), the host tacitly aligns with this assumption. Thus, although the exact nature of the common sense knowledge being invoked here

may not become explicit, it is clear that the guest and host have collaborated in producing the basis of the relevance of age and race for this complaint as being self-evident and shared (both between themselves and the audience).

Conclusions

The brief empirical illustrations presented above demonstrate the utility of the approach I have described for identifying and examining interactional practices through which categories (particularly racial categories) surface in everyday interactions in South Africa. This reveals several ways in which the methodological approach described above offers resources for advancing an understanding of the social organisation of categories such as these. Firstly, as the data excerpts demonstrate, this approach offers a means to investigate how categories surface in the course of interactions in which they have not been identified as a topic and have not yet been explicitly mentioned. Thus, in contrast to methodologies through which categories are prespecified as central to the topical agenda of the talk that participants produce, this approach allows for the examination of how racial categories are introduced in these interactions in the course of actions that are ostensibly not racialised but come to be produced as racialised as a result of these practices. This demonstrates how the relevance of categories can be reproduced as a 'by-product' of what people are otherwise engaged in doing, even when it is not centrally *about* them (cf. Durrheim, Mtose & Brown, 2011; also see Kitzinger, 2005; Whitehead, 2012). Secondly, this approach offers a way of identifying and analysing the uses of interactional practices through which common sense knowledge associated with particular (racial) categories observably shapes people's conduct at specific moments (also see Whitehead, 2012, 2013a, 2013b, 2015, 2018). When these practices are deployed by speakers and unproblematically recognised by recipients, the common sense knowledge underpinning them is renewed and thereby reproduced. The examination of these practices thus provides a way of investigating how the consequentiality of common sense knowledge about macro structures (such as those relating to race) becomes visible at the micro level of ordinary interactions.

Finally, it is important to emphasise that the interactional practices that could be examined using this approach are not specific to race but could conceivably be employed in studying any other category system. Moreover, they are produced as constitutive features of speakers' methods for producing ordinary actions-in-interaction (cf. Stokoe, 2009), such as disagreements and complaints, that do not rely on categories but instead can be produced in the service of a wide range of interactional outcomes. As such, these practices also rely on the same generic 'building blocks' (e.g. turn-taking, sequencing, action formation, person reference) that all talk-in-interaction is made up of, and that have been primary concerns of conversation analysts for several decades (Schegloff, 2006). As a result, understanding how race, or other category systems, surface in ordinary interactions is bound up with understanding how the generic features of talk-in-interaction serve as resources through which people produce and negotiate their everyday social lives.

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Note

1 A 'Transcription Module' on CA transcription, which includes links to sound files exemplifying the features of speech production that the transcription symbols are used to represent, is available at www.sscnet.ucla.edu/soc/faculty/schegloff/TranscriptionProject/index.html

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17 Autoethnography: Locating the self as standpoint in post-apartheid South Africa

Jeanette Schmid

Introduction

I love the power of stories, especially tales told within circles of attentive listeners. Sharing our experiences, viewpoints and values is essential to creating (just) community, especially where these are stories of resistance and survival (Solinger, Fox & Irani, 2008). Autoethnography inspires me because it creates a virtual circle for sharing narratives and offers me a platform to, in my own voice, speak to my unique insights and realities. Because I am a reflexive social work practitioner and researcher and am motivated to delve deep into my professional encounters, capture these and make sense of them, I am encouraged that there is a research methodology that allows me to translate these (self)discoveries into an academic framework, and permits me to unashamedly connect the personal and professional. This is especially important to me as an individual that seems constantly and consistently to be spanning but also questioning (personal, professional, racial, religious, national . . .) boundaries. I am also excited that this heuristic approach challenges me to create meaning within a frame of social justice. Recognising that academia often excludes and marginalises, I appreciate that autoethnography is a potential gateway for those with subordinated, subjugated identities to have voice and to express unheard, silenced, perhaps taboo-ised stories. I am thrilled to be able through this chapter to explicate a form of research that facilitates inclusion and allows for multiple voice(s) and knowledge(s) and thus adds to our collective, multifaceted understanding of South Africa. I took on the writing of this chapter because I want you, the readers, to explore the lesser-told, hidden stories of your lives and to contribute these to our South African complexity.

Do I disclose now that I am a white, middle-aged, married, South African woman who has lived outside of the country for the last two decades? How does that disclosure affect (for you) the legitimacy of what I have to say?

Autoethnography is a qualitative, interdisciplinary research methodology and method that upends conventional, traditional understandings of the research process and knowledge creation. This method uses the individual reflexive narrative to creatively highlight undisclosed, untold and potentially subversive texts. It is a deeply personal research approach, linking identity and culture, as well as the individual and social, and so simultaneously contextualising the research and the researcher. Autoethnography facilitates the discovery of and connection with other (hidden) stories (Ferdinand, 2009). It is relevant where issues of identity exist, placing the local, parochial and indigenous in the foreground (Grant, Short & Turner, 2013) while promoting global points of connection. Because it can facilitate self-awareness within the researcher, it is a useful teaching tool, enabling students to identify taken-for-granted assumptions and to theorise the personal, the relational and the cultural (Anderson, 2006; Boylorn & Orbe, 2013; Ellis & Bochner, 2006; Hopper, 2014; Hughes, 2008; Woods, 2011).

This chapter describes the influences leading to the emergence of autoethnography and the philosophical orientation, advantages and praxis of autoethnography. It also identifies the relevance of this approach to lifting out lesser-told South African stories.

The emergence of autoethnography

A series of influences contributed to the emergence of autoethnography. It is in part shaped by how it is distinguished from traditional ethnography. The latter promotes the notion of an invisible, neutral observer, who, through long-term immersion, interprets the interactions and behaviour of a community. In 1979, Hayano noted that ethnographers cannot avoid inserting themselves into their research to at least some extent, and identified the value of connecting autobiographical introspection with an analysis of the author's social contexts (Anderson, 2006; Denzin, 2013; Walford, 2004). Unlike more recent ethnographical methods, which construct subjects as co-participants or co-creators of knowledge (Harper, 2009), orthodox ethnographic processes risk both 'othering' those studied and promoting colonising approaches (Anderson, 2006; Denzin, 2013; Grant et al. 2013; Ponterotto, 2006). Pratt (1992) suggests that autoethnography offers a critical counternarrative, allowing those who have been subordinated to represent themselves. A further influence towards the development of autoethnography has been life history research (Atkinson, 2006), which captures the life story of one person without attempting to compare or contrast this with the experiences of others. Additionally, postmodern and poststructural ideas are reflected in the attention paid to reflexivity, the portrayals of the experiences of the self/ves and the highlighting of different forms of knowing (Anderson & Glass-Coffin, 2013; Reed-Danahay, 1997). While its precise ontology is unclear, the specific intent of autoethnography is to go beyond the purely autobiographical to investigate the meaning of individual experience(s) (Chang, Ngunjiri & Hernandez, 2012).

Philosophies of autoethnography

Autoethnography is the study of one's particular place in the world at a specific point in time. It has a distinctive philosophical orientation, although what

is essential to autoethnography is contested (Denzin, 2006). Anderson (2006, p. 381) speaks of *analytic autoethnography*, in which the agenda is to develop 'trans-contextual' empirical information through the examination of individual experience. There are clear commonalities with ethnography, both research methodologies viewing the researcher as closely connected to and familiar with the culture under study and aiming to develop theory through 'gain[ing] insight into social phenomena' (Anderson, 2006, p. 387). However, Ellis and Bochner (2006) suggest that rather than being an alternative form, analytic autoethnography is a subcategory of ethnography. *Evocative autoethnography* is a postmodern approach that resists expanding dominant discourses (or grand master narratives) through 'rationally acquired data', and instead, by validating subjective reality and finding meaning in compelling, emotive accounts, adds to minor and marginalised narratives (Grant et al., 2013, p. 11). The aesthetic value and the emotional authenticity of the narrative stand in the foreground (Ferdinand, 2009). Because the story produced is privileged above method, evocative autoethnography may be non-directive and may resist offering conclusions, often remaining open-ended (Anderson & Glass-Coffin, 2013; Grant et al., 2013). The debate regarding key characteristics of autoethnography highlights disagreements in defining autoethnography, particularly regarding the proximity to ethnography, processes of knowledge production and critiques of power relations. Despite these tensions, one can agree that autoethnography essentially privileges the individual researcher/subject's voice, valorises the subjective experience, is heuristic and seeks connections. It may also challenge power.

Thus, in autoethnography, instead of investigating the stories of others, autoethnographers reflexively share their own story, their voice being placed in the foreground (Ellis, Adams & Bochner, 2011). Autoethnography goes beyond postmodern research which blurs the boundaries between the objective and the subjective, to erasing the object(ive) and subject(ive) binary (Anderson, 2006; Hopper, 2014). Indeed, the observer and subject are collapsed into each other: the viewer is also the viewed; the teller is also the tale; and the insider is the outsider (Anderson, 2006). Moreover, the notion of the expert researcher is rejected and it is assumed that by having access to data unavailable to other researchers, the researcher of the self makes a distinct research contribution, validating the told story (Chang, 2014).

Second, autoethnography studies cultural and social life, specifically the researcher's unique historical, social and political context. It *affirms the value, worth and meaning of the individual experience and validates the subjective reciprocity of the self and her/his social context* (Anderson, 2006; Boylorn & Orbe, 2013; Butz & Besio, 2009; Chang, 2014; Ellis et al., 2011; Grant et al., 2013; Whitinui, 2014). Whether such experience is broadly generalisable or not, it is the proximity to lived reality that must be articulated and presented directly to the audience. Indeed, a thick account – a narrative that is deep and profound, that explores the multilayeredness of life and taps into the wisdom of the individual – is sought. As such, through the reflexive process, researchers explore the various subjectivities expressed in their social location (Boylorn & Orbe, 2013; Grant et al., 2013). Autoethnography appreciates that there may be a particular voice associated with

each subjectivity and that each person therefore also is multiphonic. Because autoethnography prizes the authentic individual idiom, lexicon and talk, the story is rooted in the individual person's own words, tongue and style.

Third, as a qualitative approach, autoethnography aims to extend observations and conclusions beyond quantitative constructs, fixed information and objective fact to examine the detail, variety and nuance of researched experience. It is thus at its core *heuristic*, relying on the rigorous, repetitive, multilayered reflexivity (Haynes, 2011) and interpretation of the researcher to attribute meaning to what is observed. Because it intends to question and assert holistic, multidimensional and ever-changing ways of being within a cultural milieu (Grant et al., 2013), interpretation is not necessarily stable. As such, the degree to which the self is visible shifts from researcher to researcher (Anderson & Glass-Coffin, 2013). Also, the autoethnographer may use a particular (authentic) voice to portray an image of their identity specific to a point in time (Hughes, 2008).

Next, autoethnography places importance on the connectivity of stories and the *interrelatedness of unique experience*. Autoethnography, although enriching the world through individual accounts, is not an individualised approach but is relational (Ellis, 2014). Solo experiences become part of a broader orchestra of telling, the researcher's own words joining up their experiences with their culture and the experiences of others (Hughes, 2008). Autoethnography aims to gather and include silenced or minor voices without expecting such contributions to conform to one another or to a dominant tone. Indeed, the goal is to enhance and ultimately transform the music by incorporating the variety of ignored and overlooked sounds, noises and songs, and so to grow community. Precisely because autoethnography intends to facilitate connection and to make links where these have not before occurred, it can valorise stories not commonly told or not conforming to dominant discourse. Such processes may facilitate social activism by inviting the reader into the experience of the so-called other (Boylorn & Orbe, 2013; Ellis & Bochner, 2006; Grant et al., 2013). Thus, autoethnography affirms minority narratives, creates spaces of solidarity with others sharing this experience, and introduces overlooked texts into the academic arena.

Indeed, (especially evocative) autoethnography promotes critical assessment of the social milieu and consciously advocates for the disruption and *disturbance of power* as expressed in assumed norms, practices and relations of power (Grant et al., 2013). Autoethnographic analyses adopt Foucauldian notions of power. In such conceptions, power is viewed not as fixed, stable or located in particular individuals or institutions but instead as fluid, shifting and dispersed (Gallagher, 2008; Power, 2011). In autoethnography, the links between the personal and political are illuminated (Grant et al., 2013). Hegemonic notions of power and misrepresentations of subjectivities are challenged and deconstructed when certain unheard discourses are asserted (Boylorn & Orbe, 2013; Grant et al., 2013; Pratt, 1992). Through reflexivity, the personal narratives allow for an examination of mechanisms and experiences of privilege and oppression in society, facilitating social critique and interrupting dominant discourses (Chang, 2014; Denzin, 2013; Hughes, 2008).

One can therefore conclude that autoethnography intends for persons, particularly but not only those disempowered (Hughes, 2008), to employ their unique voice to describe their temporal standpoint and thus to possibly expose and unsettle stereotypical views of oppression, suppression and subordination.

Advantages and use of autoethnography

A researcher may select autoethnography as the preferred method for a number of reasons. Primarily, autoethnography is chosen because it allows for the complex, intricate examination of personal, subjective experience(s) (Hughes, 2008). It facilitates the profound exploration of identity and diversity (Boylorn & Orbe, 2013) and the ways in which these may be compromised through social structures and meanings (Grant et al., 2013). It thus makes room for indigenous, subjugated and marginalised voices. Autoethnography becomes the research methodology of choice when the researcher plans to access insider meanings (Ettore, 2008); wishes to offer complex, textured accounts; aims to lift out the interrelationships of culture, communication and power (Boylorn & Orbe, 2013); feels the need to develop an alternative view (Hopper, 2014); or seeks customised, responsive interventions rather than standardised ones (Boylorn & Orbe, 2013). Further, employing the self as the subject of study potentially avoids othering (Grant et al., 2013). Another advantage of autoethnography is that the researcher is able to work at a pace that is suitable for themselves (Hopper, 2014). A wide range of topics can be studied: for example, the examination of cross-cultural representation (Biesele & Hitchcock, 2008), white privilege (Boyd, 2008), working as a maid (Limes-Taylor & Kaufmann, 2014) or being a mental health survivor (Liggins, Kearns & Adams, 2013). Hence, autoethnography has particular power when used to amplify the voices in the dark, bring into the foreground stories that have been relegated to the background, and assert standpoints that have been marginalised.

Praxis of autoethnography

While autoethnography is a form of critical discourse, it also is essentially tied to critical practice. Hence, it can be identified as a form of praxis, directed by ongoing, rigorous and reflexive analysis of documented (self-)observations (Anderson, 2006; Chang, 2014; Grant et al., 2013). This iterative process can be confusing for a person new to autoethnography, but improvisation and experimentation are encouraged (Anderson & Glass-Coffin, 2013). It is also useful to slow down the process, recognising that the reflexivity inherent in producing a text is ultimately more important than the written product (Dutta & Basu, 2013).

The successful autoethnographer identifies a relevant and novel incident/story and courageously chooses to reveal the ignored, repressed, tabooed story (Grant et al., 2013). The researcher may choose to work in collaboration with other autoethnographers (Cann & DeMeulenaere, 2012; Chang et al., 2012). Once the process is decided upon, the researcher, through emotional recall,

collects autobiographical data and then documents this information, the various steps in the process, as well as shifts in their thoughts, feelings and insights (Whitinui, 2014). Such researchers understand the subjectivities at play, making sense of themselves both as researcher and subject; are familiar with heuristic tools; provide a textured and deep analysis of the occurrence/s; and use appropriate, authentic, persuasive, aesthetic and evocative language to produce a discursive text (Anderson & Glass-Coffin, 2013; Berry & Patti, 2015; Boylorn & Orbe, 2013; Chang, 2014; Denzin, 2013; Ellis, 2014; Hopper, 2014; Johnson-Mardones, 2014; Richardson, 2000). The final text expands contemporary knowledge and challenges the boundaries of assumed expertise while potentially addressing social justice issues (Ellis & Bochner, 2006). Ultimately, for an autoethnography to have value, the selected topic is relevant; the reflection contributes to understanding social life; the reflexivity is substantive; and the text presents well aesthetically (Richardson, 2000; Walford, 2004).

> I would like to illustrate some of these autoethnographic processes by drawing on my own experience. While completing my doctorate, I was prompted to write about the impact of social location in South African social work research because I observed that I was perceived as a foreigner (having lived outside of South Africa for some years) rather than as South African (my preferred identity) (Schmid, 2010). I had not anticipated this additional distance between myself and the persons providing information, and being disturbed by this interaction, wished to interrogate this experience more closely. I maintained a diary throughout the research process which I then reviewed to isolate issues regarding social location. My notes highlighted the instances where I experienced greater discomfort and some of the strategies I tried out to address the gaps between myself and the research participants. I also captured discussions I had with others about my role as researcher in this study. In developing the autoethnography, I was continually challenged to probe more deeply and to not accept my reflections at face value. I recalled both my experiences as a white person under apartheid as well as my interactions with racialised persons outside of South Africa. I reviewed existing scholarship on factors impacting research processes such as being an insider/outsider. I also read about white privilege and what this meant in a post-apartheid and postcolonial context. For me, reading how others had articulated the circulation of power in the research context allowed me to compare my experience and to identify what processes had been playing out. I also investigated the extent to which other social service researchers in South Africa had positioned themselves within their reported research and attempted to reflect on the political and cultural dynamics influencing their choices to typically mask their social location while I was choosing to be explicit. I drew on both my autobiographical research and previous academic interrogation of the issue of social location and white privilege in research processes. In the autoethnography, in response to my assumed Canadian identity being placed in the foreground, I amplified and attempted to reclaim my

South African voice. In selecting such voice, I was reminded of my struggle to remain attached to my 'South Africanness'. I continue beyond the completion of the autoethnography to further explore why I want(ed) to be associated with a South African rather than a Canadian identity.

I have also attempted to write an autoethnography regarding vicarious traumatisation in oncological social work in Switzerland. In preparation, I tracked the points at which I became more and more convinced that vicarious trauma needed to be addressed within my agency and paid attention to my co-workers' experiences. I also began listening more carefully to client accounts and charted these, realising that many were traumatised not only by the trajectory of cancer, but also by other events. Such cumulative trauma would potentially increase the possibility of vicarious trauma for a counsellor. In preparing my draft article, I first traced my personal intersections with cancer, trauma and vicarious trauma so as to shed light on why this issue preoccupied me. I also wanted to understand what had been asserted academically regarding oncological social work and vicarious trauma. Additionally, I wanted to understand the Swiss social work and oncological context as I sensed that the Swiss meaning-making regarding illness impacted the nature of discussions relating to vicarious trauma in oncology. As this clashed with my own assumptions, I needed to understand this dynamic better. My oncological article remains a draft, despite various submissions and significant rewriting. In formulating this chapter, I have become aware that this is perhaps because the form chosen did not seem to fit neatly into any of the journals I approached. Moreover, I remained quite attached to the theoretical literature, but struggled to fully understand and conceptualise my own experience. In some ways I am still un/dis-covering my story: Why do I feel so strongly that vicarious traumatisation is under-discussed in oncological social work? Why does this impact me so when I seem to have avoided such secondary traumatisation myself? And can I speak legitimately about attending to vicarious traumatisation in oncology if I have not myself experienced such traumatisation? Finally, for an autoethnographic piece, I also am not yet presenting an evocative, compelling account (Ellis, 2014). Perhaps it requires further attempts!

Ethical considerations

An autoethnography, like any responsible research, requires ethical review in addition to the process outlined above. However, what ethical considerations mean in autoethnographic study is debated, partly because the discursive product is often a retrospective reflection and partly because it is focused on the self. Tullis (2013) warns that the ethical issues faced in autoethnography may be quite complex: they must go beyond the traditional expectations of ensuring that participants provide informed and voluntary consent, knowing how,

where, with whom and when their data are being shared, and expecting that the information is shared in an accurate, trustworthy representation. In autoethnographic research, the researcher must consciously reflect on, first, their own participation in the story; second, which persons' voices other than that of the author are intentionally or unintentionally reflected in the story; and third, who else may be impacted by the presented narrative. These issues must be considered throughout the data collection, analysis and formal production of the autoethnography (Ellis et al., 2011).

Hence, while all researchers need to be cognisant of unintended (personal) consequences of publication, autoethnographers need to exercise particular caution because they are revealing intimate aspects of their subjectivity/ies. Noting that the autoethnographic record may become a permanent one, researchers should begin by carefully assessing their own vulnerability and ensuring their rights are protected (Chang, 2014; Tullis, 2013). This is vital, especially in politicised environments where autoethnographers must be sure that they wish, even in the long term, to stand by their reflections.

> In trying to unravel the meaning of my social location as an émigré South African researcher, and articulating perspectives that did not necessarily intersect with prevailing understandings of race and the performing of whiteness, I risked alienating both South Africans and Canadians (academics) and potentially impacted future employment opportunities.

Autoethnographers need not only to reflect on their own vulnerability, but also, noting their connection with a range of networks, to appreciate the inherently relational aspects of autoethnography (Ellis et al., 2011). Persons who may be inadvertently exposed include those with close intersections with the researcher, such as family members, partners, neighbours or colleagues, and the communities of which the autoethnographer is part (Tullis, 2013). The autoethnographer should therefore take into account the degree to which the revelations may have unintended consequences for these persons (Ellis et al., 2011; Tullis, 2013). Further, the autoethnographer should minimise any opportunities for the identification of those involved in the story and protect confidentiality, though this is often difficult to ensure (Tullis, 2013). If possible and appropriate, the researcher must seek informed, voluntary and autonomous consent from others implicated in the narrative (Chang, 2014; Tolich, 2010). In traditional research, this is sought prior to any research study. In autoethnography, participants should be able at all points of the process to confirm their ongoing participation. However, those implicated may only become evident once a text is formally constructed, and thus the autoethnographer must be aware that seeking consent from such participants may be seen as coercive (Tullis, 2013). It also may no longer be possible to access consent, depending on how historical the reflection is. Moreover, the autoethnographer must ensure that any risk is minimised and benefits maximised, and address this equally for all participants (Tullis, 2013). Additionally, those implicated by the story should have the opportunity to respond and interact with the material (Ellis et al., 2011) through member checking and dialogue between the researcher and participant (Tullis, 2013). Other considerations relate

to whether information or voice has been appropriated from persons implicated in the research (Biesele & Hitchcock, 2008). Such concerns are particularly pertinent in the South African context where, through colonisation and apartheid, indigenous knowledge has been both systematically appropriated and marginalised (Bannister & Solomon, 2012).

> In the exploration of social location in my account as researcher, I was careful to ensure that others in my story could not be identified and that they had provided informed consent regarding any publication. I further provided those implicated with the draft article for comment.

Additionally, autoethnographers will do well to consider the impact of their narrative on potential audiences, especially when using evocative approaches, and, where appropriate, offer advisories prior to the public presentation of the story (Ellis et al., 2011; Tullis, 2013). In South Africa, where trauma is pervasive, autoethnographers should be particularly sensitive to such concerns. In sum, the autoethnographer pays attention to ethics to present a recounting of the story that accords with the perspectives of those implicated; ensures that knowledge and perspectives have not been appropriated; and maintains a trusting environment that allows for further study (Ellis et al., 2011).

Critiques and limitations of autoethnography

Autoethnography is subject to critiques that may apply to qualitative research in general. For example, critics suggest there is no generalisability because autoethnography lacks a scientific foundation and associated objectivity; focuses on literary aspects and uses emotive rather than factual language; relies on subject reports which are not reobservable and are drawn from tainted memory; is self-indulgent; and, in focusing on the self, neglects adequate examination of the social (Anderson, 2006; Burnard, 2007; Guzik, 2013; Noe, 2007; Walford, 2004). Such critiques overlook the intent of autoethnography, which is not about accurately replicating memory or facts, but rather is focused on lifting out and sharing meaning from (marginalised) experiences.

There are some limitations to autoethnography which warrant consideration, such as the potential consequences of using non-scholarly conventions that might alienate the academic community (Biesele & Hitchcock, 2008; Tomaselli, 2013).

> I have struggled in writing this chapter to find an appropriate voice. If I slanted this more towards an autoethnographic piece, would the editors and reviewers feel that I have included sufficient explicit direction for those being introduced to autoethnography? By inclining more towards traditional modes of explication, have you as the reader been denied the opportunity of seeing autoethnography performed?

Additionally, autoethnography, especially evocative autoethnography, while claiming inclusivity, requires a specific parlance that actively defies traditional academic writing. Just as the novice has to learn the scientific code of traditional

research, it seems that the newcomer to autoethnography must be inducted into the particular communicative style. This required facility with language creates barriers and contradicts the intention of elevating voices that have been silenced or forced to tone down. This matters particularly in the South African context, where language has been used as a vehicle to subjugate people and where language and languages continue to be contested. Nevertheless, this research methodology can be useful in the South African research environment.

Relevance of autoethnography in South Africa

Autoethnography can effectively upset dominant constructions of subjectivities. Whitinui (2014), a Maori researcher from Aotearoa/New Zealand, has presented a strong argument for developing an indigenous form of autoethnography. He maintains that the oral tradition intersects well with the autoethnographic approach. Because autoethnographic writing is intended to be creative (Grant et al., 2013), there is room to innovate and present data in a culturally relevant way. Whitinui (2014, p. 465) further claims that autoethnography allows for a '(re)validation' of the self and of a people's history and current lived realities. Indeed, Collingwood-Whittick (2000), DeLeon (2010), Falah (2013), Moreira (2009) and Pineau (2014) offer international examples of how this methodology may offer counterdiscourses to oppressive and marginalising constructions of particular groups. A particularly powerful aspect of this methodology, Whitinui (2014, p. 471) contends, is that it allows the narrator to deconstruct and reconstruct accounts from the indigenous point of view, and so expose ongoing 'misrepresentation, misuses and misappropriation of indigenous knowledge'. A further advantage Whitinui outlines is the ability through this methodology to reflect not only individual but also collective experiences. He stresses the importance of 're-calling' events, and of reconstructing these from one's own cultural standpoint. Finally, this method allows for the 'conscientization, resistance and transformative praxis' advocated by Freire (Whitinui, 2014, p. 471) and thus serves an essential social justice agenda.

Although as a white woman who has lived outside of South Africa for some time I have limited legitimacy in arguing for the development of autoethnography as indigenous research methodology, I believe many of Whitinui's points can be applied to the South African situation. South Africa's past of oppression and repression has meant that numerous stories have been shoved into forgotten corners. Ongoing inequality, corruption, discrimination and suppression further sideline particular stories. Oral history has an important place in reflecting South Africa's journey (Wilder, 2004). Even as stories are being eroded due to migration, industrialisation and globalisation, many South Africans value the telling of tales. Valiant efforts are being made to gather the stories of the past and insist on their relevance. There are also initiatives to document current narratives. Autoethnography offers South African researchers a particular vehicle that resonates for portraying their (re)collections and describing their immediate lived realities. Recent scholarship, as highlighted by investigations carried out by, for example, Tomaselli,

Dyll-Myklebust and Van Grootheest (2013), Tomaselli (2007) and Pillay, Naiker and Pithouse-Morgan (2016), provides a foundation for further expansion. Drawing on Whitinui, the collective voice of ubuntu, which has been heralded as a valued African and South African principle (Allen, 2003), can be built upon. Ubuntu reflects the interconnection and interdependence of the collective and the individual and can be illuminated in collaborative autoethnographic efforts. Moreover, in any society, the hidden and marginalised stories are multiple. South Africa's convoluted realities suggest that there are an unlimited number of narratives that should be uncovered, named and reconstructed. In autoethnography, the author can make connections between the personal and the political. Rigorous autoethnographies will contribute to the greater body of researched knowledge, can be actively used to educate the community and may support wider stories. Finally, autoethnography has particular relevance for the social sciences where reflexivity is as central to practice as it is to research (Mandell, 2007).

Conclusion

Autoethnography
Auto-ethnography
Auto/ethnography
Fragments
A whole
Slowly, cautiously
Integrating
Multi-phonic
Voices of
Myself
Others implicated
You
Academia (scholarly literature, reviewers, editors)
Analysing
My
Rational
Fixed
Fluid
Emotional
Self
Selves
Identities
Subjectivities
Consolidating
Distinguishing
Boundaries
Customizing/customising
Recalling

Reflecting
Lifting out
Deconstructing
Reconstructing
Hidden, silenced
Suppressed, subordinated
Indigenous
Overlooked stories
Stigma
Shame
Privilege
Disrupting
Celebrating
Connecting
Challenging
Compelling
Mobilising
Knowledge/s
Production
Made
Making
Meaning

Autoethnography is an important research methodology for South African social scientists as it examines individual lived realities in the context of broader cultural, political and sociological realities. As a qualitative, poststructural research intervention it can allow for the examination of untold, unknown, unacceptable, stigmatised stories. Indigenous experience and knowledges can be illuminated. Recalling, documenting and analysing hidden identities and subjectivities can contribute to instances of oppression, suppression and marginalisation being highlighted. The problematic can be discussed and successes celebrated. It is an accessible and appropriate research methodology in the South African context, and, if widely used, can contribute to the expansion of local and indigenous knowledge production.

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18 Genealogy in practice: Labour, discipline and power in the production of the mineworker in South Africa

Brett Bowman, Ian Siemers and Kevin A. Whitehead

Introduction

While scholars continue to debate whether any form of 'method' is discernible in the writings of Michel Foucault (Dean, 1994; Garland, 2014), pragmatic approaches to this question focus on how Foucault's theoretical thinking may be mobilised to do political work as part of critically inflected social research. This chapter departs from this pragmatic ethos in that it is not concerned with delimiting the edges of method and the place of Foucault's genealogical project therein. Rather, the sections that follow take as a given that despite these fraught methodological debates, Foucault's approach to reading history in the present offers researchers a formidable set of theoretical tools with which to execute robust empirical critical social research. As such, the chapter takes up the challenge of translating the often dense formulations that describe Foucault's approach to thinking about social phenomena into workable forms of research practice that can and should form part of any social researcher's repertoire of methodological tools for responding to research problems in the social sciences and humanities. In the first part of the chapter we provide a brief overview of the philosophical, theoretical and conceptual thinking that underpins Foucault's (1977) genealogical approach to a reading of history. This approach prioritises the destabilisation of phenomena under study by analysing materials in which these phenomena are produced in different and often contradictory forms. We then demonstrate the utility of this approach through its application to a project-in-progress aimed at charting the critical history of the birth of industrial psychology in South Africa. Using part of this project, specifically focusing on constructions of the mineworker in South Africa, we demonstrate just how a genealogical approach to questions of history differs radically from the Whig, Great Man and other historiographical traditions.

The leading questions of these traditions focus on the historical protagonists involved in 'bringing' or 'driving' the emergence of industrial psychology as a discipline towards the middle of the twentieth century or, alternatively, consider the discipline to have necessarily arisen out of disciplinary antecedents (Armstrong, 1990). Theoretically put, these traditions are grounded in a

'juridico-liberal view of power' in which the process of 'discovery . . . [is seen as representing] the liberation of thought and speech: a process of enlightenment which reveals what was always there, but before was hidden by darkness' (Armstrong, 1990, p. 1226). However, against these approaches we argue that genealogy offers innovative ways for thinking about the conditions of possibility that framed the emergence of industrial psychology in time, place and scope. Rather than seeking to uncover what power has hidden, genealogy views power as productive. This commitment to the productive capacity of power cannot be overstated, because '[power] produces reality; it produces domains of objects and rituals of truth' (Foucault, 1991, p. 194). Undergirded by this understanding of power, this approach calls into question the frequently taken-for-granted assumptions that underpin realist approaches to history. Specifically, assuming that 'words . . . [have] kept their meaning; that desires still [point] in a single direction . . . [and] ideas [have] retained . . . their logic; . . . that the world of speech and desires has known invasions, struggles, plundering, disguises [and] ploys' (Foucault, 1971, p. 351) may lead social researchers down the path of anachronistic reconstructions of history unfolding as it always should have. Genealogy is expressly opposed to such comforts. In the section that follows we outline how particular theoretical and empirical problems call for the application of a genealogical approach, define its central tenets, and demonstrate how varying constructions of the mineworker in South Africa (a primary target for industrial psychology research) can be read through the lens of genealogy.

Genealogical terrain

As with most research, the genealogical approach is deployed as a strategic response to a question or problem. In the case of genealogy, however, time is implicated in the question posed or problem identified. As a result, selecting genealogy as a strategy for response to these questions or problems also commits the strategist to a politics of historical critique (Visker, 1995). Simply put, deploying genealogy as a research strategy implies a suspension of using the logic of the present to understand the past. It involves a critical orientation to what we know (or think we know) about the social world and the problem that we have 'discovered' or asked of or within it. Perhaps most importantly, it commits the research to a direct engagement with the role of power in shaping objects and events that are often considered timeless. Thus, genealogical problems are indivisible from a hard constructionism that sets in motion a series of questions intended to 'unsettle' the present. These are questions that in many ways force the genealogical response by virtue of their commitment to unsettling historical lines of inquiry and surfacing forms of power that produced social reality as we often naively apprehend it. Foucault's expressly genealogical projects were launched in response to questions or problems focused on, for example, the ways that knowledge of sex and sexuality were constituted in the European present. While Foucault (1990) goes to great lengths to outline his problematics in *The History of*

Sexuality, he nonetheless asks some pointed questions that are seemingly characteristic of any genealogical project. Examples of these include:

> What paths have brought us to the point where we are 'at fault' with respect to our own sex? And how have we come to be a civilization so peculiar as to tell itself that, through an abuse of power which has not ended, it has long 'sinned' against sex? (Foucault, 1990, p. 9)

While their contents may differ, the *forms* of these sorts of questions or problems throw projects into genealogical terrain. In their 'Genealogy of the Genital Kiss', Hunt and Curtis (2006, p. 69) explore 'the evolving contexts and discourses concerning oral sex that have occurred from the early 20th century onward'. Butchart's (1998, p. x) seminal project *The Anatomy of Power* is driven by the question, 'How is it possible to speak of the human body in general and the African body in particular as distinct corporeal entities?' and Bowman's (2010, p. 444) genealogy of the paedophile in South Africa represents a response to the question, 'When, how and why did discourses on paedophilia become significant objects of knowledge for South Africa?' In the broader project-in-progress we ask: Under what conditions is the mineworker constructed as an object of knowledge in South Africa? What binds questions such as these together is their historical tenor, political commitment to disturbing seemingly ahistorical objects in the present, and a turn to an analytics of power in accounting for the production of these objects in the world from which these questions are asked.

Our exemplar project is thus thrown into genealogical terrain by a research question that requires us to trace the history of the object over which industrial psychology claims expertise, so as to describe the conditions that frame the possibility of its (industrial psychology's) emergence. Thus, it is a particular type of intellectual problem that draws research into Foucault's methodological ideas. In our case, and using Butchart's (1998) terminology, that the worker (particularly the mineworker) was to emerge as an object of psychological knowledge cannot be accounted for by the celebratory[1] (see Hudson, 1962), functional (see Coupe, 1996) or critical (see Fullagar, 1986) histories of industrial psychology thus far written. Rather, the emergence of this object is an event in the order of knowledge that requires explanation and interrogation – a history of the present, aimed at destabilising the pre-given appearance or assumed 'essence' of the mineworker in South Africa as a target of knowledge. The appropriation of the genealogical method must be seen in light of this theoretical problem. It is the question of how this mineworker came to be an object of knowledge that invites a genealogical perspective. But what defines this perspective, and how do we go about navigating this genealogical terrain once we have identified it?

Of course, these questions cannot be separated from the important ethical challenges with which any method focused on interrogating the politics of knowledge production must grapple. Such ethical concerns may be tied to the identity politics of authorship (e.g. to what degree and in what ways can specific categories of persons represent the perspectives of categories of which they

are not members?[2]) and the selectivity implied in prioritising one version (or component) of history over others in the analysis. In some ways, genealogy is itself a safeguard against these threats because the method recognises its own productive 'presence in the analytic field' (Butchart, 1998, p. 9). It is committed to demonstrating discontinuities between, rather than 'inaccuracies' in, historical accounts, and its claims on knowledge are self-evidently political. As such, reflexivity with respect to knowledge production is an integral part of the genealogical method, rather than involving considerations entered into prior to or independently from conducting a genealogical analysis.

In the sections that follow we provide some key coordinates that guide genealogical analyses. Our intention is to demonstrate just how Foucault's thinking about the nature of history, power and knowledge can be deployed through ways of reading discourses in texts and materiality in practices, and the sorts of empirical materials that are required for doing this analysis. In closing, we demonstrate just how such an analysis, guided by genealogy, may be utilised to describe the discursive properties of the mineworker across historical periods, the extra-discursive context of its production, and the material conditions of possibility in which it was produced.

Doing genealogy

Following Foucault (1977), Hook (2001, 2005) and Bowman and Hook (2010) offer four principles for the analysis of discourse and the prioritisation of three ways of seeing these discourses as related to history, extra-discursive practices and material conditions in any genealogical project. The intention of these principles is to allow for an analysis in which discourse is seen as indivisible from history; discourse is 'a matter of the social, historical and political conditions under which statements come to count as true or false'; and discourse is seen beyond 'a decontextualised set of hermeneutic interpretations' to include reference to the *materiality* or *extra-textual* context of discourse (Hook, 2005, p. 9). Discourse, here, should be seen to include not only the textual markings that denote what may be said, but also all the rules, structures, institutions and material conditions that constrain and create the conditions under which it may be said. If our commitment is to unsettle history and to surface the power that produced the present, then these ways of reading must be disruptive; they must demonstrate just how the 'thing' we thought was stable throughout history has taken many discontinuous turns to 'be what it is' in the present. These principles compel us to collect particular types of data and orient ourselves to them using the analytic principles described below.

Search for reversals

This principle instructs us to search for reversals in the way our object or event was treated in the historical record and reject the temptation to find a single point of origin of our object of analysis. It is used to subvert, or invert, such notions of origin or creation (Hook, 2001) in favour of a view of 'discourse as

event'. The genealogical approach thus requires that we search for multiple origins, aware of 'multiple analytic "salients" underlying the successful production of discourse' (Hook, 2001, p. 531). This simply means that if objects have no single historical essence then we need to find points in our empirical materials that show the object of our analysis in multiple forms. This unsettles the idea that the object has a true or essential state above all others; that our object of study was born 'pure' and then changed. We must therefore pursue 'objects without origins' (Butchart, 1997, p. 101). In following this principle, we should be sceptical of studies such as those produced by Bozzoli (1977), Nzimande (1984) and Fullagar (1986), which reduce the emergence of industrial psychology to a mere continuation of the principles set down by scientific management, the birth of the National Institute of Personnel Research (NIPR) or the result of capital's need for '"scientific methods" of management' (Webster, 1986, p. 9). Instead, treating *discourse as a discontinuous event* demands of us 'the consideration of discursive phenomena as being embroiled within a network of institutions, social structures and other discourses' with a distrust for notions of 'a singular moment of creation' (Bowman, 2005, p. 27). Rather than celebrating Simon Biesheuvel's discovery of the relationship between psychology and labour (Hudson, 1962; Raubenheimer, 1974; Wickert, 1960), a genealogy of the mineworker in South Africa as an object of knowledge must survey the broad discursive and extra-textual context under which this object is constructed. Here, the genealogical is concerned with the breadth of sources accumulated, rather than 'a singular salient historical episode' (Bowman, 2005, p. 14), through which reversals, discontinuity and continuity in the production of the worker may be read.

Focus on discontinuities

This focus requires that we be wary of 'cause-effect patterns of explanation', as 'emphasizing continuity [may] run the risk of projecting backwards from the present the concepts . . . [the] analysis . . . will ultimately "reveal"' (Hook, 2001, p. 533). This requires an 'effective history'; a *history of the present* as opposed to a *history of the past*. This is because trying to retrieve the object of analysis from the past based on the knowledge systems of the present 'risks reproducing as much about the author's historical and political context as it does about the subject-matter under study' (Hook, 2001, p. 533). The aim here is to challenge the perceived 'ahistorical' nature of an object of social science, prioritising instead 'that which conditions, limits and institutionalises *discursive formations*' (Bowman, 2005, p. 13). For our project, we must look for competing and changing constructions of the mineworker, for a multiplicity of forms in such constructions challenges the certainty of our accounts of the prevailing present-day construction(s). By demonstrating that the present need not have been as we currently perceive it, by disturbing the 'imaginary unity' (Danziger, 2003, p. 4) of objects of social science in the present, we are able to demonstrate their 'constructedness'. This anti-essentialism means that we can be no more certain of the 'objectivity' of our understanding of the worker in the present than we can of past understandings. While Terre Blanche and Seedat (2001) contend that the very idea of a black[3] worker was subject to radical changes in the eyes of industrial psychologists,

a strong genealogical perspective takes this as a given because it is tied to the recognition that 'analysis and object are mutually constitutive, that . . . [the worker] is as much a product of the analysis as the analysis is a reflection of [the worker]' (Armstrong, 1986, p. 227). Thus, different approaches to understanding the worker must in fact produce a worker to study. In contrast, the genealogist avoids studying this worker as a given form. Instead, the approach is invested in exploring the conditions that shape the production of the worker by these different approaches. These conditions, and the discourses that signal them, are the specific objects under study, rather than the 'essence' of the worker itself.

Specificity and the material conditions of possibility

Specificity draws attention to the fact that a genealogical analysis cannot merely analyse texts as signs. The analysis must extend beyond textual markers of the object under study, towards the *specific* material conditions that made these signs possible. This means we cannot merely assume that the industrial psychology that was both the instrument and effect of the production of the mind of the worker in the United States was tied to the formation of the discipline in South Africa. Moreover, by extension, we cannot take as self-evident that the discipline produced the same universal mind in the same universal worker. By focusing on the *particularities and localisations of an object or event in question*, we can demonstrate that

> there is no inevitability that . . . [an object] will dictate the . . . agenda [of a discipline] for decades to come. Just as it appeared, it may disappear, or at least fade . . . overtaken by some other concept that reconstructs both the nature of . . . [a] problem and its potential solutions. (Armstrong, 2009, p. 922)

It is this focus on how discourses are institutionalised and constrained by specific material conditions in the past that forces us to ask similar questions about the conditions that construct our object under analysis in the present. This is what makes genealogy a history of the present rather than the past.

Exteriority

Rather than (as is the case with many conventional historical methods) looking for the hidden nucleus of the object under study, Foucault insists that we should look outwards to its limits, to the point at which the logic of the object no longer holds. For example, South Africa's Criminal Law (Sexual Offences and Related Matters) Amendment Bill criminalised male rape. Before this legislation, males could not claim to be rape victims before the law. The genealogist is not concerned with the moral or even psychological debates of this form of legal subject. Rather, the analysis looks outwards towards the conditions of possibility for that category of subject to take its place in these debates in legal and moral discourse in the first place.

While the four principles above are indispensable to the ways that the genealogist should orient to the discourses that form the data for analysis, we need to look at our data in particular ways in order to operationalise a genuinely

genealogical approach. To do justice to these principles requires that we avoid a search for origins by thinking about our object as an 'event' in a series of lines of history. In addition, to enable our focus on emphasising discontinuity, specificity and reversal, we cannot look to specific points in history to recover the object of our analysis. Rather, we need to trace the descent and emergence of the event in our materials.

The object as 'event'

If we recognise the object in our present then it has already assumed the wholeness and definition that our method attempts to pull apart. Instead of thinking about the object of our study as a unified whole that becomes visible to us in a single moment, Hook (2007, p. 145, emphasis in the original) suggests that 'we grasp the object of our analysis as *a complex of factors*, a poised moment of converging contingencies and intersecting lines of force rather than as a self-sustained, autonomous entity'. Doing so enables us to deploy the principles of specificity and discontinuity in our genealogical approach. In our case, the mineworker as a target for knowledge production should not be seen as an *autonomous entity* discovered by the toils and labour of psychology and the human sciences; rather, its emergence may be read as a historical moment at which the notion of the mineworker as a distinct entity becomes intelligible in South Africa. In order to do justice to this reading of the principles of discontinuity, reversal and exteriority, we need to deploy the analytic power afforded by reading for the object of study's descent and emergence.

Descent

Looking across the data for *descent* aims to challenge the perceived *timelessness* of an object by showing how the object or event of interest takes multiple forms across discontinuous lines of history. Reading our materials for descent compels us to impose the principles of specificity, discontinuity and reversal on the data. In addition, by refusing to identify the kernel, essence or origin of the object as we recognise it in the present, we offset the threat of 'finalism', or the risk of searching for a 'causal source of a present formation somewhere in the past and then . . . [tracing unproblematically] . . . the series of continuous causalities that are supposed to reach the present' (Tamboukou, 1999, p. 209). For our project-in-progress, *descent* would require that we resist the seduction of Nzimande's (1984, p. 83) assertion that

> the psychological picture of the black worker is nothing more than imaginary creation of the dominant framework in South African industrial psychology. There still exists the real, concrete black worker who exists somewhat outside this conceptualisation.

Rather than seeking a 'real, concrete black worker' outside of the 'dominant framework in South African industrial psychology', the principle of descent implies seeking out the multiple historically contingent forms of the worker, describing with specificity the conditions of their construction.

Emergence

Reading for emergence requires that we locate those places and historical conditions by and through which the object or event under study became intelligible. Thus, 'in doing genealogy, the emergence of an object or a discourse should be conceptualised as a moment, an outcome, or a salient product of a network of opposing and clustered forces' (Bowman & Hook, 2010, p. 68). For Tamboukou (1999), emergence is explicitly aimed at addressing the problems of history writing marked by 'presentism', whereby the values of the present, current ways of understanding and contemporary lenses of analysis are projected into the past as a means through which to understand historical events. Such histories tend to reveal more about the concerns of the time in which they were written than they do about the times to which they are designed to speak.

Having introduced the philosophical and conceptual characteristics that define doing genealogical work and described the important theoretical tools that must be deployed in any related analysis, it is imperative that we think about what these imply for the nature, shape and size of the corpus of materials required. We address this key methodological problem in the following section.

Locating materials

An analysis that is cognisant of descent and emergence, and that prioritises reversal, discontinuity, specificity and exteriority, is 'patiently documentary' (Butchart, 1998, p. 9) and requires a vast array of materials with all of the data considered primary. The necessity of this is, in part, derived from the conceptual tool of 'apparatus' or *dispositif* introduced by Foucault (Rabinow & Rose, 2003). According to Rabinow and Rose (2003, p. xv), '[s]ocial theory [prior to Foucault] had tended to work in terms of institutions, classes, and cultures' as objects for analysis and their related concepts of 'ideas, ideology, beliefs, and prejudices'. Foucault, however, 'cut reality in a different way' (Rabinow & Rose, 2003, p. xv). Rather than seeking the expression of these 'grand complexes' beneath what has been written, uncovering 'hidden interest', the reality with which Foucault engages is 'on the surface [of texts]' (Rabinow & Rose, 2003, p. xv). Thus, (in our project) rather than digging below the surface of text and practices to reveal the hidden hand of capitalism, or apartheid ideology influencing the work of industrial psychologists, the reality with which Foucault encourages us to deal is inscribed on the surface of a wide assortment of heterogeneous texts. Discursive formations, along with 'institutions, architectural arrangements, policy decisions, laws, administrative measures, scientific statements, philosophic, moral and philanthropic propositions . . . [function] to define and . . . regulate targets constituted through a mixed economy of power and knowledge' (Rabinow & Rose, 2003, p. xvi). The key criteria for collecting the empirical materials that we must read genealogically are thus 1) heterogeneity: we require a diverse array of materials loosely bound by common networks of knowledge; and 2) breadth: the fact that our analytic emphasis is on exteriority means that what we consider the 'candidate data' at the extreme points of

our object of analysis could very well be important to collect. This 'allows us to constitute a historical knowledge of struggles and to make use of this knowledge in contemporary tactics' (Foucault, 2003, p. 8).

Thus, our effective history of the mineworker in South Africa as a target for knowledge production should seek the *assemblage of ways of thinking and acting*, drawn together and co-opted for new purposes, that give meaning to this object of knowledge and the practices associated therewith. This examination of *the wider nexus of relations of knowledge, power, and the production of subjectivities* should not only observe the conditions, discursive and non-discursive, that gave rise to that specific target, but may also consider the broader conditions of the disciplinisation of forms of subjectivity. In order to demonstrate just how the deployment of the principles of genealogy might deliver a history beyond the Whig and other historiographical traditions so resisted by Foucault, we apply these tenets of analysis to constructions of the mineworker drawn from a large local data corpus on the worker and industrial psychology as part of our project-in-progress. Our analysis of the emergence of this mineworker is from a variety of sources pertaining to mineworkers or mining in general, including reports from the Chamber of Mines and the Association of Mine Managers, company reports, materials related to trade unionism, newspaper articles and the archives of the NIPR. The pieces of data presented below were selected as exemplars of the discourses and practices at work in the production of the mineworker across the targeted historical periods.

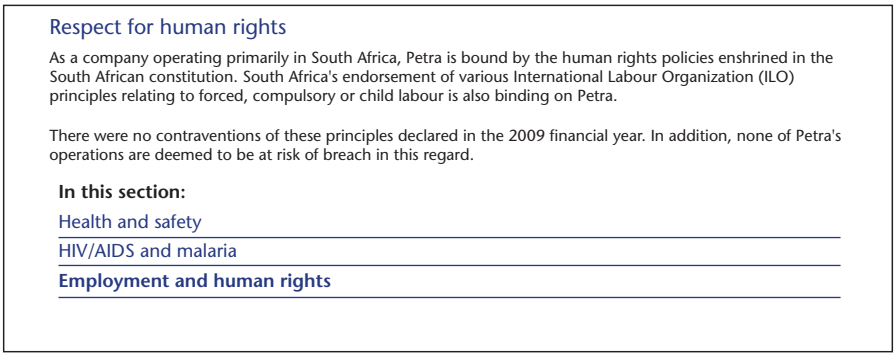
The mineworker of our present

Histories centred on the mineworker in South Africa, particularly from the conventional historiographical and critical traditions, have tended to centre on the *vulgar approach to understanding black workers* (Nzimande, 1984) perpetrated by the apartheid-era human sciences, and commonly adopt the view 'that in a capitalist society [the] personal integrity [of the mineworker] is ultimately trammeled by the forces and social relations of [such] a system of production' (Moodie, 1994, pp. 2–3). These accounts often locate the mineworker within the discourses of human and workers' rights with the intention of demonstrating how the actions of the apartheid state and capitalism denigrate or deny the humanity of this form of exploited subject. Under these accounts the repressive forms of colonial practices and the *forces and social relations* of capitalism reduce the mineworker to a subhuman shadow of selfhood. Histories of the past attempt to uncover the authentic personhood of this mineworker by showing just how the kernel of the authentic worker of the present, defined within the discourse of human rights and dignity, lay waiting to be actualised but was constantly repressed by South Africa's insidious history (Moodie, 1994).

The risk of such works, for Foucault, lies in the possibility of producing presentist accounts of the mineworker whereby current conceptualisations of the worker are used to make sense of historically contingent forms this object may have taken. Our intention, in contrast to that of Moodie's (1994) analysis, is to

unsettle the perceived unity and immutability of the mineworker as an object of knowledge in the human rights-based framework of the South African present. In contemporary South Africa's rights-based knowledge systems, the person underlying this mining work is recognised as needing protection from an extraction industry that exposes him/her to extremely hazardous working conditions (Figure 18.1). In our project-in-progress, we do not attempt to trace this familiar form of the mineworker backwards into the past. Rather, our intention is to splinter the worker into multiple forms. It is these forms rather than our mineworker of the present that are the targets of our analysis. It is beyond the scope of this chapter to fully account for the material conditions that produce each of these varying forms, and our primary intention for the sections below is thus to demonstrate the mutability of the mineworker at two key moments in the South African historical archive. In doing so, we demonstrate how we are able to read this object as 'event' and trace its shape through the lenses of descent and emergence.

Figure 18.1 Employment and human rights


Respect for human rights

As a company operating primarily in South Africa, Petra is bound by the human rights policies enshrined in the South African constitution. South Africa's endorsement of various International Labour Organization (ILO) principles relating to forced, compulsory or child labour is also binding on Petra.

There were no contraventions of these principles declared in the 2009 financial year. In addition, none of Petra's operations are deemed to be at risk of breach in this regard.

In this section:

Health and safety

HIV/AIDS and malaria

Employment and human rights

Source: Petra Diamonds (2009, p. 5); reproduced with permission

Miners as tribal workers

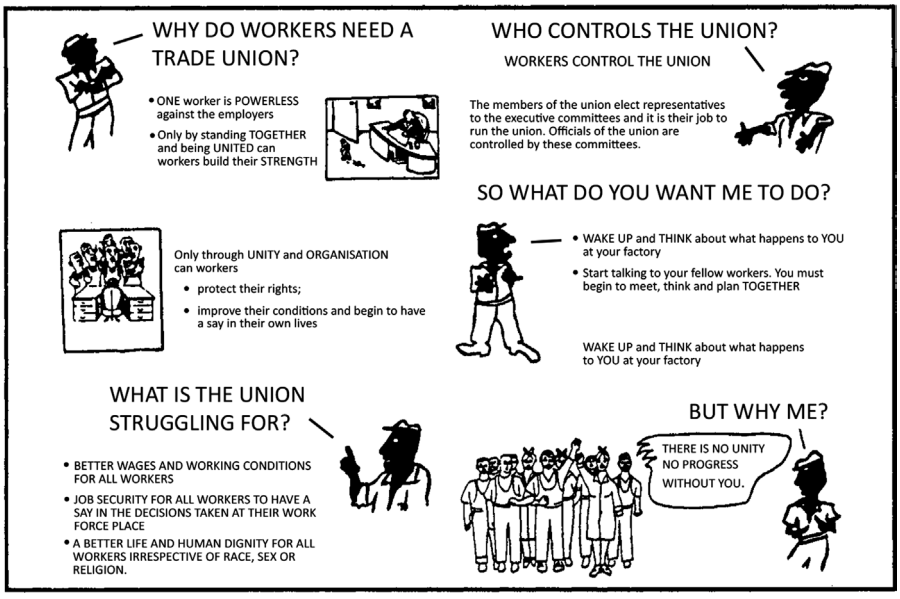
The early practices of mining in South Africa, for Bozzoli (1977, p. 11), are 'depicted in militaristic, hierarchical terms, with a few masters whose rule needed no justification, masses of undifferentiated servants, violence, danger, and the assumption of progressively decreasing intelligence down the hierarchy'.

In Bozzoli's (1977, p. 15) account of African mineworkers as 'undifferentiated', it is only '[through] the imposition by managers of sets of rules, laid down in universal code-books and learnt by all', that the worker becomes knowable and differentiated from others. The denial of the African mineworkers' humanity saw them as 'reducible to such rules, and their place and role in industry [were to] be governed by them' (1977, p. 15).

Written in the 1970s, Bozzoli's account, similar to other critical accounts of mining at the time, is reliant on the contemporaneous construction of the mineworker as properly possessing the human and workers' rights referred to in the text shown in Figure 18.1 but denied or suppressed by the regime of apartheid and

structure of capitalism. A 'better life and human dignity . . . irrespective of race' (Figure 18.2), as such, are central concepts within such portrayals and accounts of the mineworker in South Africa and his place in industry. It is, however, through a close reading of this formulation of the mineworker against the materials collected for our project that the contingencies of history which make these claims to human and workers' rights possible, even 'unquestionably true', are surfaced. Rather than being completely undifferentiated, mineworkers, from the late 1800s through to the 1940s, were stratified and assigned work on the basis of the tribe with which they identified. This is a far cry from the new orders of thought, beginning in the 1940s, that allocated work to miners based on their individual characteristics and measured capacities. The Chamber of Mines, for example, commented in 1900 that 'the best class of labour for underground work is drawn from the Portuguese East Coast possessions, and effort has, in the main, been directed to improving the supply from that source' (Chamber of Mines, 1900, p. 39). Thus, early constructions of the miner privileged tribal membership and place of origin over psychological predispositions and individual traits or capacities.

Figure 18.2 Federation of South African Trade Unions National Union of Textile Workers' pamphlet



Source: Congress of South African Trade Unions; reproduced with permission

Even in the materials from the 1930s in which more scientific methods of miner management were sought from psychology, the use of tribal membership as an important predictor of a mineworker's labour capacity, while cautioned against, had not completely disappeared:

> Natives of some tribes may appear more adaptable than others. Certain tribes are characterized by a sunny, joyous disposition, in contrast to

> the loose and distrustful appearance of others. Such cheerful attributes do not necessarily indicate a better or more enduring capacity for mine work, although they do tend to bias the opinion of some white man [*sic*] in favour of their possessors. Provided that the supply of native labour is ample, there is no serious reason why the cheerful and apparently willing native should not be given preferential treatment, but when a shortage threatens, it behoves the compound officials to make the best of the labour force available and to make no invidious tribal distinction. (Stephenson, 1930, p. 920)

When Rushton (1945) and Nieuwenhuizen (1949) wrote 'Native Labour Control and Conservation' and 'Training Mine Native Labour', respectively, the idea that capacity for labour was distributed differentially across tribes appears to have still been widely held. Both authors considered tribe an important demographic detail that should be recorded for all new recruits to the mines (Figures 18.3 and 18.4) with Nieuwenhuizen (1949, p. 559) remarking that '[t]he tribe is considered wherever possible when allocating jobs. Experience has shown that boys from certain tribes favour and usually do well in certain jobs.'

Figure 18.3 Training native mine labour

(b) *New recruits (recruits to the mine).* A carefully compiled file on each boy is kept by the instructing shift boss. The file contains the following information:

1. Boy's number.
2. Tribe.
3. Previous experience.
4. Work desired.
5. Physical fitness.

Source: Nieuwenhuizen (1949, p. 559)

Figure 18.4 Native labour control and conservation

(B) *The Training of Recruits.* – On arrival at the Compound, after medical examination, recruits are given a lecture of Compound routine and hygiene and the possible and probable causes of illness and injury. All are personally interviewed by the Native Supervisor, who records in his diary, against the company number of each, the following information: –

1. Tribe.
2. Apparent standard of intelligence.
3. Previous mining experience, if any.
4. State preference for any particular type of work.
5. Physique.

Source: Rushton (1945, p. 835)

The mineworker's capacity for labour from the early history of large-scale mining in the country until at least the late 1940s was thus organised, at least in part, along tribal lines. In fact, Butchart (1995, p. 156) argues that 'it was these groups, rather than individuals, who were said to possess distinctive psychologies and bodies'. However, whilst 'the emphasis upon aggregation began to give way to a more differentiating and individualizing gaze' (Butchart, 1995, p. 157) on African bodies within general medical discourses from the 1920s onwards, the construction of the mineworker's specific capacity for labour continued to be linked to aggregations such as the tribe until the late 1940s. The possibility of a *differentiating and individualizing gaze* applied to miners and their labour only appeared to surface from the 1950s. This form of differentiation emerged within and then came to preoccupy institutional investments in the psychometric testing of mineworkers to service the apartheid government's vision for industrial growth.

Formed in the late 1940s, the NIPR, the first industrial psychology body in South Africa (Hudson, 1962), was responsible for the production of psychological tests for industrial utilisation (Laher & Cockcroft, 2013). From its formation, the NIPR was mandated to help accelerate the 'post-war reconstruction and industrial development in the country' (Verster, 1991, p. 268). Among the earliest psychometric measures developed by the institute was the General Adaptability Battery (GAB) (see Figure 18.5 for an example of one of the tests within the battery) and the Special Test Battery (STB) (see Figure 18.6 for an example of one of the tests within the battery), which were designed to identify the abilities of mineworkers so that they could be placed into one of several 'job families' (NIPR, 1950, p. 4) (Figure 18.7), with the test's primary 'purpose [being] to screen out boss boys and mechanical boys and to classify the remainder into three groups: machines; support; unskilled (lash, tram, sweep)' (NIPR, 1950, p. i).

Figure 18.5 GAB screws test

(A) General Adaptability Test Battery.

(i) Screws Test.

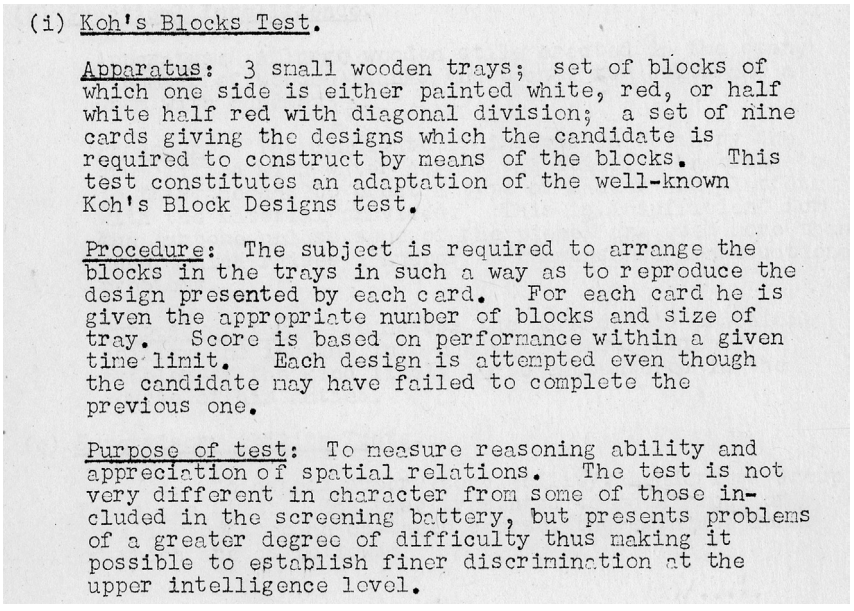
Apparatus: A wooden tray with three compartments. One compartment contains 24 bolts of assorted sizes and with different screw threads. A second compartment contains the corresponding nuts for these bolts.

Procedure: The candidate is instructed to find the appropriate nut for each bolt and to give it a few turns, placing the assembly in the third compartment of the box. A time limit of three minutes is given.

Purpose of test: This test is used as a buffer to get the candidate used to the test situation, to make him familiar with starting and stopping signs, and with the need to combine speed with accuracy of performance. This test is not scored although it has been found to possess discriminative capacity, particularly for mechanical jobs.

Source: NIPR (1950, p. 9)

Figure 18.6 STB Kohs' block test



(i) Koh's Blocks Test.

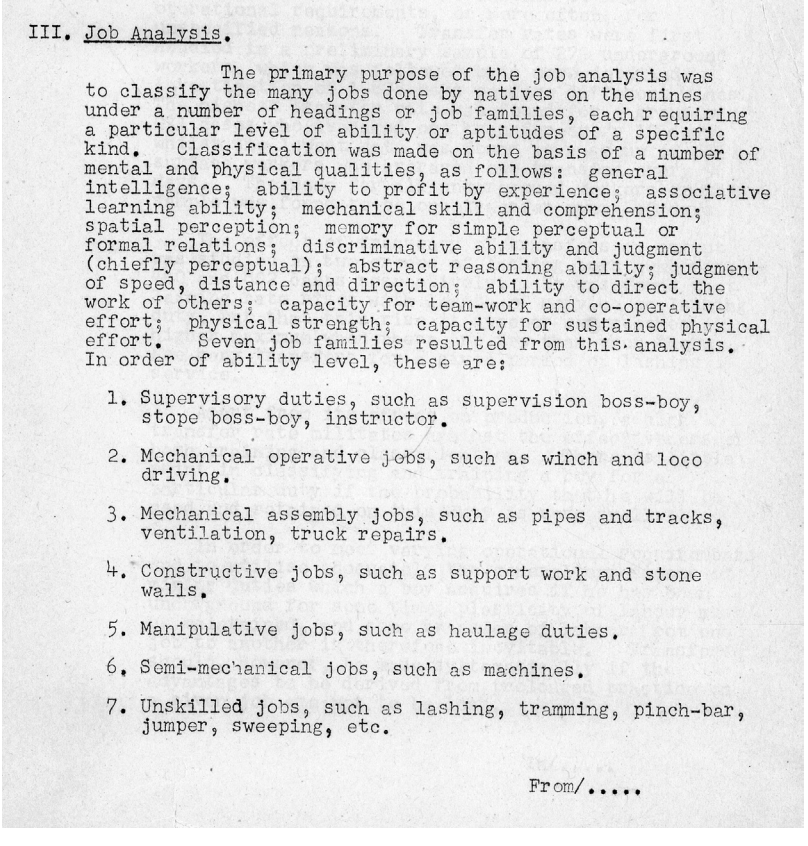
Apparatus: 3 small wooden trays; set of blocks of which one side is either painted white, red, or half white half red with diagonal division; a set of nine cards giving the designs which the candidate is required to construct by means of the blocks. This test constitutes an adaptation of the well-known Koh's Block Designs test.

Procedure: The subject is required to arrange the blocks in the trays in such a way as to reproduce the design presented by each card. For each card he is given the appropriate number of blocks and size of tray. Score is based on performance within a given time limit. Each design is attempted even though the candidate may have failed to complete the previous one.

Purpose of test: To measure reasoning ability and appreciation of spatial relations. The test is not very different in character from some of those included in the screening battery, but presents problems of a greater degree of difficulty thus making it possible to establish finer discrimination at the upper intelligence level.

Source: NIPR (1950, p. 13)

Figure 18.7 Classification of African mineworkers' jobs



III. Job Analysis.

The primary purpose of the job analysis was to classify the many jobs done by natives on the mines under a number of headings or job families, each requiring a particular level of ability or aptitudes of a specific kind. Classification was made on the basis of a number of mental and physical qualities, as follows: general intelligence; ability to profit by experience; associative learning ability; mechanical skill and comprehension; spatial perception; memory for simple perceptual or formal relations; discriminative ability and judgment (chiefly perceptual); abstract reasoning ability; judgment of speed, distance and direction; ability to direct the work of others; capacity for team-work and co-operative effort; physical strength; capacity for sustained physical effort. Seven job families resulted from this analysis. In order of ability level, these are:

1. Supervisory duties, such as supervision boss-boy, stope boss-boy, instructor.
2. Mechanical operative jobs, such as winch and loco driving.
3. Mechanical assembly jobs, such as pipes and tracks, ventilation, truck repairs.
4. Constructive jobs, such as support work and stone walls.
5. Manipulative jobs, such as haulage duties.
6. Semi-mechanical jobs, such as machines.
7. Unskilled jobs, such as lashing, tramming, pinch-bar, jumper, sweeping, etc.

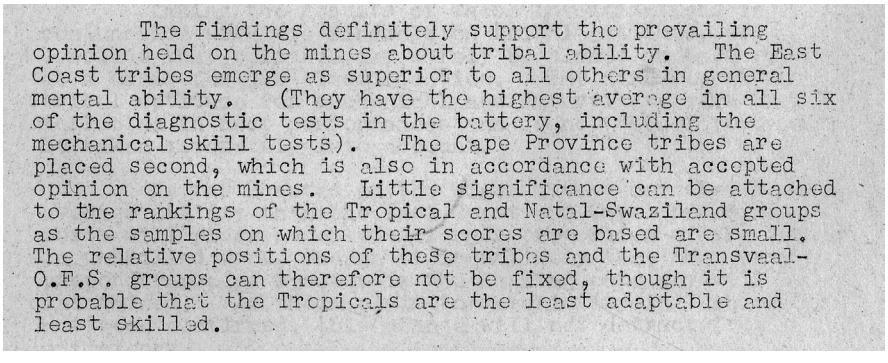
From/.....

Source: NIPR (1950, p. 4)

Although these tests did not radically depart from the emphasis on aggregation (Figure 18.8), a new psychological language constituted (in these tests) a new point of descent for the mineworker. Under the genealogical assertion that the 'analysis and object are mutually constitutive' (Armstrong, 1986, p. 227), the GAB and STB provided a language whereby mineworkers could be differentiated into aggregated groups beyond tribal membership. This new frontier for differentiation provided the conditions of possibility for the psychometrically measurable mineworker. The evidence for these conditions is exemplified in Figure 18.9, which shows that each worker's performance on the battery was assessed against a normative group as well as against their own future performance on the job. This normalisation of the mineworker reveals a new panoptical technology and language previously unseen in our extensive materials.

Such normalisation of workers against the standards of the GAB and STB constructed this newly individualised mineworker primarily in relation to the way their own individual capacities could contribute to industrial utility (Terre Blanche & Seedat, 2001). In part, this mechanistic construction of the mineworker appears to be reflective of the material conditions of the time. According to Coupe (1996, p. 45, quoting the South African Federated Chamber of Industries, 1945), the psychological testing of mineworkers in South Africa was driven by its rapidly industrialising economy, the changing demography of the labour supply and the need, by white capitalists, to ensure 'the natives will be allowed to progress without damaging the standard of living and security of European workers'. Where previously they had occupied limited roles within the South African industrial settings, this context demanded not only that industry rapidly change its production methods, but also that African mineworkers occupy roles (supervisory roles, for example) at a greater rate than ever before. It is this context that provides the material conditions under which a gaze that differentiates between the aptitudes of individual workers became necessary. If mines were to maximise efficiency, new types of measurably skilled workers would be required.

Figure 18.8 Excerpt from aptitude tests for native labour on the Witwatersrand gold mines



The findings definitely support the prevailing opinion held on the mines about tribal ability. The East Coast tribes emerge as superior to all others in general mental ability. (They have the highest average in all six of the diagnostic tests in the battery, including the mechanical skill tests). The Cape Province tribes are placed second, which is also in accordance with accepted opinion on the mines. Little significance can be attached to the rankings of the Tropical and Natal-Swaziland groups as the samples on which their scores are based are small. The relative positions of these tribes and the Transvaal-O.F.S. groups can therefore not be fixed, though it is probable that the Tropicals are the least adaptable and least skilled.

Source: NIPR (1950, p. 64)

Figure 18.9 Comparisons of non-mechanical, mechanical and supervisory workers

Job Families / Tests	Non Mechanical			⟷		Mechanical			⟷		Supervisory			Non Mechanical − Sup. + Mech.	
	N	Mean	S.D.	C.R.	p	N	Mean	S.D.	C.R.	p	N	Mean	S.D.	C.R.	p
Screws	597	6.7	3.0	7.5	<.001	259	8.7	3.7	7.4	<.001	558	10.7	3.5	19.3	<.001
Form Boards	596	21.2	9.1	4.2	<.001	260	24.1	9.4	2.6	.009	556	25.9	9.3	8.3	<.001
Sorting Test I	563	65.0	34.4	4.0	<.001	248	76.2	37.3	2.9	.004	257	85.0	31.5	7.5	<.001
Sorting Test II	595	44.0	28.6	4.1	<.001	258	53.5	32.0	8.6	<.001	257	78.0	32.7	11.8	<.001
Mechanical Peg Board	536	12.3	7.2	4.5	<.001	235	14.9	7.4	3.0	.003	257	16.9	7.2	8.0	<.001
Tripod Assembly	193	25.8	15.3	5.0	<.001	88	35.3	14.2	1.6	.110	257	38.1	13.3	8.8	<.001
Cube Construction	60	18.5	11.4	1.6	.110	11	23.8	9.7	1.0	.317	257	26.7	12.2	4.9	<.001

TABLE V.

Means, Standard Deviations and Significance of Differences between Test Means for Non-Mechanical, Mechanical and Supervisory Job Families.

Source: NIPR (1950, p. 33)

Mineworkers as psychological subjects

From the 1950s onwards, a number of 'mental and physical qualities' would be used to define the characteristics of mineworkers. These formed the basis for a logic previously not evident in the context of mining. Mineworkers could now be classified according to their

> general intelligence; ability to profit from experience; associative learning ability; mechanical skill and comprehension; spatial perception; memory for simple perceptual or formal relations; discriminative ability and judgement (chiefly perceptual); abstract reasoning ability; judgement of speed, distance and direction; ability to direct the work of others; capacity for team-work and co-operative effort; physical strength; [and] capacity for sustained physical effort. (NIPR, 1950, p. 4)

Thus, the drive towards industrialisation on the mines, the individualising practices associated with testing, and the changing utilisation of labour in South Africa constructed mineworkers with now unique psychological constitutions. Although this individualising gaze on the worker was primarily defined by their internal attributes and described by their industrial utility, tribal affiliation was still acknowledged in the tests of the time (Figure 18.8). However, the nature and form of the relationship between tribe and individual was fundamentally different. Prior to the advent of testing using the GAB and STB, the work performance or capability of mineworkers was defined by the particular tribe to which they 'belonged'. However, under the new regimes of measurement beginning in the 1950s, test performance across individuals could be used to define their tribal characteristics rather than (as had previously been the case) the tribe defining

the attributes of the individual selected for work. This is an important reversal in the logic of mining labour that marked the contours of the end of the primacy of tribe as a marker of aptitude. By the 1970s, when the Classification Test Battery (the battery of tests that replaced the GAB) was utilised to measure tribal differences in test performance, the 'observed differences between the performance of these groups . . . [were] so small as to be of no practical importance' (Mauer, 1974, p. 99). Instead, 'factors such as attitudes, motivation . . . social and cultural differences between tribes . . . [and] different levels of education' (1974, p. 99) were considered relevant when considering both workers' on-the-job and test performance. Later, the link between worker and tribe was to disappear entirely. According to Mauer, of the '12 505 men tested at 23 centres in the gold mining industry' there 'is no evidence that the tests discriminate unfairly against men drawn from any given tribe in terms of aptitude test performance' (1974, pp. 89, 100).

Material conditions of possibility for new measures of mining work

It was into the rapidly changing industrial landscape of the 1960s and 1970s that the detribalised and recently individualised worker was to descend. In *Productivity and Black Workers in South Africa*, Orpen suggests that by the 1970s the job reservation plans of the apartheid state had already begun to (slowly) unravel as 'the practical implementation of the separate development policy . . . [had] already restricted the growth in the South African economy to a rate lower than would otherwise have been the case' (1976, p. 13). This implied that if the racialised job restrictions prevalent at the time were to be continued, 10% of the population (whites) would have to occupy 60% of all jobs by the turn of the century. Given this impossible projection, if South Africa was to maintain its trajectory of economic development, black workers would have to be integrated into the South African economy to a greater degree. This would require the 'opening up' of semi-skilled and skilled jobs to competition from black labour. By 1975, of the 8.5 million economically active population, only 1.5 million were white (Rand Daily Mail, 1975a), suggesting that job reservation, even if favoured by some sectors of white South Africa (Natal Mercury, 1975), would need to be curtailed. By the mid-1970s the minister of labour, Marais Viljoen, had begun to introduce labour reforms to ease job reservation legislation across several industries (Rand Daily Mail, 1975b).

Whilst strong resistance to these reforms came from the right-wing South African Confederation of Labour (Rand Daily Mail, 1975a), Mariotti (2009) concludes that white resistance to labour reforms started to dissipate in the late 1960s primarily due to the increased educational attainment of whites (particularly Afrikaners) after World War Two. This resulted in fewer whites occupying unskilled and semi-skilled jobs, requiring that these be filled by black workers. In essence, white labour's 'preference for segregation was overshadowed by their preference for higher incomes' (Mariotti, 2009, p. 3). These economic conditions catalysed the absorption of workers previously constrained by their 'tribal'

confines into work requiring psychological expertise. Although this would result in competition from Africans for jobs previously reserved for white workers, restrictions to educational opportunities for Africans would still protect white employment levels (Mariotti, 2009).

Thus, the shifting sociopolitical landscape of the late 1960s in South Africa, in which separate development in the workplace had begun to recalibrate, provided the material conditions within which the mineworker was reconstituted as a subject beyond tribal labour and a trainable machine. As the roles occupied by miners became more complex, it appears, so personality and other psychological elements became important predictors for allocations to work. It was at this important intersection of the shift in racialised labour and the refinement of psychological testing, of which it was both an instrument and effect, that the mineworker was assimilated into the range of objects that formed the targets of intervention for industrial psychology. Beginning at the periphery of this disciplinary incorporation was perhaps the shape of the 'liberated personhood' of the mineworker that Bozzoli (1977) and Moodie (1994) would later attempt to retrieve.

Conclusion

Based on the genealogical reading of constructions of the miner in South Africa, we have provided a glimpse of how Foucault's ideas about history, power and discourse can harness empirical materials to produce a counterknowledge of the worker as an object of knowledge. Of course, our analysis remains somewhat incomplete since a more thorough analysis would necessitate an exploration of the broader industrial panopticon (Butchart, 1998) within which the worker is constructed as a knowable and manageable object (Meadmore, 1993). These extra-discursive elements that give rise to and fix the production of discourse would need to be explored in conjunction with the methods through which the object in question has been produced. Institutions, architectural arrangements, policy decisions, laws, administrative measures, scientific statements, philosophic, moral and philanthropic propositions that function to define and regulate the object of interest will need to be incorporated into the analysis to strengthen our claims as the project progresses. Nonetheless, by tying the construction of the mineworker to the material and historical conditions of its production, we have worked to disturb the comforts of the ways that industrial psychology defines work and the worker in the present. We hope that the methodological power of Foucault's ideas in practice is evident in our disruption of both the limits of this discipline, and the history that produced its current targets of measurement and intervention.

Notes

1 Several authors (Hudson, 1962; Raubenheimer, 1974; Verster, 1991) celebrate industrial psychology's primary achievements as the contributions that it made to the development of industry in South Africa, with its initial focus primarily being directed at mining. Although the work of the National Institute of Personnel Research spoke

to all apartheid subjects, the centrality given to mineworkers in South Africa in the research of industrial psychologists justifies our initial focus upon how this category of worker appears in the archives.

2 There is a focused body of literature concerned with this ethical and methodological question, and indeed such a question is important in the context of the current chapter. For a discussion of this and related questions, see Duncan et al. (1997).

3 As per Bowman's (2005) precedent, we make reflexive use of the term 'race' and its associated apartheid categories such as African, black and white throughout this chapter in accordance with the terminology commonly in use during the historical periods on which we focus. Thus, in keeping with writing a history of the present, and especially to guard against the risk of presentism, we do not place these terms in quotation marks.

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Section Three

Transparadigmatic methods

19 Transformative mixed methods research in South Africa: Contributions to social justice

Brendon R. Barnes

Introduction

Despite significant political and social reforms over the past two decades, South Africa continues to grapple with numerous challenges including, inter alia, unemployment, income inequality, land reform, lack of access to basic services, violence, gender-based violence, inadequate housing, racism, sexism, homophobia, crime, xenophobia and environmental crises (Dubow, 2012). Even with many rights being enshrined in the Constitution and global conventions, the creation of governance institutions to uphold citizens' rights, and noticeable civil society activity in some domains (Chipkin & Meny-Gibert, 2013), social injustices remain and, in some instances, have worsened (Handmaker & Berkhout, 2010).

In light of this, South African social scientists are often encouraged to think about how their research contributes to a fair, just and equal society. The move towards a social justice orientation was influenced, in part, by the historical role of 'scientific' research in support of human rights violations (Duncan & Bowman, 2010), research that continues to neglect social injustices or is scientifically neutral about them (De la Rey & Ipser, 2004), and the suggestion that researchers, who typically occupy privileged positions, should be morally obliged to focus their work on marginalised, oppressed and disempowered groups (Daniels, 2001).

This chapter focuses on transformative mixed methods research, which is the integration of quantitative and qualitative methods framed within what has come to be known as the 'transformative' paradigm. The chapter was informed by three related gaps. First, despite the wealth of insights emerging from the mixed methods literature, mixed methods studies continue to be underrepresented in the social science literature (Ngulube, Mokwatlo & Ndwandwe, 2009) and, when they are used, they are framed simplistically without much attention to the integration of quantitative and qualitative methods (Barnes, 2012). Second, many social science research studies, regardless of methods, remain irrelevant to the needs of South African society and, in some instances, may inadvertently reproduce social injustices (Macleod, 2004). Third, methodological texts on 'how to do' transformative research are mostly written from the global North and are removed from 'real world' research in the global South.

In response to these gaps, in the first part of this chapter I introduce the reader to the role of paradigms in research methods and describe how mixed methods research, when framed by a transformative paradigm, has the potential to contribute to a social justice agenda. In the second part of the chapter, I highlight a number of critiques of transformative mixed methods, including those that have been overlooked in the literature. In the final part of the chapter, I present a number of questions and suggestions that researchers should consider when conducting a transformative mixed methods study.

Mixed methods and the transformative paradigm

A paradigm is defined here as 'systems of beliefs that influence how researchers select both the questions they study and the methods they use to study them' (Morgan, 2007, p. 49). Historically, quantitative and qualitative methods were thought to be incompatible because they were informed by different paradigms. The contemporary mixed methods movement, however, not only rejects the 'incompatibility thesis' (Howe, 1988) but also believes that quantitative and qualitative methods can be combined under a *single* paradigm with its own set of philosophical, methodological and practice guidelines (Burke Johnson & Onwuegbuzie, 2004).

There are a number of ways in which paradigms can be conceptualised but the most influential has been the epistemological stances (Morgan, 2007). These have historically asked four main questions of every paradigm: What is the nature of the social world (ontology)? What is the relationship between the researcher and the social world (epistemology)? What are the best ways to obtain information about the social world (methodology)? How do researchers' values, worldviews and ethics contribute to their research (axiology) (Lincoln, Lynham & Guba, 2011)?

The epistemological stance, in its most simplistic form, positions quantitative and qualitative methods within two paradigms – post-positivism and constructivism. At the level of ontology, post-positivism suggests that there is a set of truths and causal relationships that exist and can be measured and analysed quantitatively. Constructivism, however, focuses on people's subjective perceptions and experiences of the social world and suggests that multiple versions of reality may exist. At the level of epistemology, post-positivism suggests that researchers should be objective and distance themselves from their 'subjects', while constructivism suggests that it is perfectly acceptable for researchers to be empathetic, subjective and participatory. In terms of methods, post-positivism favours quantitative methods, while constructivism favours qualitative methods. At the level of axiology, both post-positivism and constructivism focus on the ethics of research – all research needs to adhere to ethical codes of conduct and principles. Constructivism, however, is more amenable to the inclusion of the researcher's values in the research project.

Among others, pragmatism (Feilzer, 2010), dialecticism (Greene & Hall, 2010), realism (Maxwell & Mittapalli, 2010) and feminism (Hesse-Biber, 2010) have all

been suggested as overarching paradigms for mixed methods research. The transformative paradigm (the focus of this chapter) draws on a number of (critical) philosophical and theoretical influences including, but not limited to, critical race theory, feminism, critical disability theory and queer theory to frame mixed methods studies (Mertens, 2003, 2010). The transformative paradigm focuses on 'the realisation that discrimination and oppression are pervasive and that researchers have a moral responsibility to understand the communities in which they work in order to challenge societal processes that maintain the status quo' (Mertens, 2003, p. 49). Equally important is the acknowledgement that methodological choices play a role in inequality and that there is, therefore, a need to understand how power operates at each stage of the research process through, for example, interrogating the types of questions that are asked, who asks them, who participates in the research, the appropriateness of the instruments, how results are interpreted and how certain groups are represented and given 'voice'.

When used to frame mixed methods research, at the ontological level, the transformative paradigm suggests that both 'real' oppression as well as participants' perceptions and experiences of that oppression are important. Significantly, multiple representations of reality may exist, but researchers have an important task to distinguish between as well as privilege certain accounts over others in line with one or more social justice theories or frameworks. These viewpoints need to be contextualised within 'political, cultural, historical and economic value systems to understand the basis for difference' (Mertens, 2003, p. 75). Epistemologically, the mixed methods researcher not only actively engages with the *intersubjective* (being both objective and subjective) but is particularly interested in, and reflexive of, the historical, class and racial influences in the relationship between the researcher and participants and the type of knowledge that is produced. On a methodological level, quantitative and qualitative methods are mixed to design locally appropriate measurement instruments, to inform the design of appropriate interventions and to develop/expand locally relevant theories and models that promote the interests of marginalised groups. It is assumed that a mixed methods approach provides richer insights into the research topic than quantitative or qualitative methods could reveal alone. Importantly, the research often includes participants who are typically excluded or underrepresented in the research to frame and interpret the results.

The transformative paradigm foregrounds *axiology*, perhaps even more so than post-positivism and constructivism. Researchers are called on to interrogate not only the methodological and ethical integrity of the study, but also how the researcher's axiological assumptions play a role in social justice research. The focus is on the researcher's values, worldviews and cross-cultural competencies. Transformative mixed methods research also emphasises methodological flexibility, which allows the researcher the opportunity to be flexible during the study, especially as new insights or unexpected findings emerge. Relatedly, transformative mixed methods emphasise the cyclical nature of research, where researchers often move between phases as and when needed. In addition, participants are actively engaged in the research process not only as providers of information but also in the design, interpretation and dissemination of research

findings, thereby lending a 'voice' to their concerns. In sum, transformative mixed methods research does not conduct research 'on' participants but 'with' them (Gomez, 2014).

Transformative mixed methods studies have been used in South Africa in a number of ways, including to expand our understandings of key South African social (in)justice issues by focusing on both their magnitude (using quantitative methods) as well as participants' perceptions of those issues (using qualitative methods). Examples include studies that have focused on water access amongst rural communities to argue for basic service access (Geere, Hunter & Jagals, 2010); intergroup contact and racism (Dixon & Durrheim, 2003; Durrheim, Trotter, Piper & Manicom, 2004); human immunodeficiency virus (HIV) and equitable mental health (Kelly, Freeman, Nkomo & Ntlabati, 2009); support needs of older HIV and AIDS caregivers (Petros, 2012); race, identity and geographical inequality (Van Ommen & Painter, 2005); sexual harassment (Van Wijk, Finchilescu & Tredoux, 2009); and mental healthcare inequality (Myers, Louw & Fakier, 2007). In addition, mixed methods have demonstrated their transformative potential through the development of locally relevant instruments and intervention studies. For example, in South African psychological research, qualitative studies have been used to design locally appropriate quantitative intervention studies (Chirawodza et al., 2009) and psychometric instruments (Jones & Kagee, 2005; Kagee, 2005) in contexts where western models, interventions and instruments would have been inappropriate. Mixed methods have also been used in contexts where unexpected findings have necessitated further phases of research and interpretation (Barnes, 2010). Arguably, the use of mixed methods in the above studies provided a more holistic understanding of their topics of investigation than mono methods would have done alone.

Critiques of transformative mixed methods

The first critique is levelled at the loose nature of the transformative paradigm. It could be argued that the transformative paradigm is a catch-all meta-paradigm that attempts to consolidate a number of critical, emancipatory and liberatory paradigms. The problem, however, is that the transformative paradigm overlooks important nuances within and between the paradigms to which it lays claim. For example, despite the fact that so-called third world feminists' work is arguably 'transformative', they would probably reject being uncritically lumped together with western feminisms under a single paradigm. They would be even more uncomfortable with being lumped together with other 'critical' paradigms that have arguably reproduced or, at the very least, overlooked gender inequities in the global South. While the loose nature of the transformative paradigm may be appealing, the reader should be aware of the complexity of the paradigm debates subsumed in the transformative paradigm.

The second critique focuses on the taken-for-granted link between mixed methods and the transformative paradigm. It is important to remember that both qualitative and quantitative methods can be 'transformative'. It might

come as a surprise to some that quantitative research can be transformative, yet excellent examples exist of quantitative research aimed at social injustices (see Cokely & Awad, 2013). Similarly, the majority of mixed methods studies do not contribute to a social justice agenda. In cannot be true, therefore, that a methodological preference is necessary or sufficient to contribute to social justice. Rather, it is the combination of paradigm and method that influences the extent to which a study contributes to social justice. When setting out on a study, it is therefore important to ask (and justify) what it is about transformative mixed methods that will contribute to a better understanding than mono methods or mixed methods using a different paradigm.

It is important to note too that even the need for an overarching paradigm has been questioned by some mixed methodologists. There are three different ways that the mixed methods literature has engaged with the notion of 'paradigms'. The first is that there is no connection between methods and paradigms and that methodological choices should not be dependent on paradigms. This group conducts mixed methods research regardless of paradigms. A second group appreciates the value of combining quantitative and qualitative methods but believes that the two methods draw on separate paradigms and contribute different things to the research domain (multimethods research would fall into this category). The third, and most active, group attempts to find a single paradigm that could provide an overarching philosophical basis for the combination of qualitative and quantitative methods. This group rejects the notion that quantitative and qualitative methods are distinct, believes there are more similarities than differences between them and contends that they can be meaningfully integrated under *one* paradigm. Transformative mixed methods, as I have presented them above, would belong to the third group.

A third critique focuses on the definition of 'social justice'. Transformative mixed methods research claims to contribute to social justice, but what exactly do we mean by this (Barnes, 2018)? It is often assumed that we agree what social justice is and how we can achieve it. We imagine that our transformative research contributes more to social justice than those mixed methods studies positioned in other paradigms or mono methods. Yet, the complexity of social justice is often overlooked by the transformative mixed methods literature. Social justice is contested in terms of its definitions; theories; rights, liberties and obligations implied within those theories; and the institutions, laws and structures that are meant to uphold social justice (Pratt, Zion & Loff, 2012). There are also different foci of social justice, including how resources should be distributed (distributive justice); the laws, organisations and governance structures (procedural justice); and how people are treated with dignity and respect (interactional justice) (Jost & Kay, 2010).

It is thus simplistic to imagine that we are unified in what we think social injustices are and how to overcome them. It is also a mistake to assume that the key actors in any given study – funders, researchers, fieldworkers and research participants – agree what social justice is or how to go about achieving it. Contrary to the representations in methods texts of one researcher, or a team of like-minded researchers, working with marginalised communities to 'improve'

their lives, real-world transformative research is much messier and involves much more complicated ideas about 'social justice' and how to achieve it than is represented in the literature.

A fourth critique questions how much choice researchers in the global South have in deciding whether or not to use transformative mixed methods research (Barnes, 2018). Researchers are often represented as 'choosing' a transformative mixed methods design based on a moral imperative to do so. The representation of researchers working with a community using mixed methods because they 'choose' to do so is, in fact, a privileged position. In reality, researchers in the global South are often positioned in large research teams where the research is funded and designed by donors and researchers in the global North. Researchers in the global South are sometimes positioned as skilled fieldwork managers with little or no conceptual role in the design, data collection and interpretation. The situation is exacerbated by the 'consultant' culture in many parts of the global South where researchers are compelled to do consulting work for a living at the mercy of donor agencies whose focal areas and methodological preferences are constantly evolving.

A fifth critique focuses on transformative mixed methods' emphasis on 'empowerment' as a means to achieve social justice. The literature imagines that social scientists work 'with' not 'on' marginalised communities, educating them on their rights, offering them a 'voice' in and through the final research product and, in the process, empowering them to reduce social injustice. The focus on empowerment is particularly noticeable in the psy-sciences, where the emphasis of much transformative research is often on identifying the psychosocial 'vectors' of social injustice and attempting to reduce injustices through improving participants' knowledge, agency, volition, participation in governance processes and social capital (Winter & Hanley, 2015). Researchers are positioned as 'change agents' who not only give voice to the marginalised through their research but also in the process educate them on their rights, liberties and appropriate channels to remedy the situation.

However, some authors have been critical of the individualist assumptions of 'empowerment', in particular the assumption that improving the manner in which marginalised communities 'think' about their circumstances will stimulate them and/or others to act if they are motivated enough and if their environments are conducive to change (Cooke & Kothari, 2001). Importantly, structural, environmental and material barriers beyond the control of individuals, such as poverty and income inequality, are stronger predictors of social injustices than perceptions, attitudes and behaviours. Educating people about what they probably knew already and about governance structures that they know do not work, and not addressing the wider sociopolitical challenges that cause social injustice, is unlikely to lead to change.

Putting aside paradigmatic issues for a moment, a sixth set of critiques focuses on the limitations of mixed methods, including the fact that mixed methods research studies are often expensive to conduct, time consuming and require a high level of research skill in both quantitative and qualitative methods. It is also sometimes difficult to integrate the two methods; difficult to find exemplars of good mixed methods research; there are still disagreements about the purpose, definitions and practice guidelines of mixed methods research; and mixed

methods sometimes lead to discordant findings which are at times difficult to reconcile (Teddlie & Tashakkori, 2010).

Transformative mixed methods design considerations

This section focuses on designing transformative mixed methods research. Rather than being prescriptive, I raise a list of questions and suggestions that should be considered at the various stages of the research process. It is important to note that the list is not meant to be exhaustive. You will notice, for example, that there are no suggestions related to sampling, data collection or analysis. The reader is encouraged to read texts such as Teddlie and Tashakkori (2010), Creswell (2003) and Mertens (2003) for mixed methods design advice. Rather, this section is meant to stimulate transformative mixed methods thinking in domains that are not extensively covered in existing texts. It also includes issues related to real-world research in the global South.

Conceptualisation

When designing transformative mixed methods research, it is important to consider the following questions: What have existing studies on your topic revealed? What are the assumptions of the existing literature? What are the assumptions represented in the media and everyday talk? How do those assumptions support or deviate from your worldview, ethics, values and theoretical orientation? What is your understanding of social justice? Whose voices are being privileged and whose are being overlooked in the knowledge(s) being produced on the topic? How does the topic fit in with existing social justice frameworks and laws? Which institutions are obliged to uphold the rights and liberties of the group/issue? What exactly would you consider to be 'justice' for this particular topic/group in an ideal world? Are you interested in distributive, procedural and/or interactional justice? What do you hope to achieve with this study? For example, do you wish to highlight the extent of the injustice, offer reasons why the injustice may be taking place, evaluate programmes to address the injustice and/or investigate to what extent laws and policies are being enacted in relation to the injustice? What are the known or assumed mechanisms of injustice?

Context

Although many of the questions in this section will not be included in the final research output, they are important to consider in how the study unfolds, is interpreted and disseminated. If the study is part of a funded project, what are the funders' theories/frameworks about social justice? Do their understandings of social justice dovetail with yours? What are the funders' aims for the research project and do they dovetail with yours? How prescriptive are the funders in terms of study design, implementation and interpretation? At what stage are you called in to the study – for example, at the beginning or during the study, perhaps to rescue a part of it that has gone wrong? How are you positioned within the

study (as principal investigator, co-investigator, country representative or fieldwork manager)? Who are the actors involved in the study? Do they have particular social justice agendas? Are there private organisations, non-governmental organisations (NGOs) and/or community organisations involved in the study? What is at stake if your findings (or interpretations thereof) contradict or undermine their work? For example, in programme evaluation work, it is not uncommon to discover problems in the implementation of programmes by community NGOs. Will the NGO risk losing funding if these are highlighted?

Research questions

Once a gap in existing knowledge has been established, and you believe that that gap can be addressed using transformative mixed methods, you will need to develop a set of research questions. A good mixed methods research question should include a quantitative question, a qualitative question and a mixed methods question (Collins & O'Cathain, 2009). It is important that the mixed methods question is an overarching question that should 'speak' to both the quantitative and qualitative study (Tashakkori & Creswell, 2007). A useful mixed methods question should compel the author(s) to reflect not only on answering the quantitative and qualitative questions separately but, importantly, on *integrating* the two (Barnes, 2012). For example, can a community mobilisation intervention promote environmental justice in low-income communities and why (mixed)? What are the changes in environmental justice indicators following community mobilisation activities (quantitative)? What are the factors that influence environmental justice in low-income communities (qualitative)? The research question should also represent your position on social justice and a commitment to a transformative agenda (Okimoto, 2014). It is important to ask who is driving the research question – the researcher, funders, beneficiaries, local politicians or NGOs? Whose interests do the research questions ultimately serve and what do the research question(s) overlook?

Study design

It is imperative to be clear about the rationales for mixing methods. These include triangulation (one method is used to validate or improve the consistency of findings of the other method), complementarity (quantitative and qualitative methods are used to discover overlapping and possibly different aspects of a phenomenon), development (one method is used to develop the other method or stage of research), initiation (mixed methods are used to discover a paradox or fresh understanding of the topic) and expansion (mixed methods are used to expand the scope of a study) (see Greene, Caracelli & Graham, 1989). Further questions need to be considered when designing a mixed methods study (Creswell, 2003): What is the implementation sequence of the mixed methods design? Will one method be implemented before the other (sequential design) or will they be implemented at the same time (concurrent design)? What priority will be given to the quantitative versus the qualitative components – in other words, which will hold more weight? At what stage will mixing take place (at integration, data collection, interpretation and/or write-up)?

Based on your research question, the study purpose and theoretical orientation, a number of mixed designs are possible. The sequential explanatory design is one of the most commonly used mixed methods designs. It involves two phases – a quantitative phase followed by a qualitative phase. The latter phase is usually used to explain the results of the quantitative phase. Priority is typically given to the quantitative phase although in some cases the qualitative phase may reveal interesting findings that may raise its status to being equal to the quantitative phase. Mixing can occur at each level of the research process. In terms of Greene et al.'s (1989) typology, sequential explanatory studies generally allow for complementarity and initiation (finding new insights and so forth). They might also serve a validation function. The advantages of the sequential explanatory design are that it is relatively simple to design, implement and report. The main disadvantage is the length of time it sometimes takes, especially if both phases involve time-consuming data collection activities and if time is needed to interpret the quantitative findings before implementing the quantitative data. A further practical problem at the proposal stage is that it is very difficult to be able to develop a final qualitative instrument as it is usually not possible to know in advance what the quantitative phase will yield. This becomes problematic for institutional ethics review (Barnes, 2012).

The sequential exploratory design is conducted over two phases, with the qualitative phase being conducted first followed by the quantitative phase. The aim of the sequential design is 1) to use the data from the qualitative phase of the study to develop the quantitative phase, in which case the quantitative phase is given priority; or 2) for the quantitative phase to answer questions that arise from the qualitative phase, in which case the qualitative phase is given priority. The sequential exploratory study can contribute to development, complementarity or initiation of new ideas (Greene et al., 1989). The advantages of this design are that it is simple and straightforward, easy to report and may lead to useful insights. Similarly, the addition of a quantitative phase may lead to increased confidence in the qualitative phase in contexts where quantitative methods are more highly regarded. It can be particularly useful in questionnaire development.

The concurrent triangulation design is usually implemented in a single phase, with the idea of using one method to validate, confirm or corroborate findings of the other method. The triangulation study offers researchers a useful tool to strengthen results and is relatively straightforward and less time consuming than sequential designs. However, researchers may find it difficult to commensurate quantitative and qualitative findings. They may also find it difficult to manage divergent findings which sometimes arise in mixed methods studies.

The concurrent nested design mixes quantitative and qualitative data in one phase. Unlike the triangulation strategy, one method is clearly dominant while the other is used either to answer a different research question or focus on subgroups within a larger group. It also differs from triangulation in that it is focused on a deeper understanding of a phenomenon and not an attempt to validate findings. It is particularly useful when researchers want to enrich their understanding of a particular issue, understand one particular strata in a more in-depth manner (e.g. quantitatively understand motivation in an organisation

while qualitatively understand the same phenomenon among managers) or utilise qualitative case studies in a quantitative experiment. Strengths and limitations are much the same as for the previously mentioned concurrent triangulation study.

Research quality

How do you know that you have done a good transformative mixed methods study? If we are to accept that quantitative and qualitative methods are informed by separate paradigms, then the traditional tools for assessing research quality will still hold: for example, validity and reliability (for quantitative studies) and dependability, transferability and trustworthiness (for qualitative studies). However, if we believe that mixed methods are a separate form of social enquiry with its own quality criteria, then it is important to consider how well researchers have been able to integrate quantitative and qualitative studies into one study.

The concept of legitimation (Onwuegbuzie & Burke Johnson, 2006) has been proposed as an overarching way of thinking about research quality in mixed methods designs. Examples of legitimation include sample integration legitimation (SIL), which refers to the degree to which the sampling strategy allows for quality inferences. The underlying logic is that the closer the sample is integrated, the higher the degree of transferability. However, using the *same* participants (particularly in sequential studies) may in itself lead to bias as participants' responses may be influenced by participating in prior phases. On the other hand, using samples that are fundamentally different may weaken SIL.

Inside–outside legitimation (IOL) refers to the degree to which the researcher integrates both the research participants' (inside) as well as the researchers' (outside) views. IOL is particularly important for transformative research. It is important to be cautious about overly interpreting the data from an outsiders' perspective and thereby ignoring the participants' reality, or vice versa when the researcher becomes overly involved in the participants' reality and struggles to be objective. Ensuring that participants' voices are included and adequately represented in the research process is crucial for transformative mixed methods research. Onwuegbuzie and Burke Johnson (2006) suggest a number of internal checks for IOL, such as peer review of interpretation (legitimation of the outsider perspective) and/or asking participants if their interpretation is consistent with their reality (legitimation of the insider perspective). Checking IOL is not always feasible in many research contexts because of time and resource constraints, but it is important to consider.

Weakness minimisation legitimation (WML) refers to the extent to which the strengths of one method are used to address the weaknesses of the other. A study would have a weaker WML if it asked similar questions in both methods – for example, both a quantitative questionnaire and qualitative interviews asking why an intervention worked or did not. On the contrary, a study might have a stronger WML if the qualitative study is designed to ask questions that the quantitative study is not designed to ask – for example, if the quantitative study focuses on how much the intervention worked while the qualitative study focuses on why it worked or not.

Ethics

In addition to conventional criteria such as informed consent, ensuring that participants understand the study and confidentiality, there may be ethics issues unique to transformative mixed methods (Preissle, Glover-Kudon, Rohan, Boehm & De Groff, 2015). In sequential studies, for example, where one phase of research informs subsequent phases, it is sometimes difficult to obtain ethics permission for subsequent phases because you do not know what the first phase will find. It is possible, however, to apply for ethics clearance for each phase, but this can be time consuming and onerous. In addition, in some sequential designs the same sample is used in both phases so it is important to inform participants that they *may* be selected for both phases and what this might entail. It is vital to be constantly reflexive of the transformative questions raised in previous sections, including whose interests the study serves, who gets to speak on behalf of beneficiaries, what is at stake for community organisations, to what extent beneficiaries have been consulted *throughout* the research process and the politics of representation. Often overlooked are ethical issues of how research team members are treated within studies, particularly subcontracted data collectors and fieldworkers who sometimes work under difficult conditions.

Concluding remarks

This chapter introduced the reader to the transformative paradigm and the role of transformative mixed methods research in social justice research. The chapter described the strengths as well as critiques of transformative research and highlighted a number of key issues for researchers to consider as they conduct transformative mixed methods research. Transformative mixed methods studies are useful tools to frame social justice research. It is important, however, to remember that transformative mixed methods research is far more complicated than what is often represented in the literature. It is hoped that this chapter will assist researchers to conduct transformative mixed methods research with the goal of promoting social justice in South Africa.

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20 Design Research: Developing effective feedback interventions for school-based monitoring

Elizabeth Archer

Introduction

This chapter aims to introduce the reader to Design Research, the embedded principles and the application thereof. Design Research has its root in educational research, particularly curriculum and technology design (Plomp, 2013). As the name implies, the purpose of Design Research is to blend design and research. Design Research 'seeks to increase the impact, transfer, and translation of . . . research into improved practice' (Anderson & Shattuck, 2012, p. 16). It is thus an appropriate approach to address problems for which no guidelines to design solutions are available. Design Research results in two distinct outcomes: an intervention or product to address the issue being studied, and a set of design principles to adapt and implement the intervention in other contexts. These principles constitute the contribution to the academic domain and allow for transferability (Herrington, Mckenney, Reeves & Oliver, 2007; Nieveen & Folmer, 2013; Plomp, 2013). This chapter not only delves into Design Research as a method but also illustrates its application with a Design Research project aimed at optimising a feedback system in the South African education context.

Design Research's cyclical, iterative approach to design, development and implementation, which informs each subsequent cycle of design, is very similar to that employed in action research. Design Research is, however, more structured, with three distinct phases of research: preliminary phase, development phase and assessment phase. Design Research can be aimed at producing or improving products, services or systems, amongst others (Herrington et al., 2007; Plomp, 2013). These phases shift from examining the context and requirements to developing various aspects of the intervention and product and, finally, evaluating the completed intervention or product in its entirety.

Design Research emphasises the importance of evaluation and, in particular, the use of both experts and users in the evaluation of each cycle. The approach also provides guidance on how the focus of the evaluation should shift during the phases by providing quality criteria. These quality criteria (detailed in Table 20.2) are relevance (content validity), consistency (construct

validity), expected and actual practicality, and expected and actual effectiveness (Plomp, 2013). This chapter first explains the Design Research approach and then illustrates its application through an example to operationalise the approach in the South African context.

Research that has an impact?

> Nothing is as powerful as an idea whose time has come. (Famous misquote from a translation of the original French by Victor Hugo)

Philosophically, research and practice have often been viewed as separate entities, with research mainly defined by its theoretical exploration. Until recently, the impact of such research received little interest. Research impact was often the elephant in the room that few researchers dared to refer to for fear that they themselves might not be making an impact through their research. In recent years, this approach has shifted with citation indexes, university ratings, research analytics and bibliometrics becoming increasingly important, requiring researchers to be cognisant of how widely their works are read and cited (Abramoa, Cicerob & Andrea D'Angelo, 2013; Jung, 2015; Rice, 2013; Sharma et al., 2013). Encapsulated in the shift was the emergence of a particular type of research – Design Research. The latter is not only aimed at the academic domain but also contributes well-designed and tested interventions or products (the practical domain). This chapter defines Design Research as follows:

> [D]esign(ing) and develop(ing) an intervention (such as programs, teaching-learning strategies and materials, products and systems) as a solution to a complex . . . problem as well as to advance our knowledge about the characteristics of these interventions and the processes to design and develop them, or alternatively to design and develop . . . interventions with the purpose to develop or validate theories. (Plomp, 2013, p. 15)

Design Research is thus firmly rooted in what is known as the pragmatic paradigm, foregrounding finding practical solutions and creating value for users in the real world above arguments for paradigmatic loyalty and superiority (Feilzer, 2009; Tashakkori & Teddlie, 2010). This represents a significant shift from paradigmatic decisions being seen as the most critical aspect of research efforts to find the most useful methods to address a problem, without foregrounding purist, paradigmatic loyalty (Feilzer, 2009; Tashakkori & Teddlie, 2010). This does not translate into a methodological free-for-all (in fact, it requires intimate knowledge of multiple paradigms and methodologies), but ensures that the problem and the consequences of the research remain central (Collins, Onwuegbuzie & Sutton, 2006; Feilzer, 2009; Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Leech, 2007; Tashakkori & Teddlie, 2010).

Putting a name to it

> What's in a name? That which we call a rose by any other name would smell just as sweet. (William Shakespeare – *Romeo and Juliet*)

As many authors have noted, research methodology is littered with a proliferation of various impressive-sounding terms, often relating to the same concept (Bazeley, 2013; Vaismoradi, Turunen & Bondas, 2013; Willig, 2014). One can only speculate as to the reasons for this, ranging from limiting critique to reformatting old approaches into new packaging in an attempt to build new empires. Design Research has not been immune to this trend and can be found in many guises, including, but not limited to

- design studies;
- design experiments;
- design-based research;
- development(al) research;
- formative research; and
- engineering research (Barab & Squire, 2004a, 2004b; Collins, Joseph & Bielaczyc, 2004; Herrington et al., 2007; Nieveen & Folmer, 2013; Reeves, Herrington & Oliver, 2004; Van den Akker, Bannan, Kelly, Nieveen & Plomp, 2013; Van den Akker, Gravemeijer, McKenney & Nieveen, 2006; Wang & Hannafin, 2005).

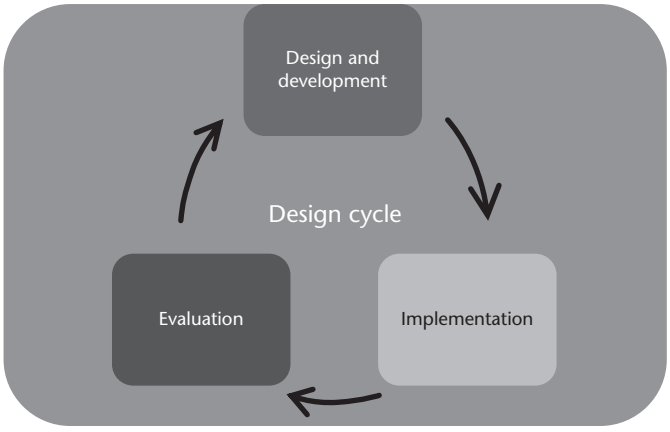
Learning the rules of the game

In a nutshell, Design Research involves a cyclical, iterative research process of design, implementation and evaluation, similar to that found in action research (Herrington et al., 2007; Plomp, 2013). It functions in a pragmatic paradigm (Tashakkori & Teddlie, 2010) and what differentiates it from action research is its openness to a multitude of methods; its structured approach with various phases; the application of particular evaluative criteria; specific evaluator roles, which include experts and users (practitioners); and the emphasis on utility. It is also highly flexible and contextually sensitive (Archer & Howie, 2013; Collins et al., 2004; Herrington et al., 2007; Nieveen & Folmer, 2013; Plomp, 2013; Plomp & Nieveen, 2009; Van den Akker et al., 2013).

Building on action research

Essentially, Design Research combines multiple, iterative cycles of design, development and implementation, with formative evaluations of each completed cycle to inform the subsequent cycles of design (Figure 20.1). Van den Akker (1999, p. 2) sums up this process as the 'successive approximation of the ideal'. Cole, Purao, Rossi and Sein (2005) highlight four points of similarity between action research and Design Research: importance of the user; cyclical process module; importance of theory; and learning through reflection.

Figure 20.1 Cyclical nature of Design Research



Source: Author

Upping the game with Design Research

Design Research builds on this solid basis of action research by adding a delineated path (movement through the different phases), evaluative criteria and roles as well as the outcome demands in both the theoretical and application domains. This provides a rigorous framework for designing real-world solutions across a variety of contexts while allowing for creativity and flexibility within the framework. This section discusses the various elements inherent in the framework, including the various phases, evaluative criteria and evaluator roles. Finally, it examines the combination and integrated whole of these aspects.

Phases

Notwithstanding the variety of terms employed for Design Research, there is agreement that Design Research employs three distinct phases: preliminary phase, prototyping phase and assessment phase (Table 20.1).

Table 20.1 Design Research phases

Phases	Description
Preliminary phase	This phase is concerned with examining the context and determining the tentative global design elements and principles. It thus includes consultations with practitioners, literature and document reviews (as well as possible exemplary case analyses) to determine the underpinnings for the study and focuses on the relevance to the context.
Prototyping phase (developmental phase)	This phase focuses on iterative cycles of the intervention approximation, foregrounding development, evaluation and reflection (similar to action research). These cycles usually focus on subcomponents or various elements of the intervention and not necessarily on the complete intervention. The phase should result in a developed intervention or product, along with an implementation plan.

continued

Phases	Description
Assessment phase (semi-summative evaluation)	This is the final phase but, particularly for a thesis or dissertation, does not have to result in a completed product that requires no further development. In the master's and doctoral spheres, the results are often accompanied by the delimitations of this study and a disclaimer that further development and refinement may be required. This is then accompanied by suggestions for future foci for improvement. The phase may thus focus on perceived practicality and effectiveness and not require a full-scale implementation to evaluate if the desired outcomes were achieved entirely. It is, however, essential that both an intervention/product and design principles (relating to both the product and process) be delivered so that contributions are made to both academe and practitioners.

Sources: Archer (2011); Archer & Howie (2013); Herrington et al. (2007); Nieveen & Folmer (2013); Nieveen, Folmer & Vliegen (2012); Plomp (2013)

Evaluative criteria

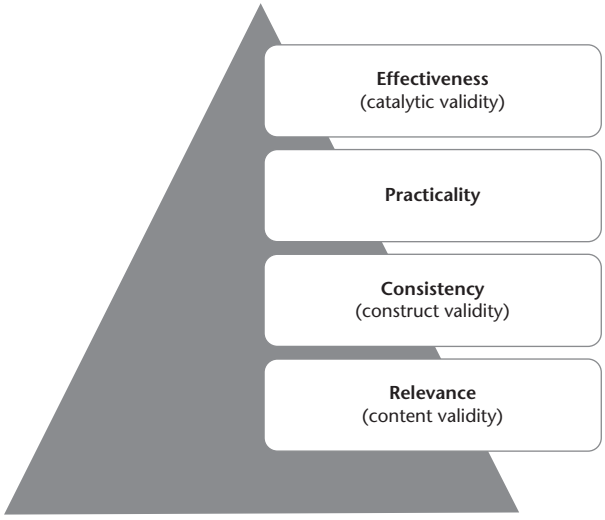
A completed design intervention should fulfil four quality criteria (Table 20.2). The criteria are hierarchical and if the preceding criteria are not fulfilled the following criteria cannot be met (Figure 20.2). For instance, the intervention or product cannot be effective or have catalytic validity unless it is practical in the setting for which it was designed. In the same way, consistency, also referred to as 'construct validity', can only be established with reference to relevance (content validity) (Archer, 2011; Archer & Howie, 2013; Nieveen et al., 2012; Nieveen & Folmer, 2013; Plomp, 2013).

Table 20.2 Description of Design Research quality criteria

Criterion	Description
Relevance (content validity)	There is a need for the product or intervention and its design is based on state-of-the-art (scientific) knowledge. Also, it must be relevant and appropriate for the context, addressing the contextual needs in both form and purpose.
Consistency (construct validity)	The product/intervention must be well designed and integrated. The elements/components must be well defined, with explicit connections between the various elements. The final product must be free of any internal contradictions, showing a clear chain of reasoning and consistent approach with regard to design and implementation.
Practicality	Expected: The product/intervention must be judged as useful and usable in the setting and context for which it was designed.
	Actual: The product/intervention must be useful and usable once applied in the setting and context for which it was designed.
Effectiveness (catalytic validity)	Expected: The product/intervention must be judged as being able to achieve the desired outcomes for which it was designed.
	Actual: The product/intervention must have achieved the desired outcomes once applied in the setting and context for which it was designed.

Sources: Archer (2011); Plomp (2013); Plomp & Nieveen (2009)

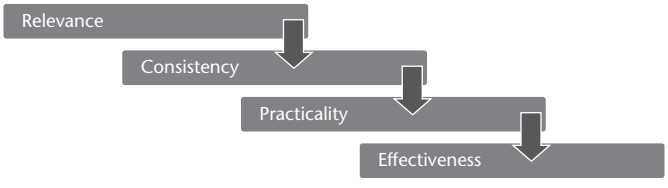
Figure 20.2 Quality criteria for Design Research



Source: Author

In any Design Research project, the emphasis on the evaluative criteria being focused on shifts as the design process progresses from the preliminary phase through to the prototyping phase and into the final assessment phase. Usually each design cycle focuses on one or two criteria at a time. The general shift in the design phase and evaluative focus of the cycles is illustrated in Figure 20.3.

Figure 20.3 Shift in evaluative criteria during the design process



Source: Author

Evaluator roles

Evaluators are required during each phase of the Design Research process to determine if the quality criteria have been attained. During the preliminary and prototyping phases, these evaluators focus on more formative evaluation, while the assessment phase is more summative in nature. Design Research also provides guidance on the type of evaluators that can be utilised and their roles, further providing a framework for rigorous design (Table 20.3). A single participant may fulfil multiple roles at once or different roles during various phases of the design process, depending on the elements being evaluated and particular expertise.

Table 20.3 Evaluator roles utilised during Design Research

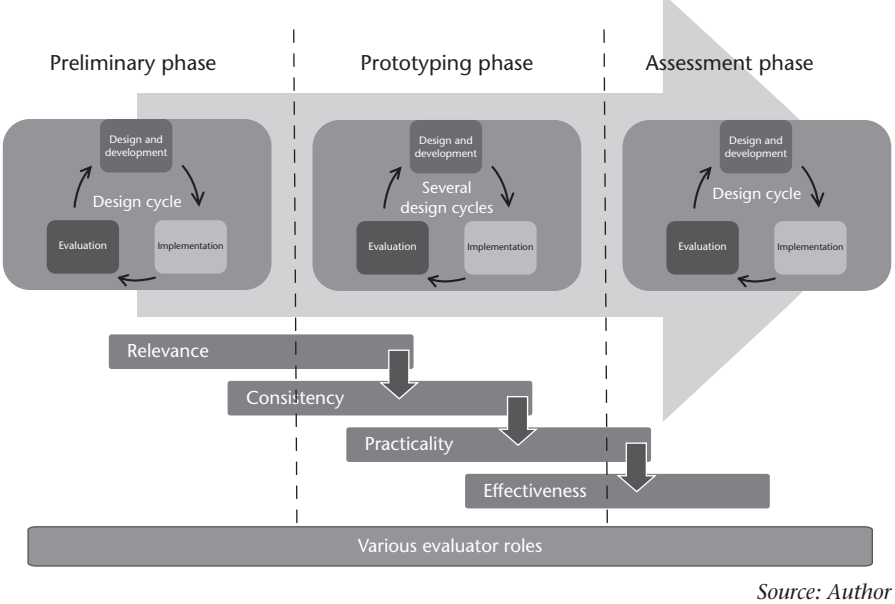
Evaluator roles	Description
Learner	A non-expert in the specific subject matter. This type of evaluator requires some learning before they can provide an informative evaluation. The term 'learner' does not refer to the person's academic level of qualification but may refer to a professor who is unaware of the context for which the intervention is being developed. It may also refer to a user or intended user of the system who has little academic qualification but is intimately familiar with the context, thus requiring some knowledge of the research process and goals to contribute fully.
Critic	Participants comment on the intervention from their particular fields of expertise.
Revisor	These participants not only comment on the intervention but also provide recommendations for improvement. Often specific questions aimed at eliciting suggestions for improvement are presented to prompt this type of evaluation.

Sources: Archer (2011); Nieveen & Folmer (2013); Plomp (2013); Plomp & Nieveen (2009)

Putting it all together

Design Research provides a framework for design and development that guides the attainment of rigour through combining various phases, evaluative criteria and roles as well as the outcome demands in both the theoretical and application domains (Figure 20.4). These tools facilitate quality research but allow for flexibility and emergent design within the framework to be applicable in a variety of complex contexts.

Figure 20.4 The overall Design Research framework



Source: Author

The next section interrogates the flexibility which this framework allows, focusing on how to choose appropriate techniques to apply as the product or implementation is being developed and matures.

Picking your poison

While Design Research provides a framework to guide researchers to define phases, cycles, evaluative criteria and roles, it also allows freedom of method within this guiding framework. This pragmatic philosophical underpinning allows for flexibility in applying methods to best answer the research question while remaining contextually appropriate (socially, historically, economically, politically, etc.) (Creswell, 2003).

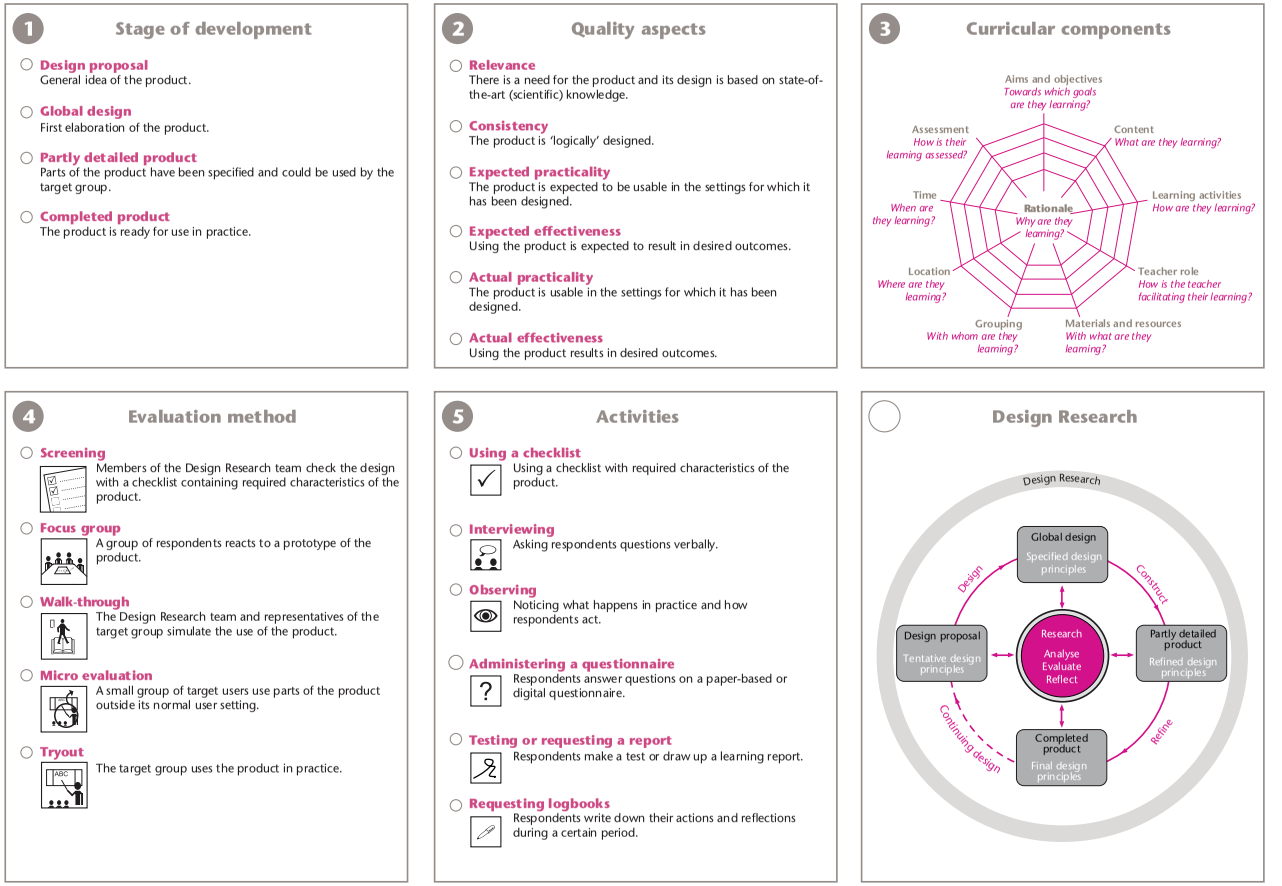
This approach means that an arsenal of data collection and analysis tools are available to researchers, allowing for emergent, dynamic design. Methods may include expert review through questionnaires or focus groups; self-evaluations (checklists); walk-throughs; small group or micro evaluation; field tests; Delphi and nominal group techniques; observations, etc. (Anderson & Shattuck, 2012; Archer, 2011; Nieveen et al., 2012; Plomp, 2013; Wang & Hannafin, 2005). Nieveen and Folmer (2013) suggest employing what is known as the 'evaluation matchboard' to help select the most appropriate tools for each phase, the quality criteria and method, while operationalising each into activities (see Figures 20.5a and 20.5b for an education-related example).

Design Research applies a framework to help the researcher maintain the quality of the research process while benefiting from flexibility. However, Design Research comes with its own set of threats to rigour. As a researcher, you must be sensitive to and reflexive about this from the onset. This is discussed in the next section.

A note on rigour

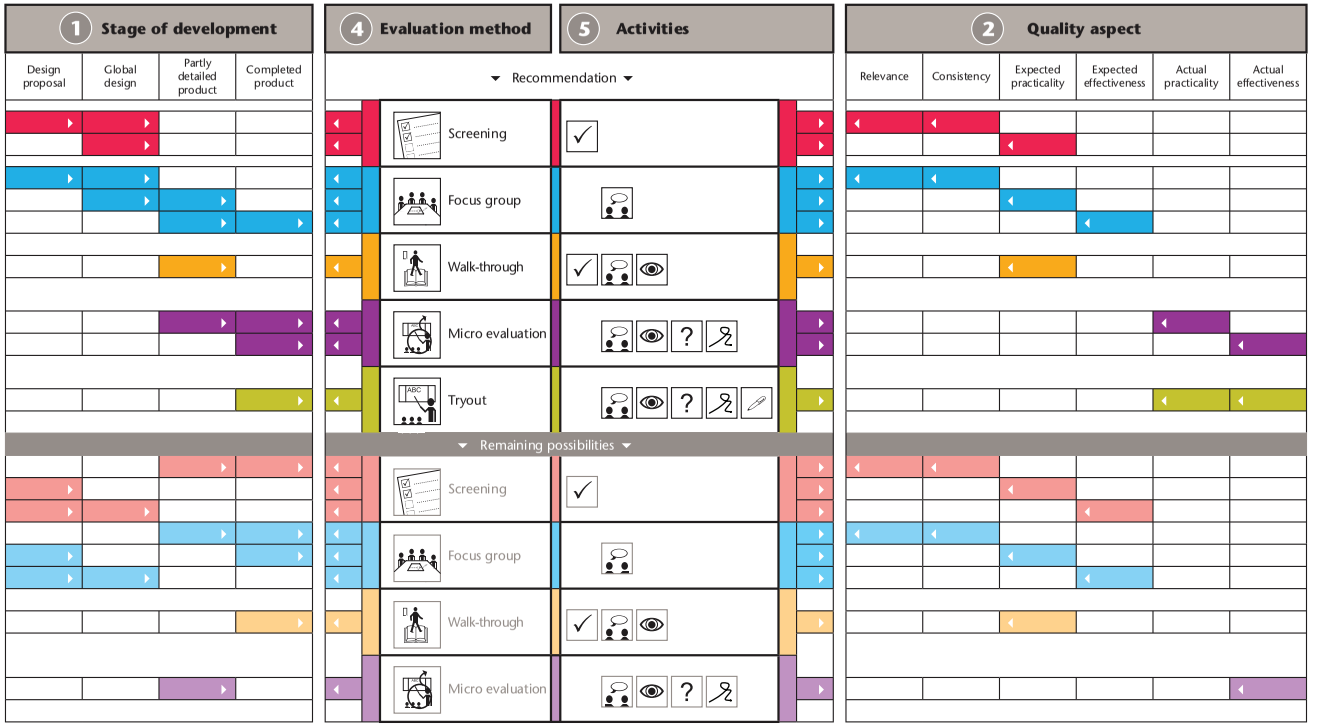
Rigour can be seen as the 'findings carry[ing] conviction and strength' (Long & Johnson, 2000, p. 35). The standards employed to establish rigour are influenced by the methodology, with validity, reliability and generalisability as the gold standard in quantitative research, and trustworthiness fulfilling the role in qualitative methodologies (Tashakkori & Teddlie, 2010). Design Research by definition employs a triangulation of method, allowing for induction (or discovery of patterns), deduction (testing of theories and hypotheses) and abduction (uncovering and relying on the best of a set of explanations for understanding one's results) (Archer, 2011; Plomp, 2013).

Figure 20.5a Evaluation matchboard A



Source: Nieveen et al. (2012, pp. 1–2); reproduced with permission

Figure 20.5b Evaluation matchboard B



Explanation: On one horizontal row, combine a stage of development (1) with a quality aspect (2) and find an evaluation method (4) with relevant activities (5).

Source: Nieveen et al. (2012, pp. 1–2); reproduced with permission

However, Design Research also contributes some challenges to rigour, which must be kept in mind and mediated for. These include the multiple roles of the researcher (researcher, evaluator and implementer), the complexity of the environment and the continually changing nature of the context. These challenges need to be managed continually through strategies such as establishing a robust research design, external expert input, rich descriptions and reflexivity, amongst others (Archer, 2011; Plomp, 2013). The entire Design Research approach is deeply entrenched in ethical considerations.

Ethics in the field

Ethics in research is often minimised to guiding rules or tick-boxes (rules based on compliance ethics are based on a *deontological* philosophy) to ensure that research warrants the intrusion and does no harm. These ethics tick-boxes often relate to aspects such as non-harmful procedures, informed consent, parental consent, assent, incentives, deception, anonymity, confidentiality, misconduct, conflict of interest, data quality and storage (British Psychological Society, 2013, 2014; Silverman, 1998; WHO, 2011). Although many of the codes have moved to incorporate research developments such as internet-based research, data mining and social network analysis, many authors have questioned the cultural appropriateness, values, universality and human aspect of ethical guidelines in order to move beyond a compliance-oriented, deontological ethics (Alahmad, Al-Jumah & Dierickx, 2012; British Psychological Society, 2014; Silverman, 1998).

We thus need to enrich deontological ethics (which should be adhered to at all times) with teleological ethics (Archer & Prinsloo, 2017; Marshall, 2014). Deontological approaches to ethics are rule-based and form the foundation of legal and regulatory context within a particular environment, with fair and equitable treatment judged through universal rules.

Teleological ethics does not reject the importance of codes of conduct (deontological ethics) but acknowledges the importance of justice, consultation, partnership, consequentialism and impact. This ethics of care involves the participants as agents and partners in defining consent, potential harm and possible resources (Archer & Prinsloo, 2017; Botes, 2000). It is an acknowledgement of the ever-dynamic research context and shows sensitivity to it, which makes it appropriate for emergent research, such as seen in the Design Research cycles.

This type of consultation, iterative engagement with the field and acknowledging the expertise of participants is synonymous with Design Research. Design Research ethics, therefore, needs to be described not only from a code of practice perspective. The ethical discussion must cover the inclusion, participation and agency experienced by participants (evaluator roles). The evaluative criteria

of appropriateness, consistency, practicality and effectiveness also embody the teleological ethical principle of impact or praxis and should be engaged with appropriately. The next section presents a South African case of the application of Design Research in education.

A South African case

The example in this section is aimed at illustrating the golden thread of reasoning employed during the research process and at operationalising the theoretical aspects of Design Research discussed earlier. A full discussion of the example can be found in other publications (Archer, 2011; Archer & Howie, 2013).

Research questions and context

The aim of this example study was to identify and understand the characteristics of an effective feedback system and the use thereof in the Foundation Phase of schools. The purpose was to design and optimise a system that facilitated the use of learner performance data in the South African school environment.

The research was guided by the following question: What are the characteristics of an effective feedback system and the use thereof for the design of an optimum feedback system to facilitate the appropriate use of learner performance monitoring in primary schools in South Africa?

This question encompassed the following sub-questions (Archer, 2011; Archer & Howie, 2013):

- How can an existing learner performance monitoring system be adapted, contextualised and translated appropriately to the South African context?
- What characteristics of an optimal feedback system for use in school-based monitoring are documented in literature?
- What pre-existing conditions need to be established in the feedback system to facilitate the optimal use of the learner performance feedback system?
- How do schools use feedback?
- How effective is the feedback system in enhancing classroom practices, management and planning activities?
- Which design guidelines can be identified for the development of an effective feedback intervention for school-based monitoring?

Why educational Design Research for this study?

The research question clearly called for a Design Research approach, as the study is application oriented, includes the research participants as collaborators, allows for refinement of the intervention through several iterations, focuses

on finding real-world solutions in a complex environment and contributes to knowledge-building through the development of design principles (Anderson & Shattuck, 2012; Kelly, 2013; Nieveen & Folmer, 2013; Plomp, 2013; Van den Akker, 2013).

Design Research was congruent with the aims of this study and provided avenues to optimise the feedback system while it was in use. This is a sometimes neglected purpose of Design Research, as the focus is often on designing a new product or intervention and not on improving an existing system, intervention or product. The system designed and optimised is known as the South African Monitoring System for Primary Schools (SAMP). The particular design employed is illustrated in the following section.

Research design

The research design of this study thus focused on optimising an existing feedback system, SAMP. It moved through first the preliminary research phase where the context was analysed, practical problems of the practitioners and literature were reviewed, and a conceptual framework for the study was developed (Herrington et al., 2007; Plomp, 2013). In this particular study, an exemplary case study was also employed during the first phase, examining the application of the successfully implemented and utilised Assessment Tools for Teaching and Learning (asTTLe) from New Zealand (Archer & Brown, 2013). This resulted in the initial global design principles for the study being established.

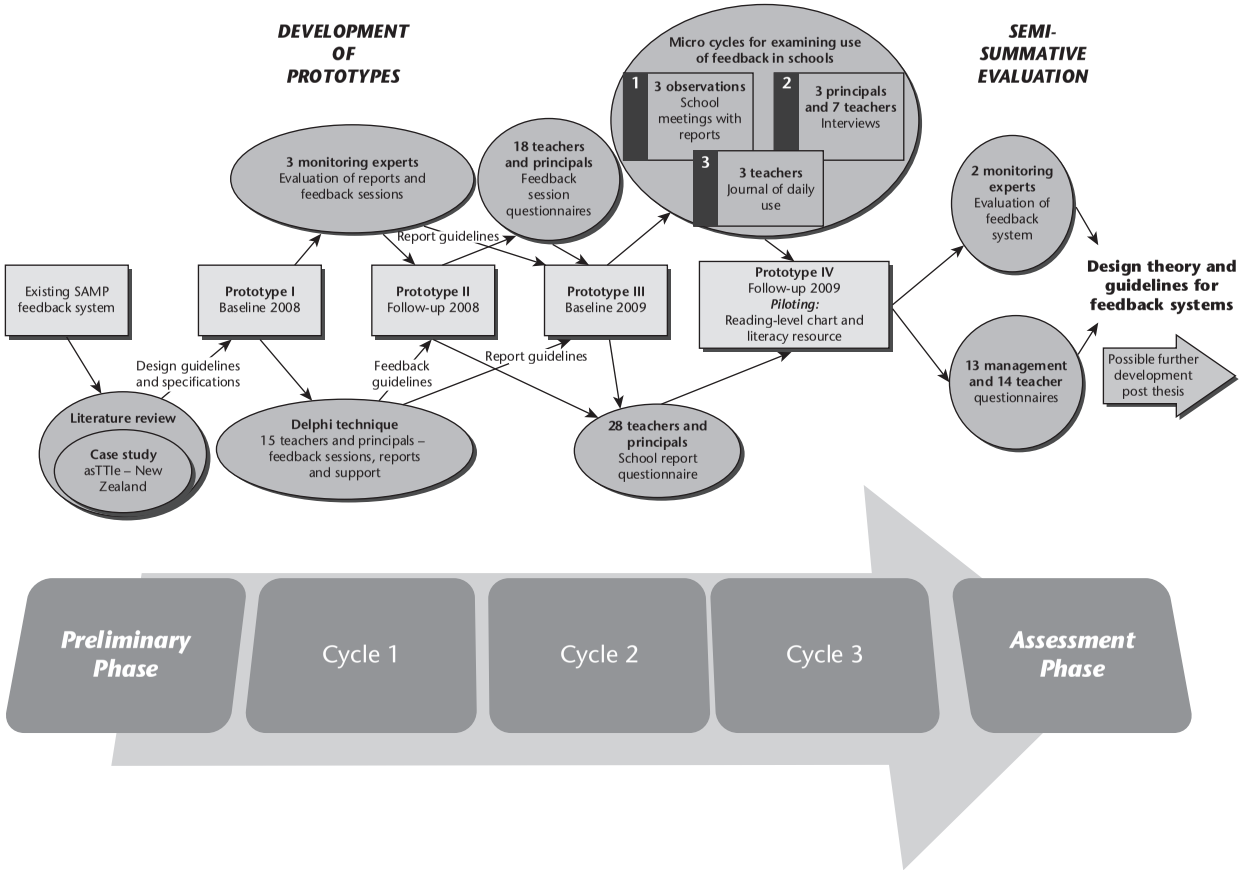
The development phase incorporated multiple cycles and micro cycles of research (Plomp, 2013). Each cycle resulted in a prototype (see blocks in Figure 20.6), along with an evaluation (see ovals in Figure 20.6), to refine each prototype and approximate the intended outcome (Nieveen & Folmer, 2013). During the final assessment phase, the feedback system (SAMP) was summatively evaluated to establish whether the solution fulfilled the global principles determined in the first phase (Nieveen & Folmer, 2013; Plomp, 2013). Note that in Figure 20.6 this is referred to as a semi-summative evaluation. This terminology may seem to be a contradiction in terms but indicates that while the evaluation is summative, it does not preclude further developments after the particular study.

The global design is illustrated in an alternative manner in Table 20.4. Note the shift through the three phases along with the shift in focus of both the research sub-questions and quality (evaluative criteria) throughout the process. Figure 20.6 also clearly shows the utilisation of various types of evaluators, from users to experts, throughout the process.

Outcomes

As is required from any Design Research study, the SAMP study resulted in both a product or intervention and design principles. The product outcomes

Figure 20.6 Overall design



Source: Author

Table 20.4 Quality emphasis per development stage

Quality criterion	Design specifications and global design of feedback system	Establishing conditions for use	Transforming conditions for use into action	Complete intervention
Research question focus	**Research question 2:** What are the characteristics documented in the literature of an optimal feedback system for use in school-based monitoring?	**Research question 3:** What pre-existing conditions need to be established in the feedback system to facilitate the use of the learner performance feedback system?	**Research question 3 (limited report questionnaire)** **Research question 4:** How do schools use feedback? **Research question 5 (focusing on expected efficacy):** How effective is the feedback system in enhancing classroom practices, management and planning activities?	**Research questions 3–5**
Evaluation cycle	**Formative – Cycle 1**			
		Formative – Cycle 2		
		Formative – Cycle 3		
			Formative – Cycle 4	
				Semi-summative – Cycle 5

continued

Quality criterion	Design specifications and global design of feedback system	Establishing conditions for use	Transforming conditions for use into action	Complete intervention
Relevance	Exemplary case study Literature review	Questionnaires Delphi Expert appraisal	Participant observations – planning meetings Semi-structured reflective journals Semi-structured interviews	Questionnaires Expert appraisal
Consistency	Exemplary case study Literature review	Questionnaires Delphi Expert appraisal	Participant observations – planning meetings Structured reflective journals Semi-structured interviews	Questionnaires Expert appraisal
Practicality: Expected	Exemplary case study Literature review	Questionnaires Delphi Expert appraisal	Participant observations – planning meetings Semi-structured reflective journals Semi-structured interviews	Questionnaires Expert appraisal
Actual		Questionnaires	Participant observations – planning meetings Semi-structured reflective journals Semi-structured interviews	
Effectiveness: Expected	Exemplary case study Literature review	Questionnaires Expert appraisal	Participant observations – planning meetings Semi-structured interviews	Questionnaires Expert appraisal
Actual			Participant observations – planning meetings Semi-structured interviews	

Source: Author

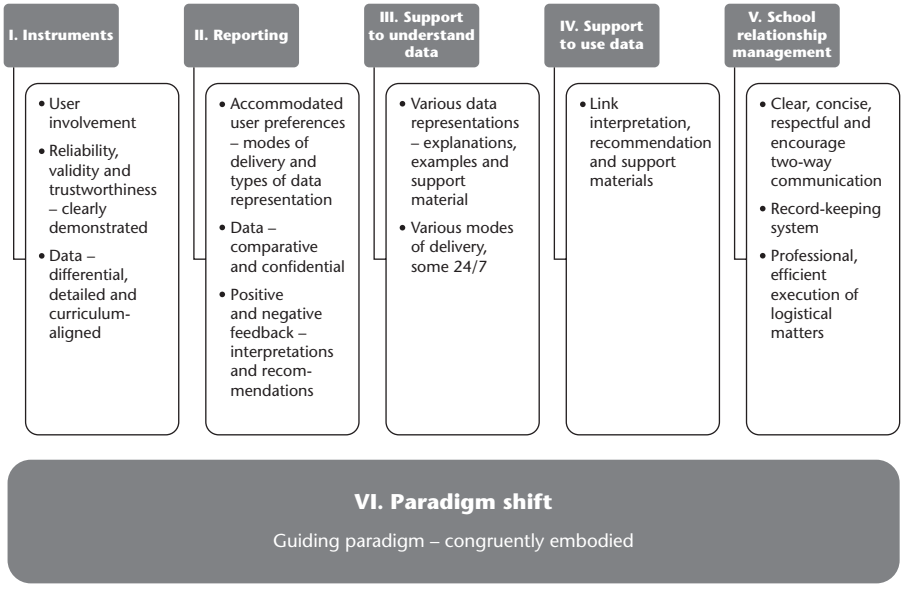
(Table 20.5) were the developed and contextually optimised intervention (feedback system), while the design principles (Figure 20.7) were developed throughout the process to allow for transferability of the design process and products to other contexts.

Table 20.5 Product- or intervention-optimised SAMP feedback system

Components
1. Suite of assessment instruments
2. Feedback reports
3. User and technical manuals
4. Feedback sessions
5. Digital resource
6. Support website
7. Ad hoc telephonic, email and face-to-face support

Source: Author

Figure 20.7 Design principles



Source: Author

The design principles (Figure 20.7), which encompass the characteristics of an effective feedback system and the use thereof, can be clustered according to guidelines for instruments, reporting, support to understand data, support to use data, school relationship management and support for a paradigm shift. The principles can also be classified as either product-related (related to the intervention itself) or process-related (related to the design process).

Conclusion

This chapter captured the philosophy, roots and application of Design Research. Design Research provides a contextually sensitive, praxis-oriented approach to research, bridging the gap which is often experienced between research and practice. Design Research is often associated with a pragmatic philosophy which eschews paradigmatic loyalty in favour of usefulness. This does not translate into an approach of 'anything goes' as it also provides a framework to ensure quality and progression. There is thus the opportunity for eclecticism and innovation in research approach while having clear guidelines for rigour and quality. Design Research therefore provides a productive avenue for research to meet practice in the current dynamic global environment, which is characterised by austerity and demands on academe to be accountable and have an impact through research.

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21 Appreciative inquiry as transformative methodology: Case studies in health and wellness

Kathryn Nel and Saraswathie Govender

Introduction

Transformative research methodologies often do not fit within established models or theories and may be unexpected or challenging in terms of integrating them into the mindset of researchers. Transformative research methods are typically qualitative in nature and aimed at stimulating new and exciting ways of approaching research. Their mandate is to inspire and motivate innovative ways of thinking with regard to traditional research paradigms. The South African cultural context is diverse and provides fertile ground for this endeavour. This chapter concentrates on one transformative qualitative method, namely appreciative inquiry (AI).

AI has become increasingly popular as a social constructionist approach to organisational change and development. It advocates a collective inquiry into the best of *what is* in order to imagine what could be, followed by the collective design of a desired future state. This chapter thus focuses on two useful applications of the framework related to health and wellness.

It is, in the authors' opinion, an excellent framework for use in the South African research arena as it focuses on individual strengths and collaboration within any research endeavour. Consequently, AI is a motivator for creating positive change, which makes it a process for transformation rather than just a technique for collecting data. It is transformative in nature because it produces change and creates new knowledge. This leads to individuals, organisations or any human life system being able to view their circumstances through different lenses (gives them a different reference base). It is a framework which, until recently, was almost always used in organisational settings. AI emphasises the positives and is frequently used when dialogue is used to create change as a component of the research process. Furthermore, it is transformative as it is a search for

> new ideas, images, theories and models that liberate our collective aspirations, alter the social construction of reality and, in the process, help us make appropriate decisions and take actions that were not available or did not occur to us before. (Bushe, 2007, p. 1)

The chapter thus focuses on two successful applications of the framework, one in an organisational and the other in a social setting, in a South African context. A glossary of terms commonly used in AI is provided for the reader at the end of the chapter; however, it is not an all-inclusive list. It is hoped that those readers who decide to use AI to underpin their investigations will do extensive reading on the topic in order to discover more.

Background to AI as a research framework

The historical roots of this type of qualitative research, which endeavours to explore and have a positive impact on the phenomena under investigation, are generally accepted as Kurt Lewin's (1946) introduction of 'action research' into the field of social science investigations. The process of AI was proposed in 1987 by David Cooperrider and Suresh Srivastva, who felt that action research was compromised by the predominant scientific paradigm of the era, which was problem focused (Fitzgerald, Murrell & Miller, 2003).

AI is a method which is, to an extent, underpinned by the paradigm of social constructionism which denotes that both internal and external reality are constructed through social realms and hinges on the prevalent discourse of an era in different community contexts. This means that an external discourse influences an internal discourse in specific environments. An example of this is when a woman who belongs to a traditional culture adheres to the paradigm of patriarchy publicly but internally may have a feminist, more independent voice. We contend that individuals and communities, like organisations, have what Fitzgerald et al. (2003, p. 6) state are 'pasts, presents or futures [which] are endless sources of learning, inspiration or interpretation – much like the endless interpretive possibilities in a piece of great poetry or literature'.

This allows for a positive and optimistic AI analysis and interpretation in order to identify the best of *what is*, to dream of *what might be*, to think of *what should be* and to consider *what will be*.

AI has been predominately used in organisational research as a strength-based approach which emphasises the positives and builds on strengths in order to mitigate resistance to change. The framework has been particularly effective in exploring diversity, and as an evaluation method, within business systems (Appreciative Inquiry Commons, n.d.). In effect, industry wanted to keep the good and change what was not working using the adage 'don't throw the baby out with the bathwater'. To date, it has had limited applications in health and social science research. This is because it is not a method commonly taught at under- and postgraduate levels in these fields. Nonetheless, some researchers have used it in both the medical (Cojocaru, 2012) and social science arenas, in a transformative manner (Tebele & Nel, 2011). Additionally, it has been proposed as a framework for interviews in field research (Michael, 2005) and has possibilities as an innovative research and evaluation method in education and psychology research (Mertens, 2015). As in all qualitative investigations, AI must be used in a systematic manner to allow for a true and valid interpretation of the

data. However, there is flexibility in the process. Fundamentally, the steps in the AI process may be not sequential but cyclical in nature, as a result of all stakeholders continually engaging in reflexivity. This process allows for true transformation to take place. We hope that readers will appreciate this when reading the case studies provided.

Overview of the AI process

Partington (2004) reports that the process of AI primarily focuses on, or affirms, the best qualities within any living system. It highlights the best of *what is*, *what might be*, *what should be* and the promise of *what will be*. In order to do this, AI uses interviews and questioning as collaborative methods, in a cyclical manner (Tebele & Nel, 2011). As a result, AI invites us to see ourselves and the world through an appreciative or valuing eye. It enables us to become aware of how language is used, how questions are asked and how stories are told that shape our collective destinies. It must be emphasised that when undertaking AI, the focus of the inquiry must be defined beforehand. When the scope of the investigation is decided upon, the positives within that research arena must be identified and highlighted, not the negatives, which is often the case with traditional research (Mohr & Watkins, 2002). The practice of undertaking research using AI is not fixed but flexible, however; the following broad generic processes which incorporate what Cooperrider and Srivastva (1987) called the four Ds – discovery (*the best of what is*), dream (*what might be*), design (*what should be*) and destiny (*what will be*) – can be followed.

Define

In this phase a group of researchers and/or the researcher and supervisor (and any research assistants) must meet to define the topic. This could take a few days depending on how frequent and long the meetings are – for instance, they could be broken up over a six-week period. It is not advisable to take longer than this as the topic might *get lost* and need redefining. Sometimes a pilot study can be engaged in where researcher(s) collect data (in the broad area of research being undertaken) before deciding on the final area of focus. This is quite difficult as it can muddy the waters and should only be undertaken when there is a very experienced AI facilitator/supervisor.

In defining the topic, researcher(s) will typically explore a theme by reading a broad range of literature (both qualitative and quantitative) related to the main focus of the investigation. A theme, often a gap in the printed literature, is then identified. It is also true that the government, a non-governmental organisation, a specific community or other stakeholders may approach the researcher(s) and ask for specific research to be undertaken. Nonetheless, the researcher(s) must still undertake extensive readings into literature underpinning the focus of the investigation.

Discovery I

In this phase interviews are used so that participant(s) can tell their stories and frame them in a positive manner. This helps participants understand, or *discover*,

the best of *what is* so that they can build on their stories in order to realise a positive future. The language and framing of questions determines the direction in which the inquiry will progress. It is also true that by asking questions, change begins (as participants begin to engage in reflexivity and understand their part in the process).

The AI interview

AI uses appreciative interviews. The questions are always precise as they have a specific intention – to *discover* the strengths, passions and unique attributes of a community or individual. These are aimed at further defining the focus of the inquiry in a collaborative manner (Fitzgerald et al., 2003). Questions should be formulated so that the participant(s) are inspired to give positive responses. For instance:

> Tell me about a positive experience in your work life that made you feel enthusiastic and proud of yourself.
>
> Tell me about something really good in your day-to-day life that made you feel proud and happy.

Discovery II

In this phase stories motivated through asking questions may not, at first, seem like 'light bulb' moments. Nevertheless, they often represent what individual(s) consider the most positive and satisfying moments in their lives, which helps them envisage a desired future. These moments may be shared (not always), but they always represent a specific strength at any given time.

Dream

The vitality of the process continues into this phase in which notions discovered in the discovery phase are highlighted. The process of designing or shaping these into the *desired* future begins. Ideal possibilities are found; in other words, consideration is given to the best possible outcome that they could expect from any intervention. This allows participants to *dream* or envision a future or what *might be* (Fitzgerald et al., 2003). In this context, the *poetic principle* is used (or the ability to create new awareness).

Design

In this phase visual images, drawings and other texts are developed or generated into a 'provocative proposition' (the image becomes a possibility statement or a shared vision). Effectively, the provocative proposition is a statement in words of the best of *what is* and the hope of *what might be*. This could be a policy, a process, developing a model or something an individual can do (so that delivery takes place). In other words, the stakeholders need to determine *what should be* and take sustainable action towards achieving that goal. They could also *design* what type of system or structure they need in order to achieve and sustain those *dreams* (Fitzgerald et al., 2003).

Destiny (sometimes called delivery)

In this phase provocative propositions are built on, and used, in the individual's or group's life system. It incorporates AI capabilities into their everyday realities. Continuous reflexivity on the process means that the life system is always ready to change and adapt. *Delivery* must take place. Fundamentally, the interventions that have been recognised as ideal, *anticipated*, *dreamt* and *designed*, must *be delivered* in a sustainable manner.

The following principles in AI support the aforementioned processes (adapted from Kelm, 2005):

- *Constructionist*: Simply stated, this means that everyday reality is subjective and socially created through language underpinned by other texts (such as paintings, artefacts, dances). The spoken word, augmented by the things we create, constructs the world in which we, as human beings, live.
- *Simultaneity*: The actual inquiry is a process which produces change or, at the very least, adaptation.
- *Poetic*: The words used mean more than the words themselves as they motivate understanding and provoke feelings which create meanings unique in themselves. The stories people narrate in the AI process tend to adapt or change as others share theirs or as the narrator reflects on what the words in the story really mean. This produces positive change.
- *Positive*: To make positive change, considerable energy is required. Questions that are asked provoke positive responses and enhance social bonding (and understanding of self).
- *Anticipatory*: The creation of a positive future image motivates behaviour and actions today.
- *Wholeness*: Stakeholders are brought together to help build capacity and create harmony or wholeness.
- *Enactment*: Individuals must act in a way that exemplifies the change they want to see in their ideal futures.
- *Free choice*: Individuals must be able to choose what, and how, they contribute to positive change.
- *Narrative*: The stories told by individuals are stories that are constructed through their day-to-day life experience.
- *Awareness*: Individuals must always be aware that they may not be objective and must engage in reflexivity so that they are aware of their fundamental prejudices.

Reflexivity

Reflexivity in AI is not a single or universal entity but reflects an active, ongoing process that saturates every stage of the research (Hosking & Pluut, 2010). We note that as researchers, our social and political notions affect our research. A reflexive researcher is one who is aware of all potential influences and is able to step back and take a critical look at his or her own role in the research process.

As researchers, the goal of reflexivity, in this sense, has to do with improving the quality and validity of the research and recognising the limitations of the knowledge that is produced. This leads to a more rigorous research process. In addition to this, researchers and participants in AI are required to engage in reflexivity so that they not only recognise their own preconceptions but are able to rethink and redirect their thought processes in a positive manner.

In summary, AI is a framework which allows researchers and stakeholders to find the positives in any given context (Reed, 2007). They define the topic through meeting and discussing the focus of the research, which has been thoroughly explored. Questions are developed in order to generate stories from participants. As interviews are concluded, the researcher(s) and stakeholder(s) identify patterns and themes within the transcripts and identify *intriguing possibilities* that may create *bold statements*. This leads to a community or individual co-collaborating in order to *discover* their unique experiences (Fitzgerald et al., 2003). This co-collaboration helps all stakeholders take ownership of the process and results which emerge out of it. The practice is focused on building present strengths and desired outcomes as AI is based on a perception of reality collaboratively created through language, images, visions and beliefs (Whitney & Cooperrider, 1998). The questions used in AI interviews are also interventions that facilitate change, as this act of inquiry influences the way a community, researcher(s) or individual(s) perceive their own reality – for instance, transcending the individualistic 'I' and becoming the collective 'we' (Cooperrider & Whitney, 2005).

Two South African case studies using AI in a transformative manner are presented as practical examples of the framework in a social science (psychology) and business science (industrial/organisational) context.

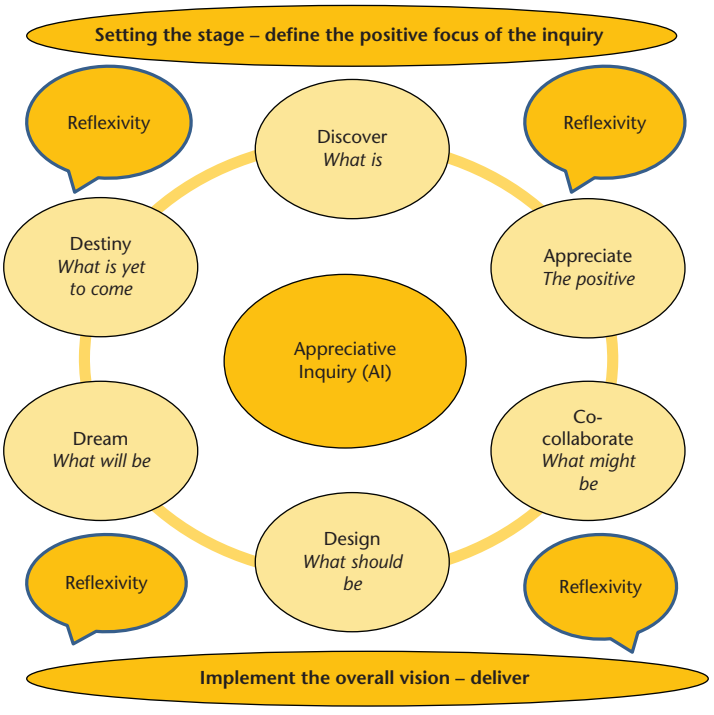
Practical application of AI

When using AI, we endorse using the following practical guidelines, particularly if you have not used the method before. Figure 21.1 is not traditional but has emerged out of research undertaken using AI, designed by the authors.

This is another reason we consider AI as transformative in nature as it is flexible and can be adapted for different research contexts. A cyclical process, as defined in Figure 21.1, was found appropriate for a South African context.

Reframe and define the focus of the inquiry: This entails a 'sea change' in attitude. Researchers do not use the usual problem-based mindset when designing research studies. In other words, we usually identify problems (in terms of a gap in research literature) and then scientifically investigate to find out if the problem exists and/or to what extent. An affirmative (positive) topic choice is one which motivates, encourages and empowers individual(s) in any given situation. In other words, 'we work on our strengths and on what we do well' (Martinetz, 2002, p. 37). We do this through looking for the positive images that exist in the reality that contextualises the day-to-day reality (lived world) of the individual(s).

Figure 21.1 Cyclical process of AI



Source: Authors

Design questions for the appreciative interviews: This necessitates a very careful use of language. For instance, the following question might be asked in a family-related intervention: 'What can you do to modify your behaviour when dealing with your difficult teenager?' In AI the question would be: 'When has your own behaviour produced positive results in terms of your teenagers' behaviour?' Questions should be developed by reading the literature, having group discussions and always asking how and why questions are asked. It must also be remembered that the context (e.g. patriarchal or matriarchal) and the language and culture (e.g. Afrikaans or Sesotho) must be taken into account. If questions are developed in English they may need to be translated into the vernacular, which requires translation and back-translation, so that meaning is not lost.

Questions should be generative in nature, which allows individuals to look at their reality in an imaginative manner. The questions must be phrased to help people think and reflect on their narratives. They must 'touch people's heart and spirit' (Bushe, 2007, p. 4). Probing may be required using statements such as 'Tell me more', 'Why do you feel this way?', 'Describe how this affects you' and 'Tell me, why is this important to you?' Queries should tap into individuals' conscious and unconscious images. Everyone sees images of their thoughts and, in AI, individuals are motivated to present those images through words.

During this generative process some negatives will be identified as humans have a penchant to dwell on the bad things in their lives. AI focuses on the positives, so when negatives are brought up the researcher asks individuals to focus on what they could do to change their perceptions. If the person keeps focusing on the negatives, say, 'We can deal with that later' and 'Don't forget it will need dealing with'. The assumption is that when many positives are presented the individual will be able to reframe his or her negative perceptions when the topic is raised again. Some people become upset if the conversation is redirected; thus active listening is required. In other words, the researcher must listen with empathy and encourage the person to see positives that were not valued (or seen) before. For example, the participant may have a friend with similar problems but he or she has continued to live positively through their own challenges. It must also be remembered that the intervention (interview, discussion) in itself is a positive, as it allows individuals a non-judgemental space in which to speak. It is not easy and takes practice, but redirection is effective if the interviewer continually focuses on and redirects to the positives. It is also true that once a negative has been articulated, it can be used to inspire or generate a positive image of the future through questions such as, 'So what would you have preferred might happen?'

Recognise characteristics within the narratives: The way the questions are phrased for the appreciative interviews will define how characteristics within the stories/narratives are identified. That is why it is very important to phrase the questions properly.

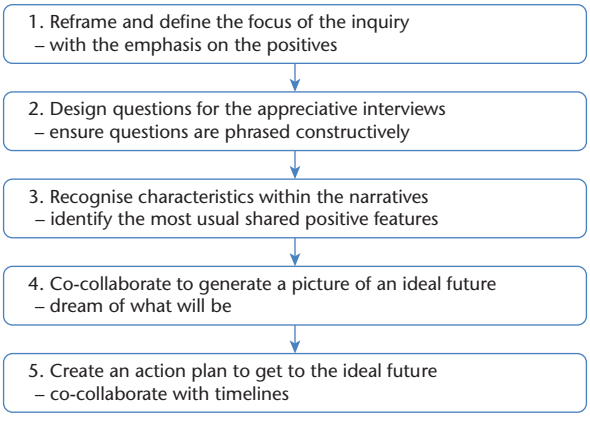
Co-collaborate to generate a picture of an ideal future: Together with the participants, help produce an image of what the future *might be*.

Create an action plan to get to the ideal future: Co-collaborate with all the participants to create a practical *action plan* with timelines aimed at getting to the *ideal future*. Sometimes, as in the case of an organisation, change might be something handed down from top management. Nonetheless, the ideal way of implementing that change can be decided on by all the stakeholders using text, narratives, diagrams, flow charts and drawings. However, what is required must be clear and resonate with all participants/stakeholders (Figure 21.2).

Case study 1: AI used transformatively to implement and evaluate a wellness programme

Wellness programmes in South Africa have been implemented since the late 1990s. However, they have generally been poorly evaluated. Typically, appraisals take into account the number of referrals to the programme and do not evaluate it as a holistic entity. The researcher identified this gap and used AI as a research framework in participatory action research in the implementation and evaluation of a wellness programme at an organisation in KwaZulu-Natal; all parts of the workforce participated. This was carried out in order to determine if the programme was effective, successful and sustainable (Partington, 2004).

Figure 21.2 Steps in the AI research process

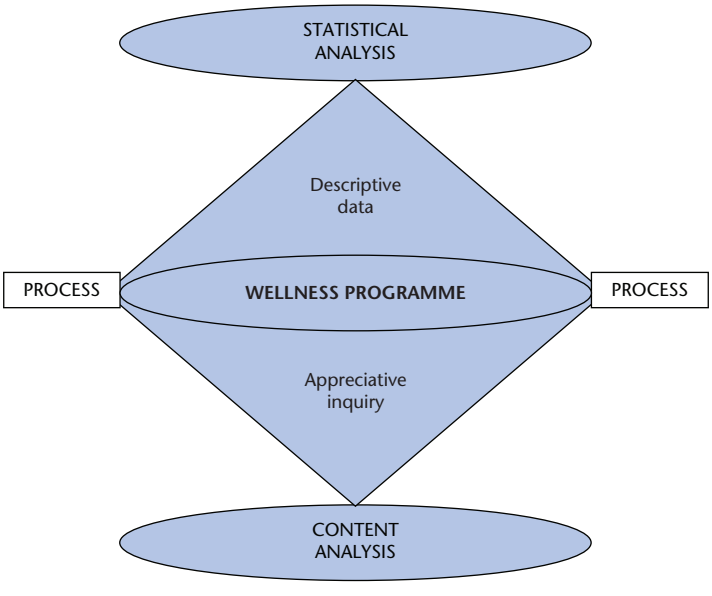


Source: Authors

It was appraised using a multimethod approach (Figure 21.3), including AI, in terms of the following areas:

- its administration;
- how data were collected in terms of implementing and evaluating the programme; and
- an assessment phase that was designed to be carried out on a yearly basis as wellness programmes need constant, reliable and continuous evaluation and re-evaluation.

Figure 21.3 Multimethod research design for a wellness programme



Source: Partington (2004, p. 77)

The method used was flexible in nature and chosen to fit the practical requirements of the research and the context in which it was undertaken. Fundamentally, it was a form of process evaluation as it used different methods and procedures.

As part of the AI process in the research, a small, in-depth ideographic sample was used to evaluate individual workers' subjective experience, instead of just generating vast amounts of data through statistical analysis (Kelly, 2006). Pre-programme interventions took place three months before the wellness programme was implemented. Participants answered questions in an *appreciative interview* which allowed them to verbalise the best of *what is*, *what might be*, *what should be* and *what will be*. For instance, questions such as the following were used in pre-programme implementation: 'Tell me, a wellness programme always has positive benefits on health; what do you see them as?' (Researcher aside: 'Please answer honestly, taking into account all the positives that come to mind'), and in post-programme implementation: 'Tell me, how many positive benefits did you experience from the wellness programme?' (Researcher aside: 'Please answer honestly and try to remember all the positives that come to mind'). The wording is important because if, for example, an individual is asked, 'Did you like the programme?' the answer will probably be 'Yes' or 'No'. An example of another question is, 'Describe the high point of your experience after using the wellness programme.' Participants were asked to supplement the interview with an essay narrating how they felt they would appreciate the wellness programme (pre-implementation) and what their *vision* of the programme was. After the programme was implemented, the essay topic was different – participants were asked what high points they had experienced in relation to the wellness intervention. The post-programme intervention took place six months after it was implemented and used the interview process and essay narration as previously described.

Before and after implementing the programme, *appreciative interviews* and discussions, where the researcher and participants co-collaborated, took place in the organisation's human resources offices, used for counselling and therapy. The post-implementation interviews took place six months after the intervention to allow time for it to become established and used by the workforce. The conversations that took place at this point allowed the participants to discuss their newly awakened sensitivities in terms of their own health and wellness, and as meaningful and healthy members of the organisation. A change occurred in the way they viewed themselves and their place within the organisation. Participants' narratives described healthy beings in a living system, which was emphasised through their individual and collective narratives. The participants felt *good* about coming to work and *energised* as they experienced the organisation as *positive* and *helpful*. Fundamentally, the intervention helped them appreciate the positives within their organisational context. This occurred through participants' learning how to positively redirect their thoughts (mindset). They also reported being actively engaged in reflexivity on a regular basis.

It is notable that several participants reported subtle bullying by one manager at the beginning of the intervention and did not feel they could do anything

about it. After engaging with the researcher, through discussions about bullying and engaging in self-reflexivity, they were able to understand that they could do something positive about this by interacting with the individual who made the comments and/or seeing the appropriate human resources officer in order to deal with it. Participants who had experienced subtle bullying reported that after reflection they decided to communicate directly with the individual concerned. They all experienced positive outcomes as the manager was not aware that he was subtly bullying his colleagues. He had not realised how his comments were impacting on his colleagues and, through self-reflection, he changed this aspect of his behaviour.

The data generated were analysed using thematic analysis as suggested by Terre Blanche, Durrheim and Kelly (2006): 1) familiarisation and immersion, which is undertaken by reading and rereading the text many times so that its meaning can *become known*; 2) inducing themes, which allows them to arise naturally out of the data in terms of the research questions; 3) coding, which entails putting the data into analytically appropriate themes; 4) elaboration – the researcher keeps coding until no new themes or insights are obtained; and 5) check and interpret the data. It must be noted that when using AI, any interpretation should be generated out of a co-collaboration between the researcher(s) and participant(s).

After this was completed, *key themes* were gleaned from the responses and narratives. The theme 'someone to talk to' was identified before the wellness programme was implemented. It was identified in responses such as, 'I suppose this will be a good thing as there will be someone to talk to and you [I] can explain how you [I] feel.' Post-implementation, a theme of 'feeling positive' was identified by responses such as, 'This is a good thing, it makes me happy. It will help a lot of people.' In this stage of the research process, participants were able to discuss how they understood the good things in their lives and how the questions, using an AI framework, helped them *reframe* their thoughts into an understanding of a positive future. Fundamentally, participants engaged in reflexivity. Following this, *emergent themes* were identified which underpinned the *might be*. One of these was the theme 'help', identified by responses such as:

> . . . I didn't really want to come but have such bad things going on [what is]. I think this is a good thing, it was very helpful to me – I feel I am being helped and will be able to cope if anything happens again.

Provocative propositions (possibilities) were developed out of the generated pre- and post-implementation responses. These were discussed with individual participants, who were asked if they reflected the overall *ideal possibilities* or *what should be*. One of these related specifically to psychological services. It was noted, for example, that a positive approach would be to create a more user-friendly image for psychological services generally in order to allay the fear and stigmatisation often associated with them. This, it was *anticipated*, would create change in that a positive attitude towards the programme would help users *appreciate* it more.

Finally, *action plans* were developed out of the *provocative propositions* in a collaborative effort between the researcher and participants (feedback). A timeline

was suggested for the anticipated change – fundamentally the *what will be*. In this regard, it was proposed that *benchmarking* should take place in order to create a user-friendly image for the wellness programme throughout the different companies which formed part of the organisation with regard to psychological services.

Used with other methodological tools, AI thus helped the researcher implement and evaluate the wellness programme. It provided an effective, successful and sustainable delivery of the co-created *vision*.

Case study 2: AI used transformatively in social science research

Tebele and Nel (2011) used AI as a transformative research method, together with Solution Focused Brief Therapy (SFBT), in an instrumental case study investigating the experiences of a rural woman living in poverty who had experienced the death of her husband from tuberculosis-related HIV/AIDS infection. This had caused her to be ostracised by some members of her church and community. The framework had not, to the authors' knowledge, been used before in this context in South Africa. The participant (Mrs X) was married traditionally and had left her home community some years before her husband's death. His family blamed her for his demise and allegedly spread rumours about her infidelities. In fact, her husband was promiscuous throughout their marriage; some of the women were known to Mrs X. Although Mrs X had children, her deceased husband's family refused to help. She did receive some financial help from her family but, as they lived far away and had few resources, it was sparse and she could not rely on them for emotional support. She attended a free clinic where psychological services were available and agreed to participate in the research in order to learn things about herself and the context in which she was living. AI was used as a method to underpin the study and formulate questions for the sessions, together with SFBT (a ten-session, focused counselling therapy). This was followed up by three sessions so that Mrs X and the therapist could clarify the *action plans* needed to implement the changes she *dreamt* of in order to implement or *deliver* the *what will be* (her desired future). When the investigation began, Mrs X had poor self-esteem and could see no way forward. She felt her position was hopeless and had no positives; in fact, at times she admitted to having suicidal thoughts.

AI was used as it is an intervention which focuses on the positives, where researcher(s) and participant(s) are co-collaborators and can thus appreciate the *what is*, *what might be*, *what should be* and *what will be* together. The ten SFBT sessions were completed using a model of brief therapy suggested by Watzlawick, Weakland and Fisch (1974). It must be noted that the following steps are not fixed and tended to follow a cyclical process as Mrs X experienced and recognised positive inner changes that matched her external context, as she continually engaged in reflexivity.

- Mrs X and the therapist together tried to understand or *discover* the social context of the *what is*. She was able to appreciate what was life-giving and positive within her socioeconomic context – for instance, her love for (and

ability to care for) her children. Mrs X was thus motivated to *appreciate* what was positive in her present (e.g. loving children and helpful neighbours).
- In a co-collaboration, Mrs X and the therapist explored how she had tried to help herself feel better and *appreciate what might be*.
- Mrs X and the therapist co-collaborated to help Mrs X *dream* of, and appreciate, the *what might be* and how it might be achieved (*designed*) – primarily, to help create a *vision* of the future.
- Finally, the sessions focused on the *dreams* of *what will be* and how that change could affect her *destiny* in a positive manner.

Through co-collaboration, Mrs X moved from stating negatives during the *discovery* phase, such as, 'I am only a woman, there is nothing I can do . . . it is hopeless.' She was encouraged, through generative questioning, redirection and probing, to see and appreciate the positives: for instance, 'I have my children who love me and I can help others in my church.' During the sessions Mrs X's lack of self-esteem, underpinned by her feeling 'ashamed', was replaced by her *appreciation* of the fact that she had survived being alone and was coping positively with her new life. One thing she also saw as a positive was looking after her sister's children, for which she was paid. Mrs X told the therapist that she often looked after her neighbour's child, which was *appreciated* and for which she was paid. Together with the therapist, Mrs X began to understand that *what might be* was that she could look after other neighbours' children for payment or food. Eventually, Mrs X *dreamt* that she could look after several children and perhaps, *what will be*, she could run a small crèche (*poetic principle*). Fundamentally, she was able to reframe her life in a positive manner. Her self-reliance, confidence and willingness to *appreciate* her own resilience came to the fore. The brief synopsis given above does not fully describe the levels of experience that underpinned Mrs X and the therapist's co-collaboration but is intended to help researchers *appreciate* the effectiveness of AI as a transformative research method.

Key themes, identified by Mrs X and the therapist, led to *provocative propositions* which were thematised as 1) feminisation of disadvantage – this contextualised Mrs X's social position or her *what is* in the paradigm of patriarchy and helped her and the therapist understand the challenges she faced socially; 2) de-stigmatisation – co-collaboration helped Mrs X to appreciate the *what might be* by using different coping methods and showing resilience in terms of accepting that HIV/AIDS is a chronic illness which is treatable and a day-to-day reality for many in her community; 3) search for positives – Mrs X and the therapist searched for and sought to appreciate the positives that were iterated during the sessions, such as Mrs X's love for her children, her faith (Christianity) and her resilience; and 4) reframing – this works extremely well with AI, as the human condition is one that tends to dwell on the negative and lacks the ability to *appreciate* any positives in a situation. Mrs X, in co-collaboration with the therapist, was eventually able to *dream* of the future and *discover* and accept that there can be a positive *will be*. Fundamentally, part of the human condition is continuous *change*, which we must learn to accept and *appreciate* and, in some cases, we need to actively assist in that transformation.

Ethics and reflexivity in AI

In the investigations described in this chapter, research ethics was understood as an ongoing process of self-reflection during the process rather than as a search for standardised answers to moral dilemmas (Trede & Titchen, 2012). In this regard, research ethics committees play an important role in highlighting ethical principles that are relevant and important for social research; however, their role is necessarily limited. These principles include informed consent – the participant is told about the research and gives consent (or not); the right to withdraw from the research at any time; confidentiality and anonymity, where involvement is kept confidential and participants' names are not made public; non-maleficence – participants must not experience harm because of the research; and distress management – participants must be given recourse to counselling or therapy if they become upset because of the research process.

Research is primarily an enterprise of knowledge construction that requires scrutiny, reflection and interrogation of data by the researcher and the participants in their social context (Hosking, 2011). There are always instances in which procedural ethics cannot, in themselves, provide all that is required from an ethical standpoint (such as when interviewing victims of violence, where the researcher has to decide how far to probe a traumatic experience). In this regard, qualitative researchers use the notion of reflexivity.

Hosking and Pluut (2010) state that reflexivity is a process where researchers (and participants) place themselves and their practices under scrutiny by acknowledging the ethical dilemmas that permeate the research process and impact on the creation of knowledge. Our understanding of reflexivity involves the critical reflection on how the researcher constructs knowledge from the research process, the factors that influence the construction of knowledge and how these influences are revealed in the planning, conduct and writing up of the research. Reflexivity in research is thus a process of critical reflection, both on the kind of knowledge produced and how that knowledge is generated.

In case study 1, several participants told the researcher about experiencing subtle bullying. The researcher reflected on this and then engaged in conversations with the participants and, as a result of the process, encouraged them to discuss any issues with the individual or through appropriate human resources channels. The researcher asked participants to reflect on the cultural issues involved in the bullying. This enabled them to resolve issues and have healthy working relationships in the organisation. In case study 2, the participant indicated that she had endured years of infidelity from her husband, who had subsequently died from an HIV/AIDS-related infection. The participant indicated that she knew some of the women her husband had had affairs with. In this case, she was asked to engage in reflexivity about her husband, the women he had had affairs with and HIV/AIDS. After several conversations she felt empowered to tell these women to go for testing so that they would be able to take control of their lives and feel good about themselves. She also went for voluntary counselling and testing.

Thus, reflexivity is not prescriptive in the sense that it specifies precisely what the researcher (or any stakeholder) should do when ethical issues come to the fore. The reflexive researcher is better placed to be aware of ethically important moments as they arise. Through reflection, the researcher has a basis for responding in an ethically appropriate manner, even in unforeseen situations. Our notion of reflexivity compels researchers to be reflexive in relation to ethics and the intra- and interpersonal aspects of any investigation, particularly when using AI as a research framework.

Conclusion

AI is an intervention that dwells on the positive, not the negative. It allows for individuals to develop concrete action plans and goals that are transformational, realistic and conceptually clear. It is apparent that solutions to problems must be sustainable, which calls for a research process that is collaborative. It must provide innovative ways of helping people solve problems – ways which enable them to envision positive outcomes while motivating them to formulate and implement positive plans for the future. They must be able to see the *what is* in a positive light and become aware of the *what will bes*. Participants and researchers must engage in reflexivity at every step of the AI process.

Traditional research methods are not collaborative as researcher and respondents/participants/subjects are bound to their respective contexts. These methods can be considered an invasion of privacy as people who take part often do not have access to research results or give input into any interventions. This is likely to end up with an unsustainable intervention as it did not come out of a collaborative experience. AI used in different settings allows individuals to comprehend the best of *what is* and relate it to the *what might be* and *what should be*, and ultimately take action and put in place the *what will be*. Essentially, in concrete behavioural terms, AI creates the possibilities of *what will be* in a fundamentally practical way that allows people to willingly participate in positive change or transformation.

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Glossary of commonly used terms in AI

Term	Definition
Action research	The type of research which is collaborative, used to develop or improve a group or individual context. In AI, action research focuses on the positive and aims to help the individual or organisation generate more positives.
Appreciative interview	An interview using questions designed to discover what perceptions participants have about the phenomena under investigation.
Change	When an individual's life (system) or group (community or organisation) transforms. In AI, change is supported by the individual (or group) and the positives are reinforced.
Destiny	How an individual or organisation can create their preferred future by taking appropriate actions to create the desired vision – from the *what is*, *what might be*, *what should be* to the *what will be*.
Dream	When an individual or a group share their dreams or images of their preferred future – an image can be visual or a word 'drawing' or narrative. This dream is co-created between the collaborators in the investigation.
Emergent themes	When a transcript (text) is read and reread, emergent themes develop.
Key theme	Recurrent ideas which occur in the transcript (text).
Poetic principle	The ability of individuals and groups to create an innovative perception of their own world.
Provocative proposition (possibility)	Discovering or proposing the possibilities of *what will be*.
Reframe	The individual or group ability to look at context or situation and see the positives in it (not only the negatives).
Theme	Patterns that are gleaned through the process of *appreciative interviews* or through the co-collaborative analysis of narratives (texts).
Transformation	When the system (individual or group) has changed, in AI this would be a positive change (*what will be*).
Transformative	Any system has the possibility to change; AI promotes positive change in individuals or groups.
Vision	What participants see as the future goals, which are identified during appreciative interviews and used to develop provocative propositions (possibilities about the future).

22 Photovoice methodologies for social justice

Shose Kessi, Debbie Kaminer, Floretta Boonzaier and Despina Learmonth

Introduction

In this chapter we explore the use of Photovoice methodologies for working in marginalised contexts in South Africa. Photovoice is a participatory action research (PAR) method through which members of a community come together in a facilitated process to produce stories of change in and about their communities. The stories are based on photographs accompanied by captions or longer narratives created by the participants in Photovoice projects. Drawing from our experiences as psychologists working with communities in the Western Cape, we provide some practical examples of how Photovoice can promote empowerment, critical consciousness and social capital in marginalised communities oppressed by unequal access to resources. The groups in question are very varied and examples are drawn from our work with individuals in the street-based sex trade, young black women who identify as lesbian and bisexual, black students in higher education, and learners living in areas with high levels of gang violence. As an approach rooted in PAR, the potential benefits of Photovoice projects are largely determined by the possibilities and constraints of community participation. This is often dependent on contextual issues, the characteristics of the communities involved, and the roles and responsibilities taken on by researchers. All of these components are intrinsically tied to how projects are designed, implemented and sustained and the degree to which they can contribute to policy shifts and social change.

Background

The current wave of student movements in South African universities has brought to the surface the need for social science research that is relevant to a rapidly changing society. Fuelled by the imperatives of decolonisation, questions of knowledge production and research practices that have an explicit agenda of social change and social justice are becoming critical sites of debate for transforming our work in the context of a postcolonial society. This chapter looks at the role of Photovoice as a theory–method that can provide a powerful tool and process for a social justice framework by disrupting the epistemological violence often produced

and exercised against people and places that are researched. As a PAR method, Photovoice acts as an interlocutor between knowledge projects and lived experience. It engages people to participate in the changes they want to see take place in their environments by taking an active and ownership role in the research process.

The process of participation has been a key concern for psychological research (Campbell & Jovchelovitch, 2000). Power relations between researchers and participants, between participants themselves, and between participants and other stakeholders in the broader environment of a research project all mediate the possibilities for participatory work to have its intended effects. Working with communities that are marginalised from access to resources means that participation must have an empowerment and awareness-raising function, giving people a voice that is heard and recognised in their social environment (Seedat, Suffla & Bawa, 2015). In this chapter, we present what we mean by participation, empowerment, critical consciousness and social capital as the key conceptual tools guiding PAR projects, followed by a description of the Photovoice process and practical examples drawn from our work with marginalised groups in Cape Town and its surrounding areas. In doing so, we highlight the sociopsychological dimensions of Photovoice that are particularly appealing, such as the role of representation, recognition and affect, which not only contribute to strengthening participatory forms of work but may also shed light on the imperative of decolonising the social sciences in South Africa.

Participation, empowerment, critical consciousness and social capital

Since the dismantling of apartheid in South Africa and the emergence of a democratic dispensation, participation in the social, economic, cultural and political life of the nation is a right for all citizens as enshrined in various ways in the Constitution and marked by the first democratic election in 1994. Hence, in the process of decolonisation, we see participation as a political process that challenges the oppressive structures and lived experiences of disenfranchised groups. However, participation is not simply the ability to cast a vote. As witnessed in the last 21 years of democracy, change has been slow and much inequality and discrimination has persisted. Thus, to better understand the possibilities and limitations of participation, we must engage with the more intricate ways in which some people remain excluded from access to resources whilst others retain their wealth and privilege. Power relations between people and between groups on the basis of race, ethnicity, gender, ability and sexual orientation, amongst others, are played out in ways that mediate people's ability to participate in society and the decisions that impact on their lives. On a more global scale, power relations between nations also mediate the extent to which democratic governments can exercise their autonomy and meet the demands and needs of their citizens, which has an impact on local contexts (Campbell, 2006). PAR seeks to disrupt these power processes in ways that promote the participation and control of individuals and groups over their lives, and where participation is the power to represent

oneself (Howarth, Andreouli & Kessi, 2014) and to gain recognition and access to the resources needed for change. Nevertheless, people are generally not immediately aware of what needs to change and how to go about it. Hence, a participatory process is also one in which people's daily lives are discussed, solutions are debated and action is taken towards particular goals. Empowerment, raising critical consciousness and building social capital are three mechanisms that bring together the social and psychological tools to enable this process to unfold (Table 22.1).

Table 22.1 Definitions

Term	Definition
Empowerment	Both an individual psychological state and a social process. It is a mechanism by which individuals and communities are inspired to act towards social justice, are engaged in activities that promote their well-being, and feel confident and in control of their lives.
Critical consciousness	A process of action and reflection to understand how individuals are shaped by the social context in which they live and how this context impacts on their daily realities. Through this process, individuals develop a realistic understanding of the possibilities and limitations of change and use their imagination towards creative acts of resistance.
Social capital	This refers to levels of trust and reciprocity in the community and common norms and beliefs. These can exist through interpersonal relationships or community groups and associations and are indicative of the levels of participation in communities.

Source: Authors

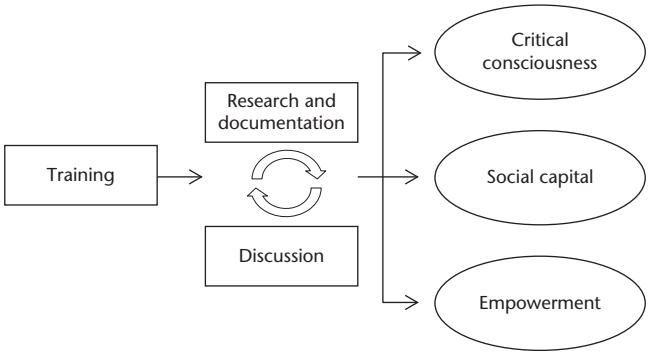
Through empowerment, critical consciousness and social capital, PAR engages participants to represent their experiences and become involved in social action in a context where they are being recognised by others and where they begin to see themselves as agents of change in their communities.

Photovoice as PAR

Photovoice is a particular PAR technique that seeks to apply the above concepts and methods with groups of participants from various communities. The attractiveness of Photovoice is the use of photographs and audio or written captions as a way of collecting the narratives of people's lived experiences. In a typical Photovoice project, researcher and participants come together to discuss their day-to-day lives, focusing on aspects of their environment and circumstances that they see as limiting and/or enabling their participation in social life. The researcher facilitating the process in consultation with the participants may choose to focus on a specific theme (e.g. experiences of selling sex) or take a broader approach (e.g. what are the assets and challenges in your community?), depending on the aims of the research and the priorities articulated by the participants involved.

Participants are then given cameras and trained in some basic photography techniques and theory – framing, lighting, composition/how to represent ideas and experiences in a photograph. Once participants have a good grasp of how to use the cameras and ideas on what photographs and stories they wish to tell, they are given a set timeframe in which to take their photographs. On regrouping, participants present to each other the photographs they have taken and share the stories they wish to convey. In these sessions, participants are probed for more information or explanation on the circumstances or causes that led to their story. This process may lead them to take more or different photographs and to modify their captions until they feel they have reached a final production. Once completed, the photographs and captions are showcased in a photography exhibition open to the public, where emphasis is placed on raising general awareness and inviting key stakeholders whom participants may not ordinarily have access to. The exhibition is a central component of the process and aims to raise awareness and sensitise the public to the priorities articulated by participants. It is also a celebratory moment to recognise the knowledge, capabilities and creative skills of the photographers and how they have contributed to change. The Photovoice impact model illustrated in Figure 22.1 depicts how this process unfolds from the initial photography training, the cyclical nature of the critical discussions of stories documented through photographs, and the envisaged impact on participants marked by increased levels of critical consciousness, social capital and empowerment.

Figure 22.1 Photovoice impact model



Source: Adapted from Catalani and Minkler (2010)

How does this process challenge power and promote social justice?

The following examples are drawn from Photovoice projects that we, as staff members of the University of Cape Town (UCT) Psychology Department, have been involved in.[1] These projects reflect on how power relations can be disrupted in Photovoice research projects and lead to the production of new knowledge, ultimately espousing a social justice agenda. In discussing these projects,

we demonstrate concrete ways in which critical consciousness, empowerment and social capital are put into practice.

Case 1: Experiences of black students at UCT

This Photovoice project explored daily experiences of black students from diverse racial and gendered backgrounds at UCT. The project was initially inspired by the need to address racialising discourses of low standards attributed to black students in anti-affirmative action campaigns, but through the students' voices, the project evolved into a broader focus on a decolonised university. The project started in 2013 following the affirmative action debate at UCT and before the Rhodes Must Fall (RMF) movement emerged. It lasted until the end of 2015, the year that the statue of Cecil John Rhodes was removed from the campus. In the first focus groups, participants were asked to share their views on UCT's affirmative action policy and how the negative depictions of black students may have affected them. This was a way of leading them into a conversation about their experiences, which then evolved into a discussion on what is meant by transformation in higher education spaces. As the project evolved, subsequent groups were asked to explain what was meant by 'black pain' (a term often used in the 2015 student movements) and to share their views on what a decolonised university might look like.

During the discussion groups, participants spoke about their common experiences of exclusion at UCT, mostly enacted by other students and staff, and built a network of solidarity amongst themselves. One participant noted, for example, that

> You have, 'black people are stupid' or 'why do we actually allow them to come to universities?' Now with all these debates, race-based policies, even if you try not to think about it they still really affect you.

Also, through guided facilitation, participants explored the possible causes of their situation and spoke about the whiteness and patriarchal nature of institutional culture and symbols, the Eurocentrism of the curriculum, and the lack of black staff in academic positions. As one student pointed out:

> Our curriculum is still from a western perspective. You look at most of the lecturers we have, I'm a third-year student at UCT and I've not been taught by somebody who's black or someone who's of another colour.

These discussions were empowering as they encouraged students to move away from a victim-blaming approach that located their feelings of alienation as something that existed inside them as individuals (low standards), towards explanations that had to do with the limitations of the institutional environment.

The photography exhibitions and subsequent public presentations about the project raised awareness amongst other students, staff and, in particular, senior members of management whom the students would not usually have access to – and subsequently led to many debates amongst students, academics and decision-makers in the institution, particularly in the context of the RMF movement. During the exhibition, participants also had the opportunity to present their work and speak about their experiences of the project to the audience,

thereby gaining recognition for their work and experiencing themselves as agents of change in their community.

Through the telling of stories and the different elements of the project, participants challenged power dynamics in terms of interpersonal relations (with students and staff) and structural power processes (institutional symbols and culture), and felt empowered by being heard and seen through their own representations and through having control and ownership of the process. The photostory in Figure 22.2, about the statue of Cecil John Rhodes on UCT campus, is a powerful illustration of the impact that cultural symbols such as artefacts and language can have on black students and how the reification of these is disempowering and channelled through their relationships with white students.

Figure 22.2 Statue of Cecil John Rhodes on UCT campus

Standing in front of the statue of Cecil John Rhodes, I still felt the power of the colonisers on my colonised forefathers and myself in contemporary South Africa. In taking the picture, I was still positioned in a lower position of both the statue and my white fellow students standing next to the statue. This elevated their position in relation to me, and the Jammie stairs was a metaphor for the upward mobility of black people and how that meant that whiteness or the colonisers' position needs to be aspired to. The fact that I adjust my accent and continuously refine my English is a reflection of this and the black person's positionality in this institution.

Case 2: Young black women representing their identities

This work engaged a group of young black isiXhosa-speaking women aged between 13 and 17 years from a semi-rural, working-class community about 70 kilometres outside Cape Town. They identified as lesbian and bisexual and were invited to explore their experiences and identities. The participatory nature of the project was essential to work against dominant representations of young people in the work on sexuality and gender, especially work that represents black lesbian women through the lens of 'risk' and victimhood. Over a number of weeks, the participants discussed their lives as young women who identify as lesbian and bisexual in their particular community and developed photo-stories relating to their experiences, including violence and discrimination experienced at school and in the community. During the group discussions participants were asked to think about the stories they would like to tell about their lives and how they might represent these through photography. A professional photographer provided photography training and accompanied them on a photographic excursion to practise their skills and plan their photo-stories. They were given a camera for one week, engaged in group discussions about their photographs after taking them and produced a written narrative to accompany their stories. They were also interviewed individually (Figure 22.3).

Figure 22.3 Being a lesbian is not a curse

> I . . . believe that being a lesbian is not a curse and I will grow up a lesbian, I am proud of my personality, I feel comfortable when I am wearing like a boy, I hate wearing skirts, even at school I wear boys' trousers.

The method allowed the young women to discuss their experiences of violence and discrimination in a safe space but also to foreground their agency by highlighting the many ways in which they resisted and challenged the discriminatory practices they encountered (Boonzaier & Zway, 2015). In the quotes that follow, participants talk about the expectations others have of them to display 'appropriate' femininity through their clothing and style of dress and how they challenge these expectations.

> Like, I first . . . told my mum . . . when we go shopping . . . , like go and buy clothes, like my mother showed me some dresses and skirts and . . . I said no mommy man, I don't like it. I just want shorts and my mother, that's when . . . she realised like, Akhona [pseudonym] what are you actually? I told my mother I am this person and I am a lesbian and then my mother asked, she wanted to see my girlfriend then, we went then.

> . . . as long as both my parents leave me to wear boys' clothes and they accept me as their child I thank them and I'm proud. I'm proud because they supported me and I'm proud being a lesbian, no one can stop me, no one can change me. If she/he loves me, she will love me the way I am.

Another participant wrote a photo-story in which she spoke about discrimination at school and the expectations from her teachers that she wear an 'appropriate' uniform for a girl. In Figure 22.4, we see her providing some resistance to this expectation by wearing the dress with takkies (sports shoes) and long grey socks, as well as turning her back to the camera.

The group discussions also facilitated the development of a critical consciousness about the effects of patriarchal and heteronormative constructions of gender and sexuality in their lives and relationships. The young women ran an exhibition of their photo-stories in their local community and used this as a further opportunity to raise awareness and challenge oppressive practices amongst friends, family and teachers. They were empowered through taking ownership of the public exhibition of their work (Figure 22.5) and using it as an opportunity to springboard further dialogues and awareness-raising in their schools, communities and beyond. Participants were also invited to present a workshop about their experiences to students training as teachers at a local university.

Figure 22.4 Expectations to 'dress like a girl'

> At the school we don't feel well because some of the teachers are very homophobic people. At school I am wearing the grey, I don't wear the uniform/skirt because I don't feel comfortable when I'm wearing skirt.

Overall, the narratives and photographs the young women produced and their experiences of participation worked to counteract dominant objectifying narratives of victimhood about them and their lives as young, black, lesbian women living in a South African township (Zway & Boonzaier, 2015).

Case 3: Through the lens of marginalised women

Despite South Africa's comprehensive human rights Constitution, human rights violations continue to occur daily. Women, particularly black women, are the most vulnerable to these violations, and poverty and oppression often mean that selling sex becomes one of the few alternatives for earning money. Women

Figure 22.5 Participant at an exhibition planning workshop

selling sex are frequently stigmatised and ostracised from their communities. This can lead to a disempowered sense of worthlessness and 'victimhood' (Learmonth, Hakala & Keller, 2015).

This Photovoice project involved eight black women from a non-governmental organisation which advocates for legal reform to end the sex trade in South Africa. The organisation also supports women navigating the process of exit from the street-based sex trade. The participatory nature of the project was vital in creating the space for the women to explore the ways in which they could develop their own sense of agency through promoting empowerment and social action in various spheres of their lives, and thereby contribute to their communities.

In an initial focus group, the participants engaged in discussions about their daily lives and their experiences of power. The focus was particularly on the lack of social capital in their communities, and the stigma and other forms of violence that they were subjected to. After a short Photovoice training course, the women developed their photo-stories, which conveyed multiple experiences of living in poverty, violence and selling sex. Many photographs were taken, and from these the women decided which photos best captured the stories that they wished to tell.

The photo-stories in Figures 22.6a to 22.6c illustrate the importance of building safe spaces in their communities, especially for women and children, and their roles as women who contribute to making this happen. The discussion that followed the development of the photo-stories facilitated critical consciousness-raising around their own identities, power, connectedness and visibility. From their stories, we learnt that experiences of sexual violence are widespread.

Figure 22.6a Places where our kids play must be safe

The park is not safe, but the kids are playing there. You as the community can talk and give each [other] advice on how you can keep your kids safe when they are playing in the park. We as community watch our kids when they are playing. A place where our kids are playing must be safe and we watch them. A place where our kids play they must feel safe when we are watching them. A place where our kids play must be safe for our children. The future of our children must be safe. A place where they play is the place where they feel happy and safe. They don't get into drugs, they are safe there.

Figure 22.6b A story of rape

This is a story of my friend who was raped. The day that this guy called her, she didn't realise that the guy called her to rape her. When she got there the guy took out a gun and pointed it at her and said they must go to the forest. He was pushing her, her community was watching her,

and he left with her while everyone was watching. She came back and she locked herself in her room and didn't want to talk to anyone. I was forced to kick the door in so that I could talk to her. It was not easy for the both of us, because she did not know what to do.

Figure 22.6c The place that I stay at is dirty

The place that I stay at is dirty, and the children are playing in the water. They are also bathing with this water and then they get diseases and are being eaten by mosquitoes . . . There is a guy who was staying there and they found him and he was taken to the hospital and then he died.

The women helped facilitate the first exhibition of their photo-stories on a significant public holiday, Women's Day. After this first event, the women raised their voices and took complete ownership of their work: facilitating workshops based on their photo-stories, hosting more exhibitions and taking their stories to parliament. Through finding their own stories, and then being seen and heard through these images and stories, the women developed a greater sense of personal agency and a desire for activism. Subsequently, this flowed into a transition in their experiences of their social position in their respective communities, from one of being marginalised and stigmatised to the potential of being a respected peer and an integral member of the community.

Representation and affect

A fundamental concern in disrupting power relations is the politics of representation and affect. This is important in postcolonial contexts where the operations of power and privilege often silence particular voices, as highlighted in Spivak's (1988) renowned essay 'Can the Subaltern Speak?'. In Photovoice

projects, the visual aspect is a powerful way of enabling participants to represent their own lives rather than being represented by others (e.g. researchers), an especially important element for marginalised groups whose experiences are often depicted in derogatory and stigmatising ways. Furthermore, the affective element is also significant as photographs often convey experiences that cannot be told through words. We argue that these dimensions of Photovoice enhance the participatory process in creative ways that are appealing and captivating and foster a deeper understanding of participants' lived experiences.

Case 4: Learners' representations of their community

This Photovoice project explored youth representations of community challenges and resources in a low-income, violence-prone residential area of Cape Town. Research on youth risk and victimisation in South Africa often adopts a 'deficit' model, focusing on factors that render youth vulnerable to harm rather than on assets that may promote youth resilience and empowerment. Further, South African research with youth has predominantly utilised standardised structured scales developed by adult researchers, based on their assumptions of what issues are salient for youth, and offering limited response options (Theron & Theron, 2010). Relatively few studies have adopted a more participatory approach which allows for the exploration of how young South Africans experience and make meaning of their social world, and for the facilitation of youth agency in highlighting issues of concern to them and participating in the development of solutions.

The project partnered with a community-based organisation in Hanover Park, a largely coloured[2] residential area that was formed during the process of forced removals under apartheid. In addition to high levels of unemployment, it is characterised by recurrent and frequently lethal gang violence linked to the illegal drug trade. The organisation runs a number of community development programmes, including youth development initiatives with school learners, which aim to offer an alternative to a developmental trajectory towards gangsterism and drugs. Eight Grades 10 and 11 learners who were members of this organisation participated in the Photovoice study. In an initial focus group discussion, participants reflected on what they perceived to be the greatest challenges to their community, as well as aspects of the community that they valued and were proud of. After receiving basic training in photography skills and discussing the possible dangers and risks that they might encounter when taking photographs around the community, participants were asked to take photographs of 'things in my community that I am proud of and things that I would like to change'. In a series of photo-elicitation interviews (Clark-Ibáñez, 2004), they then developed narratives about their photographs.

The photo-narratives revealed a tension between reproducing denigrated and pathologised representations of the community as crime-ridden, dangerous and dirty, and actively resisting and disrupting these representations. Some of the photographs and narratives focused on gang activities, drug use, neglected buildings and environmental hazards such as uncollected refuse, and the ways in which these restricted young people's freedom and sense of safety (Figures 22.7a and 22.7b).

Figure 22.7a Polluted environment

It [litter] affects Hanover Park very much coz people could get diseases from this dirt. Children's [and] babies' lives are in danger coz babies gets um ill very easily because of the dirt . . . the children play here around and it's dangerous because there could be glass cutted here or um the dirt it can give them some sort of illness

Adults is supposed to set an example like for the yongsters, but they are actually like throwing the dirt and then the children also sees they must do that and they think it's actually the right thing to do.

Figure 22.7b Writing on the wall

> Graffiti makes the place look untidy.
>
> They [gangsters] are famous like writing on the wall, and now for a small children it's like you, ja, you are big, you writing on the wall, you wearing a certain kind of clothes and you your style is baggy and like the – they that are cool for them and now they are falling in the same, in the same way and tomorrow it's smaller and smaller and smaller kids doing the same and writing on more walls and they don't just write on the walls, they will write on their mother's kitchen table also.

However, participants were aware of how Hanover Park might be perceived by outsiders and sought to disrupt stereotyped and limiting depictions of their community by deliberately choosing images of community gardens that sought to beautify the area, and different forms of social capital such as neighbours helping each other through initiatives like soup kitchens (Figures 22.8a and 22.8b).

Figure 22.8a Beautifying with gardens

> They just see the bad and they think the community's dirty, like they don't see this [gardens]. You see if they see that it will change their whole mindset.
>
> Ja, the green, it's a symbol of growth, like you see here, she starting her own garden.

Figure 22.8b Looking out for each other

> This is two ladies dishing the food for the people standing in line. This people is actually wanting to make a change like and feed the needy. That is important also because you can't always think of yourself and then there's people that is in need . . . I think it's just like helping hands, people looking out for each other.
>
> I just felt like I wanna like show the people that there is people that has positive effects in the community not only negative effects.

The learners were eager to exhibit their photographs at their school during a school event, wanting to highlight aspects of the community that they felt required action and advocacy, as well as community assets that needed to be recognised and promoted. Reflecting their concerns about how the image and identity of the community may be influenced by physical signs of neglect and waste, they also proposed starting a community clean-up project, in which they would engage other youth in creating clean, safe and hygienic spaces where children could play. Before either of these plans could be put into action, gang violence in the community escalated, and recurrent street shootings forced many learners to stay home from school for several weeks due to realistic fears about their safety. By the time the gang violence lessened, the school year was over and the researchers were unable to gather the group together again for further planning. Despite the participants' development of critical consciousness regarding community identity and representation, in this instance realistic contextual challenges limited the degree of agency and empowerment that was available to participants to effect social change.

Analysing Photovoice data

Analysing the data from Photovoice projects can take many forms. Similar to other qualitative methods, researchers can choose to use a thematic or content analysis to make sense of participants' photographs and stories in order to situate the challenges and assets in their communities. This is often a useful first step in the analysis. Other approaches, such as discourse and narrative analysis, are also valuable when making sense of the identity and power dynamics that come across in participants' testimonies through their choice of language and images.

An important part of Photovoice, however, is the process of participation. As shown in the above case studies, researchers may want to investigate processes of empowerment and critical consciousness, the state of social capital in participants' environments and the politics of representation. This would typically be a secondary level of analysis that could include a case study approach – for instance, to investigate changes in participants' lives during the course of the study. Ultimately, the approach to data analysis has to be based on the actual data collected and the kinds of questions the research aims to address. A practical approach is to frame a Photovoice project as an ethnographic study, with multiple methods and different levels of analysis.

Ethical considerations

As with any research endeavour, it is important to consider ethical questions. For PAR methods, and in this instance Photovoice, ethical issues are particularly interesting given the shifting of the role of 'researcher' to the participants. This means that the researcher becomes responsible for ensuring not only that participants are protected but also that they act in ethical ways towards others when they produce their photo-stories. In addition, visual methods such as photography bring up particular concerns that may not arise in more mainstream forms of qualitative work. The following are key ethical considerations for Photovoice research.

Consent

While taking photographs of objects or places usually presents a low risk to participants, taking photographs of other people may incur risks. Before the participants are given their cameras, the group facilitators should discuss with them how to make safe choices about what and whom to photograph. This should include discussions about the need to obtain verbal consent from people they may wish to photograph, acceptable ways to approach someone to take their picture and how to judge which situations may entail risk. Participants should be specifically instructed not to trespass on others' property, and not to photograph any illegal activities that may provoke a threatening response.

Safety

In contexts where the safety of participants is a concern in the Photovoice process, certain strategies can be put in place to minimise this risk. In the Hanover

Park study, high levels of neighbourhood crime in this residential area meant that there was a potential risk that the participants might be robbed of their cameras while out taking photographs. In order to reduce this risk, participants were instructed to always have an older family member, a friend or a fellow participant accompany them when they were taking pictures outside of their homes or schools. Participants were asked to identify who these potential companions could be, and parents were informed of this requirement in the parental consent letter.

Another strategy is to organise fieldtrips with participants during which they can take photographs within a group context. In the project with women involved in the sex trade as well as in the project with lesbian and bisexual youth, the researcher and a professional photographer took the women on a photography-training fieldtrip to an informal settlement. This enabled the participants to build confidence and communication skills within the safety of a group, which they could then subsequently use in their own communities.

While safety requirements are likely to place some limitations on the types of photographs that participants are able to take to represent their communities, ethical concerns regarding participants' safety have to take priority over methodological preferences.

Power and representation

Finally, discussions on the politics of representation should form an integral part of a Photovoice project. For example, photographs of children or vulnerable persons should preferably be anonymised or omitted from exhibitions to protect their identities and dignity. However, such decisions are not always straightforward and should form part of the participatory research process. In the study with black students at UCT, some students were adamant that photographs should not be modified, especially when they portrayed nudity as a political act. Others preferred to protect their identities by taking more abstract photos from fear of victimisation in a context of uneven power relations.

Issues of ethics, power and representation are particularly salient in research that involves working with children or young people. Getting such research through university ethics boards can be an onerous task. The challenge for the researcher who aims to centre or privilege the voices of young people is amplified, especially through encounters with disciplinary ethical demands that tend not to see children as agents but rather as those in need of adult protection. We encountered this issue very powerfully in the study with the lesbian and bisexual adolescents. Many of the young women in the study chose to include self-portraits in their photo-narratives. These portraits represented their visibility, pride and pleasure and thus were central to the stories of identity that they were constructing. The participants very proudly displayed these photo-stories at the public exhibition in their community. However, the ethical conditions on which this research was passed stipulated that any publications arising from the work should blur the faces of participants and others in the photographs. We sat with the discomfort of this condition in writing a paper emerging from

the work, with the awareness that blurring participants' faces would render them invisible and reproduce the very power dynamics that marginalise and silence black lesbian and bisexual young people in the first place (Zway & Boonzaier, 2015). In the end, we decided not to include any photographs where we were required to blur participants' faces.

A related ethical issue is how to 'protect' young people who may be carried away by the momentum and excitement of the project and who may share too much and make themselves vulnerable in the process. How are we to guard against this without reproducing the very binaries and power relationships that we endeavour to contest? This remains a challenge for researchers undertaking Photovoice work, especially with marginalised communities, children and youth.

Connected to this challenge are issues surrounding the way in which the cameras may create a distance between the viewer and what is being viewed. The subject of a photograph can too easily become an object. Through this objectification there is often a transfer of power; photographs last much longer than the moment they capture, and once they exist they can take on a different reality to the one intended by the photographer (Harley, 2012). Care must be taken to prevent images being later manipulated or misused, especially to avoid replication of the binary mentioned above.

While participatory methods such as Photovoice hold much value for working with young people and marginalised communities in ways that allow for the centring of their experiences and the acknowledgement of their agency, reflexive practice is essential for ensuring we are measured in the claims we make about its successes as well as for ensuring that we don't reproduce the very arrangements that we set out to problematise.

Conclusion

As illustrated by the concepts and empirical examples presented in this chapter, Photovoice has the potential to contribute not only to the epistemological project of documenting how participants construct and experience their social worlds, but also to the political project of providing a space for diverse marginalised communities to have voice and agency in forging and contributing to a social justice agenda. As a group-based participatory methodology, Photovoice promotes collective critical consciousness and empowerment through dialogue and representation, mobilising and inspiring participants into social activism that can improve their lives. Photovoice projects also facilitate a collaborative relationship between researchers and participants, with researchers sometimes taking up an advocacy role in relation to the work being engaged (Moletsane et al., 2007) and disrupting existing power relationships where researchers are usually positioned as the 'experts'. Instead, this approach foregrounds the importance of social capital – forging partnerships between researchers, participants, existing organisations that represent the interests of marginalised communities, and broader community stakeholders.

Ultimately, the degree to which Photovoice projects can result in real policy shifts is dependent on all these components working together. This is not an easy task, and the possibilities and limitations of each project depend on a variety of factors often related to the material, organisational and environmental resources available. In our experience, Photovoice projects work best in communities where there is already a degree of organisation or conscientisation taking place. In these conditions, Photovoice can serve as a springboard for groups to advance to the next level of social action.

The current climate of transformation and decolonisation in South African higher education presents real possibilities for these types of projects to gain traction and support. How people participate in claiming the material and symbolic resources that they need and how they disrupt social inequalities are intrinsically linked to knowledge projects that promote a social justice agenda. Social science research in South Africa needs to engage seriously with participatory and creative methods if it hopes to have any impact on developing policies and practices that matter in people's lives.

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Notes

1 To ensure participants' anonymity, their names are not given.

2 The term 'coloured' refers to the apartheid racial category designating people of mixed racial heritage.

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23 Action and community-based research: Improving local governance practices through the community scorecard

Diana Sanchez-Betancourt and Elmé Vivier

Introduction

The community scorecard method speaks to the emancipatory potential of doing research that falls within a broad typology of action and participatory research. It is driven by a concern with how the research process can contribute to the development of knowledge while at the same time be relevant for and potentially improve local realities and livelihoods. Action and participatory research practices emerged in the second half of the twentieth century. These often contributed to developmental and self-transformation interventions, especially in rural and community development in the global South. Tools and concepts for doing participatory action research (PAR) are now promoted and implemented by many international development agencies, researchers, consultants, civil society and local community organisations around the world (Access Alliance Multicultural Health and Community Services, 2011). There are important differences between 'action' research and 'participatory' research. Action research does not necessarily entail participatory methods, and participatory research does not necessarily result in 'action'. With the growing attention to and application of PAR has also come a proliferation of labels and acronyms (Dick, 2010), too many to list here. While there may be variations in emphasis and nuance, the terms 'community-based research' (CBR) and 'participatory action research' are often used interchangeably. We follow this approach in referring to the kinds of research methods oriented around participation and transformation.

The chapter begins with an examination of the elements of PAR/CBR. Thereafter we describe the implementation of the community scorecard in Cape Town, drawing on the steps and rationale we followed as the researchers who designed and facilitated the process. As will be discussed, the community scorecard is a method used to bring together government actors and communities (residents and local leaders) to evaluate the provision of services. In international practice, it is considered a valuable monitoring instrument to measure the quality of public services through a comparison of citizens' and government officials' experiences (CARE, 2013). It begins with participants developing the questions that will comprise the 'scorecard', then using the scorecard to evaluate a service, and finally comparing scores and experiences with one another. Given the limitations of participatory mechanisms currently applied in South

African cities, the community scorecard was employed within the local service delivery process in order to push for direct engagement between officials and citizens. The focus was particularly on informal settlement contexts where residents increasingly express frustration towards researchers parachuting into their communities and providing little if any immediate benefits.

While the community scorecard focuses on local service provision and community participation, it – and PAR/CBR methodologies in general – may be relevant to many other contexts and aims. This chapter will therefore be useful for anyone working on activism towards improving the quality of life in marginalised communities, or for anyone interested in exploring different ways in which research processes, products and participants could come together to inform existing knowledge, produce new insights and have an impact. Specifically, the reflections on the scorecard offer insights into a process where the design is open, flexible and adapted as it unfolds, the role of the researcher shifts to that of 'intermediary', and dialogue and participation bring new perspectives and understandings. We conclude the chapter with specific recommendations for undertaking scorecards and reflect on the benefits and limitations of this method for the South African context.

Participatory action and community-based research

Participatory action and community-based research propose a fundamental reconfiguration of research principles and practice, including how research is done, who conducts and controls research, the value and purpose of research, and what constitutes valuable research knowledge and evidence. According to Dick et al. (2015, p. 38), this provides not simply a research method but a meta-methodology or 'orientation to inquiry'. As a collective and self-reflective process (Minkler & Wallerstein, 2003), these approaches depart from conventional research in their emphasis on collaboration, transformation and reflection. Both in principle and in practice, these methods entail collaboration between researchers and communities, therefore validating different sources of knowledge. They aim to be transformative by enabling action and welcoming experiential learning and problem solving (Baum, MacDougall & Smith, 2006). Finally, they rely on continuous reflection as an integral part both of the actions undertaken and the critical distance required for analysis and scientific contribution. While particular PAR/CBR methods may vary (e.g. in the selection and combination of methods or tools used,[1] the outcomes desired and even the theoretical links made), conscientisation, activism and the acknowledgement of power dynamics are at the heart of this approach.

Collaboration

While PAR/CBR often combines a range of traditional, qualitative and quantitative methods (Lederman & Lederman, 2015), a key element is participation and collaboration. Participant agency and autonomy is thus valued and

mobilised in ways far beyond the provision of consent and is essential to analysing and addressing problems and solutions (Brabeck, Brinton Lykes, Sibley & Kene, 2015; Greenwood, 2012). Drawing from critical theory and constructivism (Kennedy, 1995), PAR/CBR challenges the researcher/researched binary and takes the epistemological view that knowledge emerges out of social relationships (Hawkins, 2015). PAR/CBR therefore invites communities to share control over research agendas and processes (Greenwood, 2012; Smithies & Webster, 1998). Hawkins (2015, p. 469) describes the 'initiating or facilitating researcher' who orients participants into the method and thereafter facilitates collaborative decision-making. The 'community of interest' (the community which the research is about) takes a leadership role whilst academics support the process as collaborators and mediators (Israel, Schulz, Parker & Becker, 1998). At a project-planning level, collaboration means the researcher cannot exercise 'unilateral control over its timing and effectiveness' (Greenwood, 2012, p. 127).

The literature looking critically at the impact of participatory research approaches has, however, noted a dearth of assessments to demonstrate the contribution of participatory techniques in fields such as health and interventions. Here, the few systematic reviews (such as those conducted by the Agency for Healthcare Research and Quality) have provided no clear evidence of the benefits of community participation to enhance research and health outcomes (Jagosh et al., 2012). As an open-ended process, however, PAR/CBR must be managed on the principle of trust, and it therefore seems best suited to projects with an aim to deepen trust between different actors.

In order to build trust and generate constructive participation, researchers must recognise the inevitable power imbalances between themselves and other participants, as well as amongst participants (Brabeck et al., 2015). Research is not a neutral process but a complex and politically engaged one where large inequalities (e.g. power around knowledge and resources) affect both the process and outcomes. As Cornwall and Jewkes (1995) explain, who defines the research problems, who analyses them, participates or is represented, and who 'owns and acts' on the information generated needs to be critically assessed when embarking on participatory research. For them, the key element of participatory research lies not in the method but in the attitudes of researchers, which in turn determine how, by and for whom research is conceptualised and conducted.

Transformation

Action research is oriented towards change. The possibility of transformation gives purpose to the collaboration and underpins an understanding of knowledge as action or 'actionable' (Dick et al., 2015, p. 38). It is a problem-solving process using a mix of scientific methods alongside the knowledge of those the researcher is expected to engage with. This transformation may occur in individual or social views, attitudes, behaviours or relationships, or in institutional systems and processes. From the perspective of the researcher, PAR/CBR is grounded in an ethical concern and conviction that research must benefit society (or some part thereof) beyond the principle of 'do no harm' (Brabeck et al., 2015).

The research process may also improve the conditions of participants in unexpected ways, and not simply in terms of the identified project outputs and outcomes. This may come in the form of connecting participants to legal, social or health services (as in the case of Brabeck et al., 2015), or subcontracting participants to provide catering during the course of the project, as in our project (see later). The manner of transformation may thus be subtle or unplanned, but it is an important distinction from traditional research practice. While the contribution to knowledge for the benefit of society remains a core mandate of science, PAR/CBR views the research process itself, and not only research outcomes, as a source of possibilities for change.

Reflection

Reflection is an integral part of the action and problem-solving process, but it also entails stepping back from the action in order to rigorously scrutinise the process. Levin (2012) refers to this as the Janus face of action research. On the one hand, the goals of transformation require individuals and communities to embrace a conscious and reflective approach to social phenomena and local circumstances. For the researcher, it means becoming actively immersed in the field. On the other hand, the researcher must also subject understandings and experiences of that participation to 'critical inspection necessary for scientific reasoning' (Levin, 2012, p. 134). 'Deep empathic and political involvement must be confronted with critical and detached reasoning' (Levin, 2012, p. 136). PAR/CBR is therefore also about critiquing itself (Hawkins, 2015). Managing this duality of reflection is essential for researchers to make a scientific contribution and raises the matter of rigour and trustworthiness.

The strength of participatory research is its orientation towards partnerships, transparency and openness to alternative explanations, all of which can be achieved systematically in order to counter researcher bias and ensure trustworthiness (Levin, 2012). This approach therefore does not forego the use of standardised methods and relevant scientific knowledge. PAR/CBR initiatives are still concerned with making sense of a particular phenomenon through the application of a methodology to generate and analyse data (Levin, 2012). A participatory approach may in fact overcome some of the limitations of traditional research methods, such as convincing study participants to share accurate and reliable information; accurately interpreting, analysing and validating data/findings; or accounting for cultural, linguistic and semantic nuances (Access Alliance Multicultural Health and Community Services, 2011). Scientific rigour and trustworthiness are furthermore achieved through the exercise of critical skills and key activities, such as keeping an analytical journal and forming research partnerships (Levin, 2012). Together, these engender continual discussion and reflection in order to question individual assumptions as well as confront ethical and political challenges in the research process.

Conscientisation, activism and power

Conscientisation and activism are two closely linked concepts relevant to PAR/CBR. Critical consciousness or conscientisation is a popular concept

in educational and social development, articulated by Paulo Freire (1970). It describes the process of PAR as one where marginalised people become critically aware of their social and political reality, in particular the configuration of power relations, and are potentially inspired to radically change reality (Sinwell, 2009). Conscientisation is therefore closely linked to the notion of activism, which refers to multifarious efforts to change and improve societal conditions. These may include various forms and practices of 'local organising, agitating, educating, and leadership-building' (Shragge, 2013, p. x), from marches, strikes and boycotts to political campaigning, writing letters to the media or politicians, and working in or with social movements. Entering the realm of activism requires by definition engaging (in collaboration or confrontation) with power dynamics. When challenging urban governance towards social justice, activists in cities like Cape Town, for example, need to acknowledge and manage power struggles that entail aspects such as class, race, political affiliation and social recognition.

In our project, framed under an action research approach rather than activism, conscientisation became the process by which participants reflected on their experiences, and became aware of the nuances of specific situations, and of the decisions and actions that might affect their current reality and status quo. Power dynamics between citizens (community leaders) and public officials naturally played themselves out, often resulting in moments of confrontation. As discussed in the next section, the researchers and facilitator managed these tensions as 'neutral' mediators. However, the idea of neutrality, impartiality or objectivity must also be scrutinised since the research team retained great control over conversations, agendas and, ultimately, some of the decisions that shaped the process and outcomes. The transformative aspect of the project was therefore shaped not only by the conscientisation of participants, but to a large extent by the power that researchers exercise in mediating dialogues, defining agendas and processing and presenting data to participants.

Furthermore, it is important to acknowledge that PAR/CBR processes happen not in a vacuum but rather in complex contexts where the theoretical and methodological pathways guiding the research may not be easy to follow (Van der Riet & Boettiger, 2009). They are often long and complicated and their implementation is far from perfect. Also of concern is that as the popularity of PAR/CBR increases, 'community-placed' projects may be sold to funders as 'community-based' approaches (Van der Riet & Boettiger, 2009). Furthermore, Cornwall and Jewkes (1995, p. 1673) highlight the problematic assumption that there is 'a community', understood as a more or less unified entity with representative structures. But communities are composed of diverse individuals, interests, capacities and tensions, where representation through local leadership may be challenged and blurry. Community cohesion is thus a mythical notion (Crawley [1998] and Guijt and Shah [1998], as cited in Van der Riet and Boettiger [2009]).

A common assumption in PAR/CBR approaches, as highlighted by Van der Riet and Boettiger (2009), is that engaging the most marginalised members of a community in a research intervention will further enable transformation.

Although prioritising the 'last' (Chambers, 1983) is an expression of this political and social dimension, it does not by itself ensure effective impact or fairness. Considerations of the local contexts and the roles and positionality of researchers and communities remain fundamental. In South Africa, for instance, power manifests through gender, age, level of education and the ability to speak in the same language (Van der Riet & Boettiger, 2009). This affects the capacity to collaborate, create spaces of trust, manage conflict or build consensus. Researchers in this context, such as Isobell, Lazarus, Suffla and Seedat (2016), suggest that research projects need to create spaces for sharing experiences of oppression and disadvantage in order to recognise these factors openly. Practical measures to nurture awareness of an appropriate response to the skewed nature of power include journaling processes through regular reflective writing; self-disclosure of the researcher's location in relation to power dynamics; and facilitating processes for the partnering community to also be reflexive in relation to their positionality (Isobell et al., 2016).

Overall, researchers need flexibility to respond to the messiness of local realities and to recognise their power and influence in the overall process. Implementing PAR/CBR involves personal, political and professional challenges that go beyond simply producing information (e.g. Cornwall & Jewkes, 1995). The impact of PAR/CBR will be determined more by the contexts, power dynamics and choices and actions of researchers than by the methods. Researchers, like us, carry a subjective experience and are influenced by aspects such as personal attitudes, background, training and the institutions we represent or to which we belong.

Ethics and ethical considerations

Although the above sections touch on various ethical elements of PAR/CBR, it is important to take into account how conventional ethical considerations such as informed consent, voluntary participation and ethical clearance impact the research process and outcomes. According to Reid and Brief (2009), requirements such as informed consent and the confidentiality requirements that go with it may sit at odds with the advocacy/activism that drives PAR/CBR. In their experience, expecting community participants to remain confidential, for instance, may exclude them by default from claiming their participatory role in the research, responding to research findings, or using the research for continued activism. This may defeat the purpose of PAR/CBR. They argue further that such traditional ethics requirements position research subjects as in need of 'protection', and thereby maintain 'the power difference between researcher and researched' (Reid & Brief, 2009, p. 83). However, involving subjects as equal participants means they become visible rather than remain invisible. Ethical considerations are also not finalised at the start of the process but are ongoing (Reid & Brief, 2009) and therefore require greater attention from researchers to 'monitor' the extent to which community participants remain involved, especially in the analysis and dissemination phases. It also means working closely with ethics

committees to ensure better understanding of these research methods (Wolf, 2010). In our experience, it was at the end of the project that we appreciated these considerations require more reflection and attention, since research ethics clearance does not necessarily ensure a holistic and relevant ethical approach. PAR/CBR entails complex processes, roles and outcomes that require researchers to constantly consider ethical implications and outcomes to strengthen the collaborative and transformative aspects of this method.

The community scorecard: Applying action and community-based research

During March and April 2015, residents of five informal settlements known collectively as The Heights joined city officials in Cape Town to experiment with a method called the community scorecard. The aim was to create a space for experiential learning in order not only to address specific service and public participation issues, but to support the potential for lasting transformation in how the city understands and approaches participation and delivers core services to informal settlements (Vivier & Sanchez, 2014). While indicators, scores and ideas for change were important outputs (and there was evidence of actual improvements, such as fixed street lights), changed perceptions and improved relations also emerged as significant outcomes. Transformative aspects thus included better understandings of communication processes and challenges; better and easier access between officials and leaders (exchange of cellphone numbers); changed perceptions of the complexities of delivery and maintenance of services; strengthened relations and cooperation between city departments; and more cohesive and empowered community leadership across the five settlements.

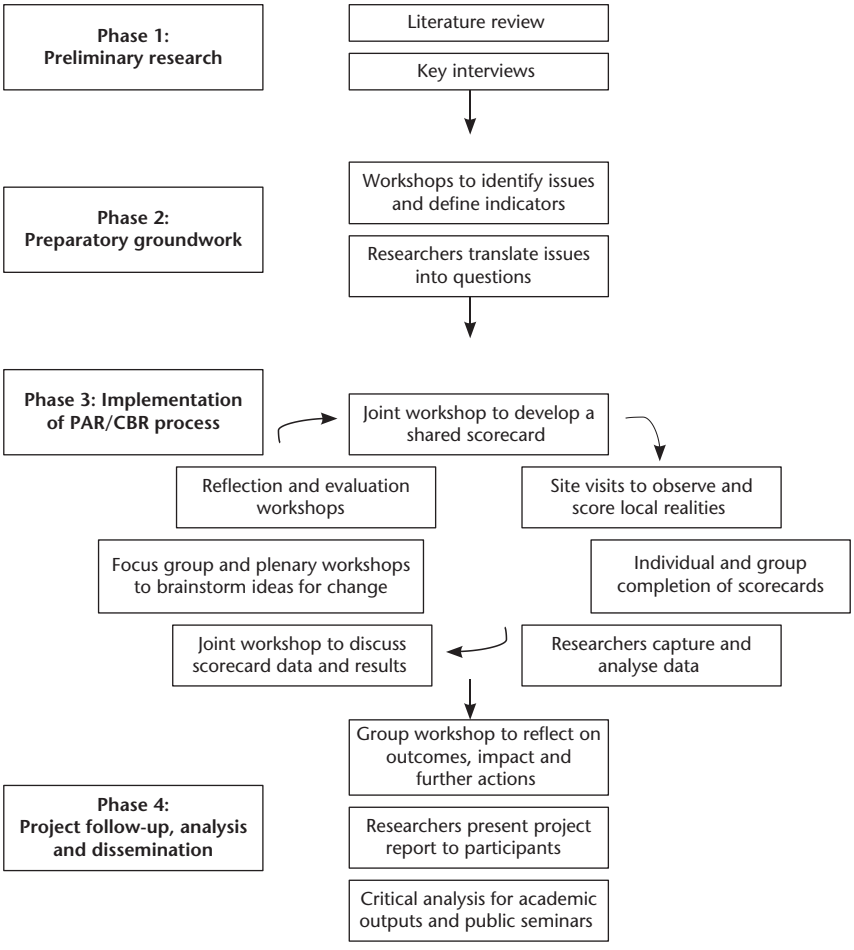
The project benefited from generous financial support (under National Treasury's City Support Programme), which allowed a flexible and realistic timeframe. This was further reinforced through the generous assistance (time, administrative support and knowledge) of the Utilities Directorate in the city, as well as the experience, time and access to facilities provided by overworked community leaders.

The core of the scorecard method was implemented in six weeks. However, months of background research and preparatory work preceded and followed the actual implementation activities. Overall, the process was organised around four broad phases comprising seven key activities, as shown in Figure 23.1.

Phase 1: Preliminary research

The identification of the scorecard as a method, and the selection of the five informal settlement areas as the 'site', emerged out of discussions between city officials, local politicians (area councillors) and the research team (two Human Sciences Research Council [HSRC] researchers). This was also preceded by several

Figure 23.1 Overview of the community scorecard process



Source: Authors

qualitative interviews with civil society organisations and academics across South Africa who work on public participation. Insights and advice from some of these individuals were also sought throughout the course of the project.

Whilst the process began with support and interest from the city, city officials agreed that the services to be scored should be chosen by the community. This was crucial for the project to be participatory from the beginning and successful in terms of the buy-in from community participants. However, decisions around the method and services were also informed by our own capacities and constraints, on the one hand, and by which government departments were committed and involved, on the other. Thus, while the process was opened up to collaboration with the city and communities, allowing for adaptations as it proceeded, such flexibility was also limited and trade-offs had to be made. Within the city, the process was championed by one department (Office of the Executive Director of the Utilities Department), and a group of relevant officials from

different departments comprised the 'city implementation team'. An external facilitator familiar with informal settlements and the city's institutional structures also joined the team to assist with the formal workshops.

Phase 2: Preparatory groundwork

Between August 2014 and February 2015, the researchers met several times with the chairpersons of the five informal settlement committees at a venue in one of the settlements. In the first two meetings, community leaders expressed their resistance to engage in 'yet another study' and aired their resentment towards being the subjects of research without getting much (knowledge or resources) in return. The researchers therefore introduced the scorecard as an intervention that would bring city officials into their areas for specific activities, but only if it seemed relevant for the communities. Limits of what could be achieved were also made explicit from the start.

Several informal visits and dialogues followed where researchers deliberately tried to open a space for residents to share their ideas and frustrations, regardless of whether these were immediately relevant in the researchers' views of the project. Conversations around expectations established some initial trust, and the meetings became more focused as they progressed. Main issues discussed were 1) concerns with service delivery and communication with the city; 2) the dynamics between residents, leaders, councillors and the city; and 3) the scorecard concept and whether there was genuine interest to implement a pilot. After considering methodological and logistical constraints, community leaders and researchers agreed to experiment with the scorecard, looking at the provision and maintenance of two services: electricity and water taps, with communication as a cross-cutting issue.

During these early meetings, researchers also consulted community members about logistics and the availability of local resources. For example, we decided to source catering from local providers so that resources would go directly into the community, and this was discussed with participants in an effort to remain transparent. While there was institutional (HSRC) scepticism about finding 'capable' providers in this impoverished area and resistance to implementing deviations, we identified the importance of pursuing this route and fought our way within the bureaucracy to make it happen. Each of the community representatives received an equal share for catering for the various meetings, and they had to collaborate and coordinate to deliver. Despite logistical challenges and bureaucratic hurdles, we believe it resulted in a sense of ownership, pride and agency among participants, which benefited the process considerably.

Phase 3: Implementing the community scorecard method

Defining indicators: Two separate workshops

The scorecard comprises a set of questions used to evaluate a service, which may in some ways be comparable to standard research instruments (e.g. surveys or interview and focus group questionnaires). However, as a *community* scorecard it is distinct since community and city participants are involved in the process of developing the questions. Using data and perceptions gathered in previous meetings, the researchers facilitated discussions with participants on their individual

experiences with water taps, electricity and government–community engagements. This workshop (held separately with the leaders and officials) aimed to refine key issues based on individual and shared experiences. Issues raised were recorded on a flipchart and numbered according to their importance for the group. The data and indicators currently used by the city were also reviewed in this process. These issues were then collated by the research team into a single set of 'indicators' and translated into questions to be refined at the first joint workshop.

Developing a shared scorecard: First joint workshop

This first joint workshop (which, like all shared meetings, took place in community halls rather than city offices) was conceptualised by the researchers and facilitator as an interactive meeting to create personal empathy to start developing trust and building more personal relations between citizens and city officials. Since some conflict was expected, the decision was to manage rather than suppress it. Ice-breaking activities that highlighted the human aspects of diverse individuals (e.g. personal interests and activities), alongside a relaxed language and physical set-up, were used to create personal connections. However, these efforts did not prevent some community leaders from speaking out, tensely and at length, about the city's problematic policies towards informal settlements. Some city officials were also quick to point fingers. While space was given for participants to voice their frustrations and ideas, these processes can never truly be equal and some personalities (on all sides) dominated, threatening at times to derail or co-opt the process. As researchers and facilitators, we had to be cognisant of this and try to 'manage' these conversations without suppressing discussion but also ensuring the discussion proceeded 'forward'. Although this also constitutes an act of power, we used the exercise of refining the scorecard to enable such interaction whilst continually bringing the focus back to this activity.

By this point we had drafted two preliminary scorecards – one for water taps and one for electricity – which were discussed and refined as a group. Every question was read out loud and projected onto a screen, and anyone could challenge, support or suggest changes to the question. Every suggestion was considered, and all questions were accepted into the final scorecard. The end results were two scorecards with a list of 14 agreed questions (Figure 23.2).

Observing and scoring local realities: Second joint workshop and site visits

The crux of the scorecard method is the 'scorecard day'. This was the space for participants to share their individual experiences while on site visits and to hear the perceptions of 'the other'. Most of the finer logistical details were decided only a few days prior, on the basis of the dynamics that had been unfolding. We considered levels of engagement, quality of dialogue, group energy, power dynamics and resource availability. The day comprised site visits with city officials and community leaders to the informal settlements, as well as separate group discussions between residents. Both individual and group scorecards were completed.

Figure 23.2 Section of the electricity scorecard

The Heights scorecard: Electricity					
Area:_____			**Name:**_____		
Measure/Criteria	**Bad** 	**Okay** 	**Good** 	**Reasons/ Comments**	**Ideas for solutions**
1. How are new electricity connections in your area?					
2. How are the electricity restorations in your area?					
3. How is the street lighting in your area?					
4. How is the city's maintenance of electricity equipment?					

Source: Authors

City site visits and scoring: Officials split into two groups and were given a scorecard per service to fill out based on their observations of the physical infrastructure and their discussions with residents. They were accompanied by the leaders, who guided officials through their settlements and facilitated dialogues with other residents. The 'inspection' of services was not a clear-cut process. Officials were not counting taps or street lights but rather 'getting a sense' of the overall service provision to the areas, and had the chance to discuss with leaders and residents why certain things were working – and not – in particular ways. However, from a methodological point of view, this meant the analysis of scores had to be understood as a 'guide' rather than a definitive account (in the form of quantitative statistics, for example) of the state of services.

It may also be argued that the community leaders – whose position and representivity is also not necessarily unchallenged or free from local power struggles – were given control over where the group visited and with whom they spoke, and thus limited the exposure of and access to officials. However, any residents who saw the groups were able to approach officials during the walkabouts. This happened on a number of occasions, and officials had to respond to both queries and angry complaints on the spot. On their return to the community hall, officials discussed their individual scores and observations and agreed on a consolidated 'city scorecard' per service for each of the settlements.

Residents' scoring: Additional residents who had been identified and invited by the community leaders (using guidelines and an invitation provided by researchers) joined the discussions on the scorecard day. Researchers facilitated group discussions that were divided according to settlement, and each resident was invited to fill in his or her own scorecard per service, as well as to discuss and agree on a collective scorecard that also included open-ended comments and suggestions.

Data capturing and analysis

Researchers captured and tabulated the data and comments from the scorecards, producing tables and graphs for the two services. Results were assessed according to themes, and enabled comparison of city and community evaluations; the general quality of water services versus electricity services; and the perceptions of services across the five settlements. We also looked at agreements (in both positive and negative scores) and disagreements. It must be acknowledged that the analysis of data, identification of findings and framing of issues for the final workshop were not collaborative processes but rather predefined by the researchers. However, consideration had to be given to time constraints between workshops as well as time demands on the part of community leaders and officials. This was, however, balanced by again allowing discussions in the final workshop to flow organically.

Discussing results and ideas for action: Final joint workshop

In the final joint workshop, researchers presented the general findings from the collected scorecards, highlighting positive evaluations, challenges and key issues. This workshop allowed for further dialogue between community participants and city officials, and across city departments. It provided a crucial platform for everyone to better understand how and why things work in particular ways. Invitations to this workshop were limited to community leaders and the city team. This was decided by the research team following the disappointment on the scorecard day that only a few residents (42 instead of the 80 expected) participated and were genuinely engaged in the exercise. After a group discussion of the results, community leaders split into five groups according to settlement and brainstormed ideas for how to address specific issues that had emerged. City officials simultaneously discussed their own proposals and moved around the different group discussions. The meeting ended with a representative per settlement presenting their ideas in plenary.

Although the workshop ran for almost a full day, the discussions took considerable time. A specific aim of the project had been to develop an action plan around service delivery and communication, but there was insufficient time at the end of the day to fully establish commitment from participants to the action plan. We therefore compiled all the suggestions into a plan for later discussion in the evaluation workshops, albeit without a clear 'exit strategy' for the research team vis-à-vis the role of the city. Given these limitations, it would eventually prove difficult to maintain the overall momentum and accountability created through the project.

Evaluating the process: Final separate workshops

Two final, separate evaluation meetings were held with community leaders and city officials to reflect on the pilot, especially lessons learnt and possibilities for the future. For the community meeting, researchers opted for a fairly unstructured, reflective discussion in order to have a creative space for final reflection. A more rigorous process may have provided more systematic reflections (useful for analysis), but it was decided to rather hear how the community leaders had experienced and understood the process. Leaders and residents were also invited

to again identify possible next steps in each settlement based on the ideas that had been recorded.

The meeting with the city was held in two sessions to accommodate the schedules of officials, allowing also for more in-depth reflections. Feedback included proposing follow-up meetings with residents, sharing the scorecard process with other departments and cities, and exploring the potential for trying another pilot elsewhere.

Although specific outputs and impacts, as noted above, have been welcomed as evidence of success, longer-term impact remains to be seen. Such impact might emerge as the interpersonal relationships between leaders and city officials are solidified. While critics may argue this is not sufficiently transformative as it does not challenge existing power configurations and development trajectories within which service delivery is defined and provided, our aim was to achieve changes at the micro scale. However, questions do remain as to how these changes could be measured and maintained.

Recommendations for implementing a community scorecard or PAR/CBR process

Following on the above description and reflections on the scorecard, we make a number of recommendations for implementing a community scorecard or a similar PAR/CBR method. As a first step, the desirability and feasibility of such a method should be decided, giving consideration to the particularities of context and circumstance. In particular, committed champions from the participant communities are essential. Thereafter, attention should be given to necessary preparatory groundwork and identification of key issues, design of discussion spaces and research instruments, data collection and analysis processes, as well as final reflection and dissemination activities.

Preparatory groundwork: Desktop analysis, observations and informal conversations in this stage will serve to assess power dynamics and availability of resources. Researchers should ask: What is the current situation? Who are the key 'stakeholders' and to what extent should different stakeholders be involved? It is important to be inclusive and mindful when inviting stakeholders to participate: consider language barriers, cultural protocols or expected formalities, and take actions to build trust and transparency.

Identifying issue(s): Stakeholders should define collectively the issue(s) or challenges to address within a process where power dynamics and different priorities and perspectives between participants are acknowledged. It may be beneficial to hold separate preliminary meetings with different stakeholders until they seem genuinely interested in collaboration. It is also important to frame the issues within the local context and current events (e.g. elections). A key question to ask is: What is the main problem and what may be related factors?

Discussion spaces: The creation of discussion spaces needs to be guided by physical, logistical and emotional considerations. This requires deciding who

should be part of each discussion and to what extent. It also means ensuring objectives are clear, mutually defined and agreed upon, but also accommodating new issues that come up. Researchers need to use the space according to levels of engagement, energy and trust on the day. Furthermore, they need to assess accessibility (how safe or accessible is the meeting place), condition (good working space) and any extra opportunities to create 'soft' social spaces (e.g. coffee breaks/lunches) for interaction where participants may interact in a more relaxed way.

Research instruments: Participants developed indicators for the scorecards in a collaborative manner, with researchers guiding the process through methodological considerations. This may be applied to the development of any kind of research instrument. It also entails assessing what language to use and if translation is needed/important.

Scoring (collecting data): Researchers need to set the conditions for participants to capture relevant data and potentially engage one another as part of the process. It requires preparing but remaining flexible and adaptable. Preparations will entail defining when and how to hold the exercise, considering logistics (distance, time, weather conditions, safety), and preparing all the logistics (transport, food, working material, photographic assistance). Taking pictures/short films of this exercise and recording observations, side discussions and any other ethnographic accounts is recommended.

Capturing data: Information should be compiled in both academic and accessible formats, highlighting the human stories beyond the collected data (scores) by recording ethnographic observations. This should also involve identifying key emerging issues to prompt discussion (either with participants or for participants to comment on). Researchers must also acknowledge that the selection of data to emphasise and present for discussion is not necessarily a neutral one (it may be possible to draw different narratives from the results), and therefore additional review and input from the different participants can assist.

Discussing findings and defining an action plan: Researchers hold considerable power in defining what to present, and how to conduct the discussion. To manage power dynamics, they need to work with the facilitator to ensure all sides are heard and information is carefully captured. As an output from this exercise, researchers should help participants to produce an accessible document that identifies the following: issues that require urgent attention; actions to take and how to implement them; who takes responsibility; realistic timeframes; and how to monitor progress.

Evaluating and reflecting on the process: Researchers may decide to predefine some issues and questions to be discussed, while leaving ample space for organic reflections. Structured or open conversations could be used, as long as honest conversations are encouraged.

Disseminating knowledge: Ideally, researchers should have discussed with participants the best ways to disseminate knowledge. In our experience, it was useful to produce tailored reports/outputs for the different participants, which they could use with their own constituencies (e.g. community report for leaders and city report for officials). Visually accessible outputs (PowerPoint or, ideally, a video, infographics or photographic presentation) will be useful to disseminate

and reflect on with other stakeholders (e.g. non-governmental organisations, academics, activists, public servants).

Conclusion

Participatory action and CBR challenge researchers to move beyond traditional methods and expectations in the interest of social action and change. The experiences from the community scorecard in Cape Town reveal some of the complexities in doing so, and in particular the demands for flexibility and reflexivity on the part of the researchers. While this chapter reflects on the application of the scorecard in a specific context and with particular aims (i.e. to improve urban governance processes and the living conditions in informal settlements), lessons from the scorecard may offer insights for researchers interested in applying this method in similar contexts, or a similar method of PAR/CBR to other issues and environments. As a monitoring tool, the scorecard experience may be particularly useful for informing knowledge around the various citizen-monitoring efforts that have been gaining momentum across South Africa since 2012. In this concluding section, we reflect further on some of the general benefits and limitations of the scorecard method and make final recommendations.

Methods such as the community scorecard entail ongoing and interrelated processes undertaken in an organic, adaptable way, rather than a top-down approach where the process is predesigned and implemented in a linear manner. It requires substantial resources (time, money, energy) and flexibility from all participants, including researchers and the organisations they represent. Given that most research is housed or funded by some institution, this poses various challenges that need to be addressed or at least acknowledged. Either institutions start accommodating new roles for researchers to be more flexible and reflective, or researchers implementing methods like the community scorecard find their own ways to open such spaces. In our experience, institutional ethos, structures and leadership were, at times, at odds with these participatory principles. Therefore, high levels of financial and logistical flexibility and moving away from linear project cycles are needed to tackle the challenges of implementing PAR/CBR. It is therefore recommended that the research team secure this space from the preparatory phase in order to enable more collaborative, reflective and transformative research.

Key to the transformative element of this approach is the opportunity to observe tangible issues on the ground while experiencing relationships and emotions (such as frustration and apathy) through the process. It demands awareness and mindfulness from researchers to act in conscious ways and invite others to do the same. In bringing together multiple actors, the role (and responsibility) of the researcher shifts to that of intermediary, with the potential to support the development of constructive conversations, relationships and, ideally, self-reflection. Indeed, the method gives an opportunity for very different participants to experience a different way to relate to 'the other'. In our experience, participants embraced the process because it promised to deliver something to

them: potential change or at the very least some new insights. The possibility for change and the opportunity to interact with 'the other' (city officials and community leaders) in a more systematic way thus propelled the process. Both community leaders and city officials were open to experiment and hopeful for change given existing frustrations with the way services are provided, used and maintained in informal contexts, as well as the often ineffective systems of communication in place. Trust was built over time with the researchers who could, on the basis of that trust, hope and frustration, bring everyone together.

When mindfully applied, the community scorecard offers an opportunity to unlock community-based knowledge and is conducive to new understandings around local challenges and possibilities. However, the ethos of participatory and collaborative research did not materialise fully in our project since, in practice, communities were more hosts than partners. Therefore, researchers need to make a significant effort so that participants are not subjects but agents, and so that both the collaboration and the combination of the different knowledge happens while keeping academic rigour. While 'equal' participation is a guiding principle, researchers have the primary responsibility to remain aware and negotiate between power dynamics and asymmetries. Keeping an analytical journal and forming research partnerships (e.g. with other researchers or civil society organisations) allows one to continually reflect on and question individual assumptions and understandings, as well as confront ethical and political challenges in the research process.

More broadly, the scorecard method, as implemented in Cape Town, was limited in its capacity to substantially transform the service delivery or community engagement conditions in the local communities, or to transfer skills and knowledge around doing scorecards. Given the amount of resources invested, any new intervention of this type may pursue more ambitious objectives collectively set from the beginning. Similarly, limitations of the project include the lack of a proper exit strategy for the research team, as well as limited collaboration with participants in the dissemination phase and in working closer with community leaders to strengthen the potential of future action. Therefore, we suggest identifying from the start a clear exit plan that looks at the type of information that is expected and sets guidelines on how this could be used by participants or other stakeholders. Ideally, any small changes achieved through the process should be supported over the long term, thus extending past a particular 'end' defined in the formal project plan. In other words, transformation is a long-term endeavour that cannot be owned by researchers, or at least researchers alone. Results from these types of methods should therefore be used for further transformational efforts either on their own or as a starting point for a new process.

As the scorecard experience shows, participatory and action-oriented methods offer a valuable approach for researchers, communities and other actors (such as local government officials) to come together to share knowledge and reflect on individual and shared experiences. Such a research orientation views the research process itself, and not only research outcomes, as a source of possibilities for change. It requires a research design that is open and adaptable, and which shifts the role of the researcher between 'researcher', 'activist' and

'intermediary'. At the same time, the impact of PAR/CBR will be determined more by the contexts, power dynamics and choices and actions of researchers than by the methods. In the spirit of collaboration and reflection, we call for further experiments with, and critiques and understandings of, methods such as the scorecard in order to deepen our understanding of the roles, responsibilities and impacts of research processes and outcomes.

Note

1 These may include, amongst others, semi-/open interviews, focus groups as workshops, surveys, drawing, storytelling, Photovoice, photographs and drama.

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24 Trends in social science research in Africa: Rigour, relevance and responsibility

Sumaya Laher, Angelo Fynn and Sherianne Kramer

Introduction

The need for a more critical methodological scholarship has been expressed from various quarters within the social sciences with little progress towards a cohesive framework or series of frameworks that could facilitate the development of contextually relevant approaches to research. Currently, the majority of social science research is driven by academic institutions or through institutions that rely on donor funding for survival. The validity of research and the application thereof are often enabled or hampered by the agendas of the funding governments or organisations. These agendas determine not only the scope and focus of research undertaken on the continent, but also the methods deemed acceptable and relevant. African research is still largely dominated by epistemological and methodological frameworks that find their origins in the global North (see Chapter 1). It is therefore of great value to have a unique text that focuses on research by bringing together actual African research studies through the lens of methods. This is a novel way of presenting original research and the practical and pedagogical benefits of such an approach are manifold.

The focus on methods allows for a more critical examination of research in action, which in turn may inform future decisions on studies yet to be designed. While every study in this book paid special attention to methodological matters and challenges, each study also referenced ethical concerns and issues of rigour involved in using the method, but to varying degrees. Most studies discussed in this book manage to strike a fine balance between maintaining rigour and ethics and being socially relevant and are therefore excellent illustrations of the ways research can be simultaneously responsible and socially applicable. This chapter raises the debate around using tools and frameworks which originate in the global North to interrogate rigour. In so doing, the chapter does not advocate a rejection of currently accepted methods but highlights the need to use such tools with a more critical eye within social science research in global South contexts.

The chapter advocates further that rigorous and responsible research needs to be socially relevant and contextual. Hence, we provide some discussion on future trends for social science research in South Africa that offer the promise of even more socially relevant but rigorous ways of working that can lead to

societal transformation and development. We do so with the caveat that the field of social science research is broad and encompasses a multitude of methodological and political perspectives. We do not present the chapter as the definitive statement on trends in social science research; rather, we present our views on specific methodologies we think have the potential to contribute meaningfully in our context. In so doing, the argument is made for the indigenisation of research methods.

Specifically, we address methodological trends that have developed partly in relation to technological innovations and partly due to calls for social relevance in research and the contextual needs of communities. These include data sourcing strategies such as participatory research methods, archival research, big data methods and systematic reviews.

Rigour in research

According to Laher (2016), rigour generally refers to processes followed to ensure the quality of the final research product. Rigour in research ensures the legitimacy or soundness of the research process, allowing for greater authenticity of the results (Coryn, 2007). Issues of rigour are often assumed in research, yet across theses and published research one often finds evidence of questionable research design and ethical practices. In addition, from a decolonial perspective, the issue of what constitutes 'rigour' is contested, given that the project of knowledge legitimisation has characteristically been a global North one, as argued by Kramer et al. (Chapter 1). Thus, one way of thinking through rigour from a global South perspective is to rise to the challenge proposed by Connell (2014), who argues that indigenous research in the global South presents an opportunity to construct 'new' knowledge and formulate alternative definitions of rigour. This is particularly evident in the qualitative and transformative sections in this book (Sections Two and Three).

Notwithstanding the above comments, it is worth underlining what is meant by research rigour, particularly in the context of this book. In examining rigour, Fonseca's (2013) analysis of the six core reasons for manuscript rejection are useful. The six reasons are 1) issues unrelated to the manuscript; 2) mismatch with the journal; 3) inadequate preparation; 4) design flaws; 5) poor writing and organisation; and 6) lack of originality (Fonseca, 2013). As is evident, four of these six pertain to rigour. Some issues, such as inadequate preparation and poor writing and organisation, are easily fixed. However, the two aspects that link to methodological (design flaws) and conceptual (originality) rigour are vital.

Design flaws involving poorly formulated research questions; poor conceptualisation of the approach to answering the research question(s); choice of obsolete, weak or unreliable methods; choice of an incorrect method or model that is not suitable for the problem to be studied; inappropriate or suboptimal instrumentation; a small or inappropriately chosen sample; inappropriate statistical analysis and/or unreliable or incomplete data render a study and its results invalid (Fonseca, 2013). Of course, analyses of rigour must also be complemented

by the establishment of trustworthiness – that is, the truth value, consistency and applicability of the data (see Anney, 2014; Guba, 1981; Guba & Lincoln, 2005). As noted, by striking a balance between applicability and methodological precision, this book essentially strikes the balance between rigour and trustworthiness.

Conceptually, Fonseca (2013) identifies the following as core to the rejection of manuscripts and as aspects lacking in originality: results that are not generalisable; secondary analyses that extend or replicate published findings without adding substantial knowledge; studies that report already known knowledge but position the knowledge as novel by extending it to a new geography, population or cultural setting; results that are unoriginal, predictable or trivial; and results that have no clinical, theoretical or practical implications. While these issues are undoubtedly important, the reasons for the rejection and the invisibility of research articles produced in the global South are also political (see Czerniewicz & Wiens, 2013) and thus it is again imperative to cast a decolonial lens on how research is made 'legitimate' (see Chapter 1).

Tools to establish rigour

While the section above outlined key themes relating to rigour, it is equally important to examine the means by which rigour is achieved. Much is written about establishing rigour in the quantitative, qualitative and mixed methods paradigms. Classic texts by Rosenthal and Rosnow (1991) for quantitative research, Nunnally and Bernstein (1994) for psychometric theory, Denzin and Lincoln (1994) and Guba and Lincoln (1994) for qualitative research, and Creswell (2014) and Tashakkori and Teddlie (2010) for mixed methods research serve as useful guides for understanding the tools towards establishing rigorous, representative and responsible research. Hence, issues of internal and external validity are addressed in Rosenthal and Rosnow's (1991) text. Nunnally and Bernstein (1994) provide clear input on the psychometric canons of reliability, validity, bias and fairness. For qualitative research, both Denzin and Lincoln (1994) and Guba and Lincoln (1994) discuss issues of transferability, dependability, confirmability and trustworthiness. Creswell (2014) provides a framework for evaluating mixed methods studies in terms of responding to criteria for rigour for both quantitative and qualitative designs whilst simultaneously ensuring that the correct mixed methods design is executed and the strands of data appropriately integrated. All the chapters in this book conform to these standards.

Whilst these guides are useful, one has to question the often clinical, checklist approach adopted by some texts in terms of designing research. Any person doing research in the field is aware that, in reality, adhering to these canons is not always possible. This is more so in contexts with low resources, such as in the majority of the developing world. Hence, it is often argued that in these contexts, these canons of rigour stifle research and, if applied particularly in the context of social science research, the findings are artificial and unrepresentative of the lived realities of those living in the context. Hence, texts emanating from the global South, and South Africa in particular, argue for a more pragmatic

approach towards rigour. Laher (2016), for example, argues for a more contextual approach towards rigorous research in quantitative studies that originates from her experiences of having taught and conducted research in South Africa for over 15 years. Similarly, texts by Babbie and Mouton (2011), Terre Blanche, Durrheim and Painter (2006), and Wagner, Garner and Kawulich (2011) provide a more pragmatist view of rigour, which in contexts such as South Africa works really well. Such approaches ensure that the criticisms of statistical versus practical significance (see Cumming, 2013) are also addressed. Further, the work of Terre Blanche and colleagues (2006) provides a radical critique of methods, specifically located within the discipline of psychology, by contextualising the methods in a deliberately South Africanised approach that challenges Euro-American values (Wilbraham, 2007). Excellent examples of this can be found in this book in the chapters by Maree (Chapter 12), Whitehead (Chapter 16) and Barnes (Chapter 6), respectively. Maree blurs the boundaries between research and practice and demonstrates a novel use of narrative research, while Whitehead and Barnes take well-established social sciences methods and utilise these within critical and transformative frameworks, respectively. These authors demonstrate that disruption can be achieved within established methods, provided that the intent and the purpose of the methods applied are informed by a critical framework embedded in the principles of social justice and an honest reflection on the needs and context of the local systems of knowledge production.

Ethics in research

In addition to being cognisant of contextual issues relating to the construction of 'rigour' in the knowledge economy, we would add ethics as a further and perhaps even more important aspect to this. Ethics often gets subsumed in either conceptual and/or methodological rigour largely because it would be very difficult to design and execute a study without taking cognisance of ethical considerations. Ethics in research is of vital importance, so much so that it is virtually mandatory in all theses and manuscript submissions to produce some evidence of an ethics review. Given the primacy of this, we would argue that ethics needs to take centre stage in any research being planned and executed. Quite often issues of consent, confidentiality, privacy, protection from harm and participation are well attended to but ethical considerations post data collection tend to be forgotten. Hence, debriefing and feedback, follow-up where necessary, storage and dissemination of data and results often do not receive enough attention.

Wassenaar and Slack (2016, p. 311) refer to research of a South African research ethics committee which identified the following amongst the most frequently cited reasons for the non-approval of research proposals: problems with the consent form or process (27%); problems with the rationale or design or instruments (21%); problems with the selection of participants (14%); problems with post-research consideration of participants (14%); risk/benefit queries (9%); administrative queries (7%); queries about the social value of the study (4%); and problems with collaborative partnerships (3%). Wassenaar and Slack (2016)

recommend completing the free, online research ethics training South African National Module, available through Training and Resources in Research Ethics Evaluation.[1]

Ethics in global South community contexts should pay special attention to issues relating to limited resources, power relations between researchers and participants, and participants' abilities to consent given language barriers (if the information sheet is in a non-native language) and literacy (should consent be written). Additionally, low-resource and migrant communities are often in flux in low-income contexts, resulting in issues relating to participant drop-out, contamination between experimental and control community groups, and moral dilemmas relating to the experimental community receiving treatment when the control community does not (see Kramer, Seedat, Lazarus & Suffla, 2011). These concerns should be central to ethical considerations in research that focuses on developing communities and contexts. Van Niekerk and Ismail (2013) and Ismail (2018) conducted studies considering community members' willingness to participate in community interventions. The study provided interesting insights into community involvement and the intricacies of access and informed consent within low-resource settings. Additionally, their discussion of the use of community members to collect data and the safety of community members provides further food for thought from both a methods and an ethics perspective. Hence, along with ethics and rigour, the indigenisation of methods is core to developing the social sciences in the global South.

Indigenisation of methods

The social sciences and humanities are deeply implicated in the historical colonisation of Africa and Africans and play a significant role in the process of deculturation within the African context (Lebakeng, 2014). The indigenisation debate therefore has to extend beyond the focus on specific techniques, treatments and approaches and requires vigorous reconstructions of the epistemological foundations of methods applied within local contexts. To a large extent, the social sciences and humanities are products of the European Enlightenment and were embedded within educational systems such that many Africans have internalised Eurocentric theories and paradigms as well as their associated epistemological, theoretical and methodological baggage (Lebakeng, 2014). It is therefore crucial to identify ways of producing knowledge that are closer to the indigenous experiences of African people and contexts.

Laher and Botha (2012), for example, bring to the fore issues relating to the unique context of conducting social science research in South Africa, from dealing with linguistic and cultural diversity through to the lack of resources. Further, the recent decolonisation debates in higher education contexts in South Africa are as applicable to research methods as they are to all other knowledge productions in South Africa (see Booysen, 2016). Lau, Suffla and Kgatitswe's (2017) case study is a good example of the indigenisation of the digital storytelling method. Lau et al. (2017) argue that they deliberately attempted to bridge a 'western'

framework with an 'indigenous' framework that drew on elements that reflected 'indigenous' modes of knowledge-sharing and creation, specifically the oral tradition of telling and listening to stories in groups. This approach was adapted from the shared circle method used by Lavallée (2009) in her work with Aboriginals in Australia. This method is similar to the focus group but does not interrupt with prompts and questions. Rather, it draws on a more 'indigenous' view of knowledge as fluid, relational and non-linear (Lavallée, 2009). The Photovoice (Chapter 22), autoethnography (emerging across social science disciplines from its older anthropological forms; Chapter 17) and community scorecard methods (Chapter 23) presented in this book achieve similar outcomes.

Pienaar (2015) argues for the use of African indigenous methodology in research. She describes the use of *lekgotla* (*makgotla* pl.), where the community participates in the research process from its inception. Hence, the community is responsible for facilitating the research questions and reaching a resolution. Pienaar (2015) argues that such an approach is of mutual benefit as the community learns to solve its own issues and the researcher learns more about how a community resolves its issues. This participative–collaborative process creates mutual respect and empowerment for all involved. Through the use of *lekgotla*, Pienaar (2015) demonstrates how concepts such as focus groups, gatekeeping and credibility can be approached in a more indigenous and contextually relevant manner.

While it is beyond the scope of this chapter to provide a comprehensive description of all the initiatives and debates relating to the indigenisation of methods within the South African context, the purpose of this discussion is to highlight the need for a similar text in the future that could contribute practical examples – derived from the experience and collective wisdom of researchers within the field – demonstrating the applicability of research methods derived from indigenous knowledge systems. This is significant as it has massive implications for the way knowledge is made, by whom and for whom. Further, the process of developing indigenous knowledge systems cannot simply be constructed around technical debates on whether specific techniques or approaches are appropriate for local contexts, but rather requires a critical examination of the state of the science within a specific context, as well as a fundamental shift within the community of practice. For instance, Suaalii-Sauni and Fulu-Aiolupotea (2014) describe the community-building necessary to develop indigenous approaches within research communities in Pacific institutions. In particular, they highlight the crucial role of building capacity within local research communities as well as the need to fundamentally revise curricula in the indigenisation project. They argue that the development of research methods cannot simply be located within the ambit of a core of methodologists, but that new methods should be widely shared to ensure that they are thoroughly critiqued and embedded within the larger knowledge systems across the discipline (Suaalii-Sauni & Fulu-Aiolupotea, 2014).

In the quest for rigorous and relevant research, researchers are often criticised for losing touch with lived experiences, particularly in the quantitative paradigm. However, the more flexible, contextual approaches, such as those

proposed by authors in the global South (in this book and the examples in this chapter), have the potential to produce both relevant and rigorous research that simultaneously responds to pragmatic needs and is justice driven.

Indigenisation and the need for reflexivity

The indigenisation of knowledge in the global South cannot occur in isolation from researcher reflexivity and positionality. This involves a deconstructive process that surfaces a given researcher's or research group's impact and influence on the entire research process as well as an analysis of the power dynamics, points of resistance and sociohistorical influences that shape the data gathering and analytic procedures (Macbeth, 2001). While important in all research contexts, this is even more crucial in a global South context of knowledge production, which is typically characterised by external stakeholders and assessment and intervention agents conducting research in communities in which they are insufficiently immersed. This tension is further exacerbated by socioeconomic, linguistic, cultural and racialised differences between researchers and participants (Kramer et al., 2011). In addition, data collection tools (surveys, interview schedules, etc.) are often borrowed from European or American contexts and thereafter administered, scored and interpreted by researchers who are privileged by their access to particular knowledge formations (Laher & Cockcroft, 2017; Murphy & Davidshofer, 2005).

Even if these tools are adapted to apparently suit a given context, this adaptation is regularly conducted without consultation with the community of interest. This results in a number of issues. First, community assessments may be at best irrelevant and inappropriate and, at worst, discriminatory. Second, this type of researcher–participant relationship inadvertently positions the external research agents as more powerful through the implication that they are experts 'by virtue of their access to theory, resources and knowledge legitimating mechanisms' (Kramer et al., 2011, p. 513). These two issues are further problematised by issues relating to the nature of communities in low-income and developing contexts. These spaces are typified by challenges linked to limited resources; a lack of access to employment, education and healthcare facilities; and high levels of violence and injury. As such, individuals participating in research in these contexts are often dealing with multiple and competing demands and thus fail to participate consistently in the research process (Van Niekerk et al., 2014). Nonetheless, in spite of these issues, a number of methodological approaches to research support community participation, a more reflexive approach to power dynamics, and the assurance of treating participants as agents in their own right and experts in terms of their own experiences and contexts. Sanchez-Betancourt and Vivier (Chapter 23), especially, achieve this with the use of their participatory methodologies. Such community-based approaches are fast being recognised as examples of good research practice that hold promise for the greater social relevance of research but also for social justice and empowerment initiatives.

Community-based approaches

An approach often cited as being amongst the more rigorous but also socially responsive and responsible methods is the Communities That Care (CTC) model (Hawkins, Catalano & Arthur, 2002). The CTC model ensures that the research process is community driven by matching community needs with assessment and working collaboratively with community agents to develop research assessments and later interventions so that community ownership and sustainable research processes are ensured. However, the focus on community 'needs' may inadvertently support a deficits approach to community development and so a model such as the CTC could be further supported by asset-based approaches to community research. These approaches are far more affirmative – through identifying and mobilising previously unrecognised community resources, skills and assets, change strategies are implemented that are focused on resilience, transformation and 'value empowerment and the redistribution of skills and resources' (Kramer et al., 2011, p. 503). In a similar way to Pienaar's (2015) *lekgotla*, asset-based approaches thus follow community-based participatory research in that they are participatory and collaborative and intend to build community consensus and platform previously marginalised voices, which is especially advantageous in developing contexts often undermined by oppression, conflict and scarce resources (Kramer, Amos, Lazarus & Seedat, 2012).

A data collection initiative that facilitates the articulation of marginalised voices and the transformation of oppressive power structures is the community conversations technique developed on the basis of Brown and Isaacs's (2005) café conversations. Community conversations collect data through the use of uninterrupted dialogue between participants of a community. The method is based on the principles of appreciative inquiry and action research (see Chapter 21), such as relational knowledge, provocation and collaboration as a means to destabilise oppressive community discourses, articulate shared challenges and arrive at community-driven solutions (Kotzé, Seedat, Suffla & Kramer, 2013). Together, all of these techniques call for a far more community-centred and context-driven approach to research. As such, methodologies such as ethnography that respond to this call should be further supported and drawn upon in African contexts. Schmid (Chapter 17) and Whitehead (Chapter 16) both respond to this need.

Whilst the above-mentioned approaches to research methods are clearly transformative and contribute to the indigenisation and decolonisation of research methods, it is essential that this is followed through to research output. As such, interventions based on research must remain committed to community ownership, participatory methodologies and the platforming of marginalised voices. Furthermore, research must have an impact on governmental policy and this should be both community driven and translated into the language of the community. These actions will surely contribute to the objectives of decolonisation in science, including privileging indigenous voices, informing the political liberation of marginalised groups, and strengthening and revitalising indigenous cultures and languages (Smith, 2007). Any chapter on future trends in social science research, whether it be in the global North or South, would be remiss if

the role of technological advancements in knowledge production was not examined. In the sections that follow, we highlight how technology presents new and interesting avenues for research within the social sciences.

Technology and data collection and analysis

The enhancement of technology specifically as it pertains to mobile and smart devices has meant that taking photos and making videos is increasingly easier. Furthermore, such developments have ensured that field research, interviewing and focus groups are also less cumbersome. A range of speech-to-text software providers and a number of developments from independent technology start-ups are revolutionising transcription and translation. The development of these speech-to-text applications has also enhanced research and much reduced the time taken in previously long and cumbersome processes such as transcription. Data analytic software has also developed such that the examination of pictures and videos can be done digitally.

As such, qualitative data analysis software has substantially reduced the time and resources required to conduct analyses in qualitative studies. Similarly, software to analyse quantitative data is also developing at an alarming rate – huge data sets and previously complicated analyses can now be accomplished at the push of a button. Open access software is also increasingly available and very reliable. For example, R software is used consistently across the social sciences and is definitely an option for settings such as South Africa where resources for the more expensive licensed software are not available. Qualitative software, on the other hand, should be used with its potential for bias in mind – given its limited availability in English, research conducted in African languages cannot benefit from this technological advance, which has implications for the continued marginalisation of global South research outputs.

Technology has also facilitated other developments, such as crowdsourcing. Behrend, Sharek, Meade and Wiebe (2011, p. 801) define crowdsourcing as 'the paid recruitment of an online, independent global workforce for the objective of working on a specifically defined task or set of tasks'. Amazon's Mechanical Turk (MT) is amongst the most popular crowdsourcing platforms. Requesters (in this case researchers) can outsource small tasks (e.g. surveys), referred to as human intelligence tasks, to a global workforce (potential respondents) in exchange for monetary compensation (Laher, 2016). Monetary compensation on the internet can take many forms, but in the case of MT respondents can be rewarded with Amazon.com gift certificates. Behrend et al. (2011) argue that this approach decreases respondent biases as a requester may downgrade a worker/respondent on MT if substandard work is produced. This impacts the worker/respondent as it decreases his/her rating on MT. Of course, such a system may increase social desirability effects.

The debates on the merits and demerits of crowdsourcing for data collection are ongoing (see Behrend et al., 2011; Buhrmester, Kwang & Gosling, 2011; Casler, Bickel & Hackett, 2013; Paolacci & Chandler, 2014). For South Africa, issues of

literacy, language, quality of education, socioeconomic status and culture have been identified as impacting on research findings and often require quite deliberate attempts at obtaining appropriate samples (Laher & Botha, 2012). This would be exacerbated in the context of online research given the current digital divide that exists on the continent (see Fuchs & Horak, 2008; Russell & Steele, 2013). Hence, whilst crowdsourcing is a seductive option, it would need further exploration before being employed for South African research.

All of this, coupled with the rise in user-produced content on social media sites and access to and opportunities for analysing human interactions visually *in vivo*, is unprecedented. As the information is freely available and open to the public, there are as yet no violations of ethical principles in analysing information on social media. Hence, video clips of violence or open social media chats on xenophobia become authentic phenomenological data for socially relevant research.

Technology and research collaboration

Technological developments facilitate research further in terms of making collaborations between researchers much easier. Technology offers platforms for the easy and wide distribution of research. Researchgate and Academia.edu are two examples of this. Further, these developments allow platforms for data sharing, which is increasingly becoming commonplace internationally but is still a relatively recent development amongst the social sciences in South Africa. However, the commercial nature of some of these enterprises cannot be ignored. What essentially starts out as a free service for the research community moves on to become a business where knowledge is traded and commodified.

Access to secondary data sets is also easier, but again, much research in the social sciences relies on primary data, regularly neglecting the bigger and often longitudinal data sets that are already available beyond Statistics South Africa and Census data. The mortality, health and violence databases freely accessible from the World Health Organization website,[2] and the poverty, education, gender, health and population statistics and world development indicators freely available as raw data or in the form of reports and tables from the World Bank,[3] provide access to large global and nationally representative data sets. Chapter 2 in this book, which draws on the (South African) National Injury Mortality Surveillance System, provides an excellent example of using such data sets. Re3data.org is a searchable repository linked to a number of other data repositories across a range of countries, offering information about social issues and economics.[4] Locally, Datafirst provides access to curated survey and administrative micro data to South African and other African databases.[5] Afrobarometer regularly publishes data on pan-African national public attitude surveys on democracy, governance and society.[6] While it is beyond the scope of this chapter to provide a comprehensive list of databases, the resources identified above have already made significant inroads into widening access to research information.

One of the considerations facing researchers making use of longitudinal data sets is the origin and ownership of these databases, which may introduce

specific biases that are informed by the worldview of the funders and international organisations. It is therefore important that researchers using these data sets are critical in their appraisal of these sources with reference to their validity in relation to the phenomena under study. This is further linked to the ethics of using big data.

Big data

Secondary data sets such as the ones identified in the section above have traditionally been used for collaboration. However, a major development in the last decade is the rise of big data methods and technology. Big data differs from secondary data in that the data archives mentioned above are simply data warehouses, while big data refers to a set of technologies capable of storing, processing and reporting on large volumes of unstructured data (Borkar, Carey & Li, 2012).

Big data has fundamentally changed the landscape within a number of sectors, with retail, insurance, marketing, policy development, economics and medical scientists making increasing use of large-scale data sets to investigate new trends and to develop fresh insights into the human experience. Arguably, social scientists have been slower than their counterparts in other fields to utilise the promise of big data as a means of revolutionising research into human and social systems. However, there have been well-publicised applications of big data within education (Arnold & Pistilli, 2012; Prinsloo & Slade, 2014; Siemens, 2010), media (Harrison, 2010; Lim & Steffel, 2015) and social media (Berthon, Pitt, Plangger & Shapiro, 2012; Pietrobruno, 2013).

Along with the trends described above, the trend towards increasingly improved indexing and data processing systems has provided researchers with unprecedented access to information about the behaviours and perceptions of individuals across major cross-sections of social structures. With the rise of big data, a number of new tensions and ethical considerations have come to the fore, and chief among these is the tension between the right to individual privacy and the larger societal benefit derived from well-designed, effective research. In the context of higher education in particular, the debates on students' rights to individual privacy and the greater good of improved methods for identifying trends in student successes are gaining increasing attention from across the sector (Prinsloo, Archer, Barnes, Chetty & Van Zyl, 2015; Prinsloo, Slade & Galpin, 2012). It is impossible to fully anonymise identifiable data without affecting future analyses in some way or limiting the ability to easily replicate the findings of peers within the field (Drachsler & Greller, 2016; Zimmer, 2008).

Researchers making use of big data are therefore faced with a complex series of interdependent rights that have a direct impact on the rigour of the study and that hold serious impediments for ensuring ethical practices during the course of the study. Within the South African context, where literacy rates are chronically low, issues of consent related to public data take on an additional dimension with the assumption that the broader public are aware of and sufficiently understand the nature of the data economy that drives big data research. Furthermore,

the nature of the data, which includes the original purpose behind the data collection as well as the various processes applied during analysis, needs to be carefully examined for embedded bias and structural discrimination.

Prinsloo et al. (2015) raise the concern that large data sets and the algorithms used to analyse them may perpetuate historical and structural discrimination if these methods are applied uncritically and without consideration of the origins of the data used. There are also concerns surrounding the use of algorithms to mediate the social environment of human social systems, where decision-making is deferred to algorithms which may hold or reinforce discriminatory practices, effectively dividing society into those who develop the algorithms and those whose behaviour is regulated by them (Morozov, 2013). The implications of using big data require critical and systematic inquiry into the sociological and psychological impact on society as a whole, and, within the context of South Africa, hold significant questions relating to the nature of knowledge production within this field for the benefit of local populations.

Digital storytelling

An emerging and African-centred trend driven by technological development is digital storytelling. Digital storytelling involves merging stories in the form of short vignettes with multimedia content (images, sound, video) to create a short movie (Rossiter & Garcia, 2010). It has its origins in the oral tradition of storytelling and was popularised by Storycenter,[7] formerly the Center for Digital Storytelling (Lau et al., 2017). Digital storytelling essentially involves seven steps: 1) owning your insights; 2) owning your emotions; 3) identifying the moment of change; 4) seeing your story; 5) hearing your story; 6) assembling your story; and 7) sharing your story (Lambert, 2013). Chapter 22 in this book demonstrates how the co-creation process, which aligns with the principles of empowerment and multicultural perspectives in research, can greatly enhance the scientific project of South African social sciences. The tension around innovative methods such as Photovoice is that they remain on the fringes of the dominant schools of methodological thought, with little critical engagement with the relevance of the underpinning epistemological value of knowledge co-creation with participants. As a logical development from the Photovoice technique, digital storytelling is used in community contexts to share knowledge, ideas and culture. Through the platform of encouraging voice – voice as talk, voice as identity and voice as power – digital storytelling is a powerful modality to empower individuals in marginalised contexts. It is increasingly being used as a vehicle to explore, understand and intervene in the everyday lives of ordinary people to improve their material conditions and promote social recognition (Gubrium, 2009).

Lau et al. (2017) present an interesting discussion of the use of the storytelling method in a South African context. They describe their use of the method as a hybrid one drawing on elements of narrative research, indigenous storytelling and narrative therapy. Their objective in using this method was 'to elicit participants' everyday meanings of peace and violence as they emerge naturally

in the processes of storytelling, as opposed to eliciting more socially contrived responses through direct questioning' (Lau et al., 2017, p. 151). Lau and colleagues (2017) argue that their explication of the story-circle process (an adaptation of digital storytelling) is not to call for a 'model for best practices', but rather to demonstrate how insights can emerge from the messiness, ambivalence and complexities within the processes of group storytelling. They highlight the ethical tensions between validating the struggle and pain (reinforcing a narrative of community hopelessness) and recreating 'agentic possibilities for hope and change', which in turn raises critical questions about the roles of facilitators (and co-creators) of a group story that comes to represent the story of the group of community leaders (Lau et al., 2017, p. 154).

We have chosen to highlight the example of digital storytelling in this chapter as it brings to the fore several themes for consideration in understanding future trends in social science research in South Africa. Firstly, digital storytelling represents a natural progression from Photovoice and it can be argued that technological developments have a direct impact on research developments. The second aspect that this case study highlights is the indigenisation of methods that respond to the call for decolonising research in Africa. Finally, the issues of power and positionality as applied to the researcher and the researched within research are made salient.

Systematic reviews

Linked to technological development, the ease with which research resources such as theses and journal articles can be accessed has also facilitated the development of the systematic review method. Meta-analyses were common in the pre-1990s era of positivist research in the social sciences. However, the paradigmatic shifts in research coupled with the easier access facilitated by technological development allowed for richer (and often less statistically dependent) forms of reviewing literature. In some ways a combination of traditional theoretical review articles and meta-analyses, systematic reviews have much to offer (Gough, Oliver & Thomas, 2017). A synthesis of literature, whether in the form of a scoping review or a more comprehensive systematic review, allows for a quick and thorough mapping of work in a particular area that not only describes the current status of the field but also offers a meta-commentary. This in-depth textual analysis can inform policy and intervention design that has a greater likelihood of success given the evidence base on which it would be constructed. An example of such research can be found in Van Rooyen, Stewart and De Wet's (2012) systematic review, which explored the impact of micro finance in South Africa.

Traditionally, the systematic review method has been located in the health sciences and used particularly for establishing the efficacy of randomised control trials. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement[8] and the standards proposed by Cochrane reviews[9] are accepted as the gold standards for those wanting to use this technique. From

a social science perspective, some research would be unable to conform to the standards proposed by PRISMA and Cochrane reviews, but these are nonetheless useful to consult when undertaking systematic reviews in the social sciences. More recently, the Campbell collaboration has proposed more independent field standards.[10] The technique of qualitative meta-synthesis has also recently developed; it functions much like a systematic review but it is explicit about only considering qualitative studies for the review (see Major & Savin-Baden, 2010; Sandelowski & Barroso, 2007).

Gough et al. (2017) indicate that systematic reviews have not necessarily been employed in the social sciences. This is largely due to critiques of the method's positioning in more quantitative, empirical and non-critical reviewing of evidence. Other critiques question the rigour of the method given the varied ways in which it is presented, certainly in the social sciences. This is currently evident in the field. Of late, a number of systematic reviews have been published in social science journals but very few authors appear to conform to a particular method. Gough et al. (2017) acknowledge this and argue that this method is still in its infancy, particularly in the social sciences, and more standard forms of systematic reviewing in the social sciences are still developing.

Aside from Gough et al.'s (2017) text, the Evidence for Policy and Practice Information and Co-ordinating Centre at the University College in London has been instrumental in providing information on conducting and using systematic reviews.[11] Closer to home, the Africa Policy Network in partnership with the University of Johannesburg provides excellent resources through their Building Capacity to Use Research Evidence (BCURE) programme.[12] These resources not only demonstrate the utility of the method in the social sciences but also provide a framework to establish rigour in the design, collection and analysis of evidence. The Critical Appraisal Skills Programme's Qualitative Checklist Tool is also commonly accepted in the field as the instrument of choice used to assess the quality of qualitative studies (CASP, 2017). Analysing results in a systematic review has also evolved, with thematic synthesis as proposed by Thomas and Harden (2008) offering a richer and more qualitative appraisal of results and thus making this method more amenable to social science research.

Whilst systematic reviews have much to offer social science research going forward, a serious criticism remains. Gough et al. (2017) argue that systematic reviews hold appeal to governments as they allow governments to manage and control research through the platforming of an agenda. Hence, this allows the state to specify and control the research agenda. Along with research funders, the state and groups of individual researchers have the power to shift political agendas in any particular direction. These arguments are, however, true of most research and have been discussed by Kramer et al. (Chapter 1). Given these dynamics of power and positionality, it becomes extremely important that issues of reflexivity in research are addressed. Being more explicit about the personal and political in research and increasing the potential for the increased involvement of different sections of society nationally and internationally are important goals for all research (Gough et al., 2017).

Archival research

Archival work is another research innovation that has not been very central to most fields within the social sciences in Africa. Archival research methods involve the investigation of documents and texts, often emanating from a different sociohistorical context (Ventresca & Mohr, 2002). In this book, Bowman, Siemers and Whitehead (Chapter 18) use the archival data analytic technique of genealogy to investigate and examine the historical construction of the mineworker in South Africa. Another good illustration of the use of archival research comes from the work of the Apartheid Archives Project. This project involved researchers engaging with a number of texts and stories emanating from the apartheid era, with the intention to reclaim and reappropriate the archive of apartheid-based documents by very intentionally identifying the sociopolitical tensions inherent in these texts. In turn, these texts are liberated from a racialised past and the narrators of the texts are given a voice and are thus no longer marginalised (see Stevens, Duncan & Hook, 2013; Stevens, Duncan & Sonn, 2010). More recently, the archival method has also been applied to digital images, videos, emails, web pages and electronic databases (Ventresca & Mohr, 2002). Given the potential for this type of research to yield unique contributions from indigenous knowledge systems, more archival work needs to be encouraged in the global South. Further, as demonstrated by the Apartheid Archives Project, it has the potential to be a particularly useful technique to identify and deconstruct oppressive and colonialist practices of the past. However, and as indicated by Bowman, Siemers and Whitehead, while this method has the power to disrupt disciplines and the sociohistorical contexts within which they exist, the analytic output often provides an incomplete picture and thus should be complemented by other data collection material that responds to the objective of the analysis (interviews, current institutional documents, observations, etc.).

Conclusion

This chapter provided discussion on and hopefully further insights into issues of rigour, responsibility and the social relevance of social science research. Further, the chapter presented a discussion on the indigenisation of research methods as well as the impact of technological developments on research productivity and dissemination. By bringing research rigour, relevance and ethics into discussions concerning the indigenisation of research methods and the empowerment of research participants in developing contexts, this chapter demonstrated the complexity and challenging nature of conducting research in global South contexts. Overall, this book makes a unique contribution by beginning to deal with some of these challenges. The studies in this book, as well as the methods and issues identified in this chapter, are therefore key to future innovations in research methods in global South contexts, as they manage to avoid overly clinical applications of research practices whilst driving novel and insightful

methodological approaches that contribute to the transformation of research, and ultimately society, in often marginalised contexts.

Notes

1 https://elearning.trree.org
2 http://www.who.int/gho/en/
3 https://data.worldbank.org/
4 https://www.re3data.org/
5 https://www.datafirst.uct.ac.za/
6 http://www.afrobarometer.org
7 https://www.storycenter.org/
8 http://www.prisma-statement.org/
9 http://www.cochrane.org/what-is-cochrane-evidence
10 https://www.campbellcollaboration.org/campbell-systematic-reviews.html
11 https://eppi.ioe.ac.uk/cms/
12 http://www.africaevidencenetwork.org/core-capacity-building-resources-4/

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