Toward a conceptual model of 'the act';
an exercise in theory generation in the problematic space of
school-based HIV prevention through behaviour change intervention

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Dissertation presented for the degree of Doctor of Philosophy in Psychology

in the Discipline of Psychology (School of Applied Human Sciences, Pietermaritzburg),

College of Humanities,

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August 2018

Declaration

Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in the Graduate Programme in Psychology, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

I, Graeme Hoddinott, declare that

1. The research reported in this thesis, except where otherwise indicated, is my original research.

2. This thesis has not been submitted for any degree or examination at any other university.

3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

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   a. Their words have been re-written but the general information attributed to them has been referenced
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Abstract

Health outcomes, whether due to infectious disease vectors or so-called diseases of lifestyle, appear to be the consequence of human behaviour. Simple behaviours such as wearing a condom, eating a balanced diet, or regular health screening appear to hold the key to drastically reducing global mortality and morbidity. And yet health interventions premised on behaviour change often fail to demonstrate significant effect on health outcomes. Perhaps we do not understand what behaviour is in the first place. I aimed to posit a conceptual model of 'the act', a unit through which to re-understand human behaviour, as a first step toward more effective interventions.

The overall design was theory-generative research, including: (a) a critical review of three prominent cognitive behaviour change theories, (b) an applied exploration of the research philosophical implications of theory generative research, (c) a discourse analysis of assumptions about behaviour in school-based HIV prevention in Africa, (d) a critical analysis of assumptions about young people's sexual behaviour in two school-communities in rural KwaZulu-Natal, South Arica, and (e) a comparative description of a normative and an alternative model of 'the act'.

I described the symphonic model of 'the act' for behaviour change intervention design. The symphonic model is premised on five assumptions about the ontology of behaviour: (1) intention follows the act, (2) the act is a synthesis of possibility, not a derivative eventuality, (3) the act is marginally predictable through imposing narratives of intentionality, (4) time is a necessary frame for imposing narrative intentionality onto the act, and (5) consummation of the act is always dialogically interpersonal. I demonstrated how these assumptions could be represented in a graphic model of the components of the act and the interaction of these components with each other. Finally, I presented how the symphonic model of the act could be applied to school-based HIV prevention in Africa.

The symphonic model of the act is a viable avenue for further research. This should include practical demonstrations of its application. Future development should also include the expansion of the conceptual model into a theoretical framework – integrated with existing theories of behaviour and psychology.

Acknowledgements

Thank you first to my wife, Liana, without whom all is nothing to me. To my parents and family, without whose support this would not have been possible. To my supervisor, Mary, thank you so much for your forbearance, incisive but gentle refinement of my ideas, and for reading it all. To my many colleagues from my time at both the Africa Centre and the Desmond Tutu TB Centre who put up with my musings. Especially to John, Marie-Louise, Kobus, Peter, Nulda, and Anneke who gave me so many opportunities to grow. To Ginny for all your encouragement and generosity. And finally, thank you to my friends from *Umthombo Wentsha* – I hope my work does yours proud.

Abbreviations

ANC	African National Congress
ART	Anti-retroviral therapy
DSA	Demographic surveillance area
HBM	Health belief model
HIV	Human immunodeficiency virus
IFP	Inkatha Freedom Party
NFP	National Freedom Party
NGO	Non-governmental organization
PMT	Protection motivation theory
SGB	School governing body
TPB	Theory of planned behaviour

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Introduction to dissertation goal and aims

I started work as an intern research psychologist at the Africa Centre for Health and Population Studies in January 2007. The Centre, now known as the Africa Health Research Institute, received core funding as one of five research sites in Africa and south-east Asia under the umbrella of the Wellcome Trust's major oversees programmes. The Centre's primary offices in Somkhele were the hub for a demographic surveillance area (DSA) of approximately 425km^2 in the Hlabisa health sub-district of the Umkhanyakude district, KwaZulu-Natal province, South Africa. The foundation of the Centre's research activities was a twice-annual demographic survey of approximately 11,000 households and 90,000 resident and non-resident household members. In addition, an annual HIV prevalence and sexual behaviour survey of a sample of 18 to 44 year old household members in the DSA. At the time, HIV prevalence among adults in the DSA was estimated at 30%, and over 50% among women aged 25 to 34 years old. My arrival at the Centre coincided with a shift in focus of the strategic research agenda away from only observational and toward intervention evaluation research. This shift aligned with changes in local, global, and funding contexts. Specifically, the Centre's local political partners (*amaKhosi*) increasingly expressed the sentiment that the Centre's research more tangibly benefit its host communities, ART was being scaled-up transforming the HIV programme and epidemiology, and the Wellcome Trust emphasized leveraging the infrastructure of its research sites to maximize research cost efficiency around randomized controlled trials.

In this context, my initial duty was to assess the feasibility of implementing a school-based HIV prevention trial in secondary schools in the Hlabisa sub-district. This assessment included the willingness of school governance structures (principals, educators, and SGBs) to host a trial of this type, descriptive information on school enrolment and completion by age, grade and gender, and information about implementation of the existing 'Life Orientation'

curriculum including teacher training and available teaching materials. In practice, I spent approximately two months driving around the Hlabisa health district – approximately 1,200km^2 of almost exclusively rural subsistence farm land and two small towns – meeting with school representatives. I was supported by two field research assistants who were residents in the DSA. They translated my English when my limited Zulu failed me and helped me to understand the history, context, and culture of schools in the area.

There were 52 secondary schools in the Hlabisa health district, and 48 agreed to participate in the feasibility assessment. Overall, schools were highly motivated to participate in a trial of a school-based HIV prevention intervention because of the imperative to protect young people from HIV. The overwhelming majority of schools were severely under-resourced, grade completion rates were poor, and learners were frequently too old for their grade because of interruptions in schooling and failure to progress. In some classes, in some schools, some HIV-relevant education was delivered as part of the Life Orientation programme. However, this education never included the requisite detail or frankness to adequately prepare learners for active sex lives with limited HIV risk. Life Orientation educators were often only given limited training on talking about sex and HIV with young people and teaching materials varied widely.

The Centre's leadership used information from the assessment as background to apply to the Wellcome Trust to support a cluster-randomised controlled trial of a school-based HIV prevention intervention. The proposed intervention was to have built on the *Mpondombili* programme that had been locally developed by a Centre collaborator. This proposal was rejected, but further feasibility research in preparation for a possible future trial was funded. The further feasibility research included an HIV, HSV2, and HPV sero-prevalence and socio-demographic risk factor survey of grade 8 and 9 learners at all 48 willing schools, a 12 month pilot evaluation to refine the role of recent school graduates as intervention support staff in

two schools sampled for diversity in resource availability, and 24 months of qualitative data collection through ethnographic observation and group discussions in these same two schools. I was hired as the study coordinator for the further feasibility research, including leading the facilitation of qualitative group discussions and supervising four recent school-leavers working as part-time life orientation educator support staff – two per school. My supervision included routine weekly debriefing meetings with the team in which we iteratively reflected on the potential mechanisms for delivering HIV prevention interventions in their schools. These staff were instrumental in organizing and recruiting participants for the group discussions that I facilitated and they translated, transcribed the recordings, and assisted me in interpreting participants' meanings.

The driving imperative behind the further feasibility research – and the implicit mandate that I took on for myself and the research team – was always to solve *how to* implement HIV prevention for young people within secondary schools. We were aware of the many intractable socio-structural limitations to HIV prevention in a South African schooling context. We were critical of the socio-political realities that drove health inequality in the area and time. However, our ambition was always a practical one: to identify an intervention package and delivery processes that could be reasonably evaluated with a cluster randomized trial design in the Hlabisa sub-district. Failing to intervene for young people whose lifetime risk of acquiring HIV was more than 50% was unconscionable.

By December 2011, my experiences working with these school communities had covered the gamut of extreme emotions from humility, joy, horror, apathy, and frustration. My abiding sense was that the task set was an impossible one. Not because of lack of resources, willingness, common understanding, or higher-order structural barriers. These were realities that would impact on any intervention and its implementation, but could also all be addressed by clever design and genuine engagement between stakeholders. Rather, the

task seemed impossible to me because it was premised on convincing young people to change *the choices* they made about sex. All my conversations with young people about having sex indicated that sex was not a choice-based 'behaviour'. Instead, sex was described as something that happened, that could be pursued, but that was not deliberated over and decided on. My growing unease was that psycho-social theory about behaviour – upon which many school-based HIV prevention interventions were premised – might be fundamentally inapplicable to the task at hand.

My expertise – among my clinically, demographically, and epidemiologically trained colleagues – was that I had been trained to understand people's behavioural choices. But I found myself only able to give *explanations* for why young people remained at risk for HIV acquisition after we had observed it and not able to predict risk choices. In my intellectual naïveté, all intervention options I read about or discussed with colleagues appeared to face some combination of three inherent flaws. Firstly, the interventions located power to choose alternative behaviour in young people's thinking and skills, implicitly making young people responsible for their health outcomes. Intuitively, this seemed like a clever rhetorical trick for adults – who hold societal power – to shirk responsibility. It was also at odds with the local experience of such high HIV prevalence that avoiding acquisition was not about good choices, rather just good luck. Secondly, the theory located avoiding HIV acquisition as at the pinnacle of life priorities in the sense that it not only *was* but also *should be* the foremost concern for young people when making any choice. This seemed strongly at odds with young people's lived experiences where health generally occupied less importance than economic opportunity, social standing, and family responsibility. Thirdly, behavioural choices around sex and forming intimate relationships – of whatever duration or significance to the participants – were always framed as risky in terms of HIV. Positive effects of sex and intimate relationships, such as fun, romance, and otherwise being a social being, were either

ignored completely or denigrated as base temptations that must be resisted. The interventions therefore constructed the choice about sex and HIV as obviously only having one right option: avoid HIV at all cost. The theories about 'choice' seemed to be not about options, but rather a moral doctrine.

In late 2010, one of the four research assistants who had worked with me on the further feasibility evaluation died. She was 24 years old. Although no cause of death was ever made explicit to me, I had no doubt that it was HIV-related. Any other cause would have been named. No other disease would have been spoken about with as many allusions nor in such guarded tones. Another young person had lived in the era of HIV. She had been well-informed, more so than her peers from the village, held ambitions of further study, marriage, and children. She had loved, been loved, made love, and had sex. Another young person had died in the era of HIV. Where had she chosen this?

My intuitions about what alternatives might work as HIV prevention interventions in secondary schools were as compelling as the most vivid of dreams, but similarly only marginally formed on a conceptual level, inexpressible to others, and impossible to substantiate with data. I could not abide the intellectual helplessness repeating in my mind as: 'if people choose to X, then we could intervene by Y, but we know that people don't choose X – [shrug]'. Further, I retained enough of my teenage rebelliousness and self-centered arrogance to believe that I could revolutionize behaviour change theory and escape the flaws I perceived. Implicitly, I was scared that if I could not act on my grandiose insights and offer something 'better', then I was simply hiding a hollow shell behind a disingenuously critical mask. In parallel, I struggled toward the next logical step in my career – completing a PhD.

As I grappled with the intellectual and applied challenges of identifying a way to prevent HIV in secondary schools, I also grappled with establishing my identity as a man – with multiple levels of identity crises and category liminality. Young people attending

secondary schools in Hlabisa sub-district were often less than a decade younger than me. How similar were their 'choices' about love, sex, identity, and otherwise 'being in the world' to mine?

My experiences of teenage love began in December 1999, at the age of 16 and as a secondary school student, when I met young woman who was part of the same provincial chess team. She was three years younger than me, but by the following December we started dating. This was complicated by us living three hours' drive apart, but our parents supported us by arranging family visits approximately once a month and indulging our hours-long phone calls most evenings. In January 2005, she had completed secondary school and joined me in Pietermaritzburg to study together. When I started my psychology internship, we rented a house together in one of the villages close to the Centre. When she completed her studies in 2012, I chose to leave the Centre and relocate to a city with more job opportunities for her. This was a narrative that was repeatedly met with incredulity by my colleagues in Hlabisa. The notion that our teenage romance could be supported by our families had no resonance with the practices, norms, and values of being a young person in Hlabisa. I was repeatedly surprised by how my language about HIV-related behaviour choices was inadequate for capturing the socio-cultural significance of love, sex, family, and identity in the place and moment of secondary schools in Hlabisa. Further, that regardless of the number of caveats I imposed on theoretical models of behaviour change, I could not ever apply them to sex in a way that resonated with the local nuance.

In late 2006, I was nearing the end of the course-work components of my MSocSc degree in research psychology in the Division of Psychology, School of Applied Human Sciences on the Pietermaritzburg campus of the University of KwaZulu-Natal. This was my fifth year on campus, having progressed directly from first year undergraduate. I had been awarded a Mandela Rhodes scholarship for young African leaders – I felt it a justifiable

reward for my academic proficiency and a smoldering desire to do 'good' in the world, beginning in my most immediate contexts in Africa. I felt the self-assured entitlement to *matter* in the world that my privileged education and life sheltered from any economic hardship is uniquely able to produce. In order to register as a psychologist with the Health Professions Council of South Africa, I was required to complete a one-year supervised internship at a host research organization. I was offered two internship opportunities. One was at a highly acclaimed clinical trials unit with strong links to the Division of Psychology, a history of psychological analyses of quantitative and qualitative data, and within driving distance of where I was staying at the time. The other was a 300km relocation to a rural epidemiological and demographic surveillance site – the Centre. Despite the pay and opportunities for career growth being equivalent, and a relocation being costly in the short-term and with uncertain implications, I chose to join the Centre. On face value, this choice could appear irrational. However, my then girlfriend's (now wife's) parents lived close to the Centre, and she had grown up in neighbouring villages. My 'career choice' was much more about the apparently distal factors of facilitating my partner's happiness and learning about her world than the proximate one of where I would begin my career. This has often been so in my life, and I assume that the same is true for most people. Had I coolly evaluated options and made a choice as all my academic training in behaviour change theory indicated that I should? My sense was no. I experienced my behaviour as intimately sensible, but it was often only linked to a vague intuition of being the best man for my girlfriend that I could, and not a rational, clinical deliberation on facts to select the most optimum outcome.

A professor who had generously offered me mentorship quietly suggested to me as I completed my MSocSc degree that it was time for me to get out into the 'real world' and apply my intellectual prowess and thinking about theory to tangible problems. At the time, I took this as another compliment and reinforcement of my right to do something in the world.

With hindsight long after the fact, I realized that he posed me a challenge common to behavioural scientists practicing in the global south: how should we think about behaviour so that our science is useful to our world? My goal in this PhD dissertation is to answer that challenge. The processes of behaviour change theory development are obscure and not well formulated (Davis, Campbell, Hildon, Hobbs, Michie, et al., 2015; Hardeman et al., 2005; Michie et al., 2005; Michie & Johnston, 2012). I hold a strong intuitive sense that in order to make progress in behaviour change, we must first consider the nature of behaviour as an object to be changed. That is, a return to 'first principles' in understanding behaviour as the starting point for this theory generative process. In this dissertation, I suggest a theory generative *process* of combining diverse lenses for approaching the problem of behaviour as a novel contribution toward this literature. Specifically, I include five chapters each approaching the problem of behaviour from discrete angles as a means to show how theory generation for behaviour change should be conducted. This contribution is for the global South and from the global South as called for by (Comaroff & Comaroff, 2002, 2012; Connell, 2014; Epstein & Morrell, 2012).

I intend to use my PhD dissertation to explore the possibilities of a new understanding of behaviour. My explorations are necessarily *not* a proof or defense of a single position. I have entitled my dissertation "toward a conceptual model of 'the act'". I use 'the act' to denote that moment of choice, doing, behaving, or similar action term that is a point in the narrative of being a person. I will explore my proposed theoretical points most immediately to school-based HIV prevention interventions because it is convenient to my experiences. However, I intend this to be a broadly applicable conceptual model of 'the act', not an application of theory to design a school-based HIV prevention intervention. As such, my goal for this is PhD is in direct contrast to the mandate of my work at the Centre – of finding practical, implementable solutions to the HIV crisis outlined above. My goal in the

dissertation is more modest. I will consider it achieved even if the move toward a conceptual model of 'the act' is only marginal. Similarly, if I only chart small areas of the many blind alleys and wrong turns possible in moving toward this goal, I consider that progress. I believe that my exploration should cover as wide a range of theoretical and applied spaces in order to avoid repeating tropes of long-established – and rich – intellectual traditions. Instead, my goal is to operate in the spaces between ideas to synthesize otherwise unrelated thoughts. I regard my goal as akin to a postulator of alternative history drawing clues from oral traditions, artefacts, critical review of established truths, and invention of alternative explanations.

I set five aims for the dissertation in order to show how theory generative research for behaviour change can be refined. The synthesis of these aims is a list of principles for understanding behaviour in the context of behaviour change intervention design. I begin by justifying a method stance and research process for studies with the goal of developing conceptual models for applied social theory. My dissertation diverts from the research philosophical assumptions that have led to existing assumptions about the ontology of behaviour underpinning behaviour change theory. I begin with this section as the foundation of how my process is different. I follow that with a historical review of the implicit logics of behaviour in three prominent psychological theories of behaviour change. These are exemplars of the established to which I intend to provide an alternative. I follow this with an analysis of why applications of the existing theories can maintain traction even in the face of contrary empirical evidence. In this, I select the specific example of school based HIV prevention interventions in Africa to chart how failed assumptions about behaviour are perpetuated – and how I might avoid such pitfalls. Then, I describe lay assumptions about sex agency in languages of HIV risk used by school-community members. These data inform the meaning-making context to which my conceptual model of behaviour will be applied. Lastly,

I will present a set of principles, heuristics, and worked examples to show my conceptualisation of an alternative model of behaviour. This is an outcome of the novel *process* of theory generative research for behaviour change in the problematic context of school-based HIV prevention in southern Africa.

I will address each aim in a chapter. I will outline a number of objectives that serve the aim addressed in the chapter. I intend that each chapter can stand alone as a scientific work – structured with design/method, literature review , findings, and discussion sections. I have also tried to organize the five chapters such that they follow a scientific progression toward my goal. As such, chapter 1 is concerned with design and method and chapter 2 is a conceptual literature review . Chapter 3 is an applied analysis of literature and context-setting, chapter 4 presents data driven findings, and chapter 5 is a discussion of the theoretical integration of preceding chapters. However, as I will argue throughout the dissertation, this 'act' of writing my dissertation is far more fluid and co-occurring than this neat organization makes it appear. The outline of the dissertation structure is an artefact lending illusory coherence to the narrative. My reality in writing the dissertation is instead deeply embedded in overlapping thoughts from multiple chapters, tensions between thoughts, and general messiness. I argue that the goal of struggling toward a conceptual model of 'the act' is only intelligible as coalescence of meaning through this process of struggle, not as a detached outcome from a programmable set of deductive and inductive logic clauses. I believe that moving toward a conceptual model of 'the act' here is principally a creative, imaginative process and I urge the reader to consider the chapters on these terms.

Chapter 1 – A method for moving toward an alternative model of 'the act'

1.1 Introduction.

My goal in this dissertation is to move toward an alternative conceptual model of 'the act' that has some utility for designing public health interventions. I face a method challenge in that my goal is not logically derivative from a set of articulable conclusions. Rather, it is propositional, where I suggest the alternative model as a possible synthesis. In this chapter I describe my research philosophical assumptions and thinking processes such that other scientists can replicate and critique them to increase the trustworthiness of my proposed conceptual model. I begin this task by articulating my understanding of the philosophy of socio-behavioural science research in relation to theory generation. I apply this philosophy to the dissertation and critically consider my stylistic choices and formatting. This serves to illustrate how I accommodate presenting an alternative model of 'the act' and at the same time doing an 'act' within the conventions of a PhD dissertation. In this chapter, I present a progression from general research philosophical tensions in theory-generative research toward the management of these tensions in my dissertation.

The history of research methodology in psychology, and socio-behavioural science generally, is characterized by a schism between quantitative and qualitative research (Gelo, Braakmann, & Benetka, 2008; Howe, 1988; Howe & Eisenhart, 1990; Mahoney & Goerts, 2006; Ragin, 1987; Sechrest & Sidani, 1995; J. K. Smith, 1983; Tuli, 2010). In applied contexts, psychological research has increasingly embraced 'mixed-methods' (Brannen, 2007; Creswell, 2009; Greene, 2008; R. B. Johnson & Onwuegbuzie, 2004; R. B. Johnson, Onwuegbuzie, & Turner, 2007; Morgan, 2007; Teddlie & Tashakkori, 2009) to maximize programmatic relevance (Bryman, 2006; Creswell, Shope, Clark, & Green, 2006). Defining research by the type of data collected – either 'quantitative', 'qualitative', or 'mixed' – is axiomatic in psychological methods training, protocol design, and academic reporting

(Brannen, 2005; Bryman, 1984; Onwuegbuzie & Leech, 2005; Sandelowski, 2000). I argue that this definitional heuristic conflates levels of research philosophy. Further, that indulging such a heuristic limits researcher's capacity for novel theory generation. Instead, I argue that critically interrogating philosophical assumptions is the mechanism for creating new conceptual models – and theory to explain these models. Embracing such an interrogation requires re-considering the formatting norms of academic reporting.

In the philosophy of science, theory either evolves through incremental empirical or rational evolutions or through paradigmatic revolution (Chen, Andersen, & Barker, 1998; T. S. Kuhn, 1970; Leahey, 1992; Marcum, 2015; Overton, 1984). One of the most widely cited processes of using data to generate 'grounded' theory was first suggested by Glaser and Strauss. Here, the analyst creates thematic categories of observed trends in the data and iteratively checks these themes against the data in a gradual process of refinement (Corbin & Strauss, 1990; Glaser & Strauss, 2012; Rennie, Phillips, & Quartaro, 1988; Suddaby, 2006; Wertz et al., 2011). This approach has been variously critiqued as obfuscating the role of the researchers' biases in how data are interpreted (Allan, 2003; Greckhamer & Koro-Ljungberg, 2005; Kelle, 2005; Salsali, Esmaeili, & Valiee, 2016; Thomas & James, 2006). In contrast, Timmermans and Tavory (2012) argue that theory generation is wholly an abductive claim made by the researcher premised on creativity. Alternatively, the family of variously intersecting critical research approaches – including feminist (R. Campbell & Wasco, 2000; Harding, 1990; L. J. Miller, 2000; O'Shaughnessy & Krogman, 2012; Riger, 1992), black/Africanist (Akbar, 1984; Baldwin, 1986; Christian, 2007; Daniel, 1981; Du Bois, 2006; Guthrie, 2004; N. Harris, 2005; R. L. Jones, 1991; Karenga, 1988; Kershaw, 1992; Mazama, 2001; Milam, 1992; Winters & Institute, 1998), queer (Browne & Nash, 2016; Dilley, 1999; Downing & Gillett, 2010; Drescher, 2010; Halle, 2004; Warner, 2004), and critical discourse (Billig, 2007; Caldas-Coultard & Coultard, 1996; Fairclough, 2001; Gergen, 2001; I. Parker,

1992; Potter & Wetherell, 2004; Van Dijk, 1993; Weiss & Wodak, 2003; Wodak & Meyer, 2014) – instead generate theory by questioning the underlying assumptions of existing theories or research norms. I have aligned my research philosophy in my PhD squarely with this critical position and attempt to articulate replicable processes by which to operationalize its ambitions.

The scientific research process has been defined by the hypothetico-deductive model that includes overlapping stages of (a) theory, (b) hypotheses, (c) observation, and (d) interpretation (Bendassolli, 2013; Terre Blanche & Durrheim, 2002). The accuracy of data collection and analytic techniques in such a model are judged relative to their validity, reliability, and applicability to the phenomenon being researched (Cook & Beckman, 2006; Golafshani, 2003; Hunsley & Meyer, 2003; Morse, Barrett, Mayan, Olson, & Spiers, 2008; Winter, 2000). There is also an imperative for research to maximize generalizability (Ferguson, 2004; Forster, 2000; Lucas, 2003; N. M. Webb, Shavelson, & Haertel, 2006) or transferability (Kuper, Lingard, & Levinson, 2008; J. Lewis & Ritchie, 2003; Polit & Beck, 2010) so that it is of optimum social relevance. Additionally, standards for research ethics require that the research process be respectful of persons, promote justice, and be implemented with beneficence (Birnbacher, 1999; Cahill, 2007; Gillies & Alldred, 2012; Guillemin & Gillam, 2004; Orb, Eisenhauer, & Wynaden, 2000; Ryen, 2011; The national commission for the protection of human subjects of biomedical and behavioural research, 1978). These criteria for accuracy, relevance, and ethics have been formulated to encompass research intention, process, and outcomes (Malterud, 2001; Meyrick, 2006; Seale, 1999; Tracy, 2010). In broad terms, all research is therefore theory generative in that it has implications that confirm, disprove, or provide an alternative to existing theory. All theory also reflects a particular philosophy of research.

Criteria for evaluating social science theory include sufficiency, testability, parsimony, and applicability (Bordens & Abbott, 2016; Corley & Gioia, 2011; Cramer, 2013; Hao-Sheng & Stam, 2012; Higgins, 2004; Whetten, 1989). All theory must be in reference to a synthesis of contested ideas (Higgins, 2006; R. I. Sutton, Staw, & Weick, 1995). What is unclear are the criteria for designing and implementing research that has the explicit intention of generating new theory (Andrade, 2009; Corley & Gioia, 2011; Dyer & Wilkins, 1991; Eisenhardt, 1989; Lynham, 2002). Such research must by definition challenge the substantive theory *and also* the philosophical paradigm of research that supports existing theory. In this chapter, I articulate my position in relation to a research philosophy for theory generation. I argue that it is incumbent on researchers aiming toward theory generation to both be self-critical of their philosophical assumptions about research and lay these bare for external critique. My aim is to present a revised framing for the components of research philosophy for theory generation. Further, I present opportunities for creative formatting in academic reporting of theory generative research. The key question is how to balance holding researchers to academic account while still enabling the freedom to create (Shah & Corley, 2006; Timmermans & Tavory, 2012; Weick, 1989). I argue that advancing science through theory generation is more than advancing a substantive theory. Rather, it includes interrogating the research philosophy in which that theory is located. Further, that research philosophy *is* through the contested praxis of *doing* research. I present the research philosophy of my PhD dissertation as a case study of theory generation through critical interrogation of assumptions. Specifically, my objectives are to:

a) outline component assumptions that require explication in theory generative research,
b) describe stylistic, formatting, and representational innovations for theory generative research generally and a conceptual model of 'the act' specifically, and

c) propose research philosophical heuristics for theory generative research generally and a conceptual model of ‘the act’ specifically.

1.2 Method.

1.2.1 Design. A critical discussion of concepts with applied case examples (Andrade, 2009; Meredith, 1993) to illustrate an abducted synthesis of ideas in a conceptual model. This design and the data selected enable me to draw on a range of conceptual traditions and present an argument for a particular understanding of the theory generative process (Bendassolli, 2013; E. A. Locke, 2007). Such a synthesis of ideas is an important component of the novel theory generative process I propose because it outlines the parameters within which to consider this process.

1.2.2 Scope. I present this discussion to substantiate my overall research process and stylistic arrangements I use in my PhD dissertation. As such, the scope of this chapter is limited to satisfying the method criteria of transparent critical reflection (Tracy, 2010) for my goal of toward a conceptual model of ‘the act’. My PhD dissertation is also an example of research toward theory generation more generally. An alternative conceptual model of ‘the act’ is challenging to socio-behavioural science norms. I tentatively position this discussion relative to a wider a project of conceptualising socio-behavioural science research philosophy in which ‘the act’ is not assumed to be the linear outcome of deliberative choice.

1.2.3 Analytic discussion process. I began by listing a set of aspects of research about which a researcher must make assumptions and relative to which a researcher is positioned. I briefly clarified my understanding of each component with examples. I then described a model of the relationship of each component to the others in an overall model of research philosophy. Finally, I explored my assumptions about each component and positioned my PhD relative to this model. I used tensions in the research philosophy that I claim for my PhD to illustrate the complexity of research toward theory generation.

1.2.4 Abductive process. Once I had made my research philosophical assumptions problematic, I then attempted to resolve them by exploring practical stylistic, formatting, and representational innovations and conceptual process heuristics. To start, I sought inspiration in iterative re-reading of descriptions of my conceptual model of 'the act' to identify innovations and heuristics that I adopted by default. I then re-drafted the same description of my conceptual model of 'the act' using exaggerated versions of possible new norms. With the input of my supervisor and other critical reviewers, I incrementally refined my innovations by retaining and combining those elements that resonated with the overall tone of my PhD goal. I then reflected on these innovations relative to the original points of critique that I had integrated from the literature. I formulated my list of heuristics to summarise the mental short cuts that I had used to escape restrictive conventions. I wrote out examples of each heuristic in order to formulate a descriptive label for each.

1.3 Discussion part one – explicating research philosophy assumptions.

I argue that a research philosophy is a set of five positions with respect to 'what', 'how', and 'why' the research is being implemented. The parameters of social science's philosophies of science continue to expand paradigmatically (Carter & Little, 2007; Guba & Lincoln, 1994; Lincoln & Guba, 2005; Lincoln, Lynham, & Guba, 2011; Maxwell, 2013). Each research philosophy is answerable to assumptions in ontology, epistemology, motivation, methodology, and processual integrity (Grix, 2002; Hay, 2002). The last of these sets of assumptions on process has three sub-components relating to data collection, analysis and (re)presentation.

1.3.1 Ontology – what is real? What is it that gives things reality? Is it because of the thing's inherent or divine nature, consensus between observers, or some other criterion? At stake in this question is not whether or not things are experienced as real – the realness of an experience is in the judgement of the experiencer. Rather, what is at stake is the criteria set

for judging whether the experiencer *should* have experienced it as real – because the experience did or did not conform to our criteria of realness. In western philosophy, Aristotle illustrated the classical Greek's realist conceptualisation of ontology through the analogy an acorn's true reality being an oak tree (Aristotle, 350BC, 1981; Putnam, 2002; T. Taylor, 1801). Here the ontological assertion is that all things have a reality independent of their current appearance. Further, that this essence is independently real – a divinely perfect reality to which the mortal world only aspires. Alternatively, the seminal thought experiment of a 'beetle in a box' illustrates that people's experiences of the world are private and that there is no ultimate way of determining their equivalence other than assumption (Quine, 1968; Wittgenstein, 1968). The lack of an extra-experiential basis for establishing a common reality provokes the question of whether such non-perspectival reality even exists. In Wittgenstein's (1968) conception, reality is created between people attempting to share their experiences. Regardless of whether we believe in an essential, independent realness to reality or not, what is important in answering this first question is explication of the origin of realness. In pursuing a theory generative research agenda, we must question the fundamental assumptions of *how* things are real.

1.3.2 Epistemology – what can be known? What can we know of reality? This includes both how much of and what parts of reality we can know. To know reality is to claim a particular version of reality holds more truth than other versions do. In describing an epistemology, we circumscribe what claims of truth are justifiable. The Cartesian method of doubt (Rene Descartes, 1982; René Descartes, 1991) argues that the source of truth is that which cannot be doubted. In contrast, Locke (J. Locke, 1690; Petryszak, 1981; Salter & Wolfe, 2009) proposed that the process of knowing reality begins as a *tabula rasa* and is added to through incremental layers of sensory input. This conceptualisation locates claims of truth in verification through these sensory experiences. The postmodern turn in social science

explicitly critiques the plausibility of any unconditional, non-positioned, universal 'Truth' with an upper case T (Antonio, 1991; Durrheim, 1997; Ratner, 2006; Zielke, 2006). Rather than the knowing of Truth, attention is shifted to the *creation* of local 'truths' (with a lower case t) and an effort to establish a justifiable means for constituting these truths (Gergen, 1985, 2001; Gergen & Gergen, 1997; Nightingale & Cromby, 1999; I. Parker, 1998; Seidman, 1994; Wetherell & Maybin, 2004). In research aimed at theory generation, the articulation of epistemology establishes criteria by which the theory can be tested. In generating new theory, some of the truth claims will be directly testable as the critical point of diversion from previous theory. In contrast, other truth claims will be only propositional syntheses lacking sufficient sophistication to be testable. In this dissertation, I present chapter 5 as a worked example of such propositional synthesis as a point of departure for future research investigating its veracity.

1.3.3 Motivation – why do you want to know? What agendas is the researcher aiming to advance by generating this theory? All research is one option among many possible alternatives, so why is the researcher pursuing this one and not others? Answering this question requires the researcher to engage with multiple indices of interest that include the personal, social, and professional. Traditionally, research aims in social science have been defined solely in terms of contributing to an objective, unemotional, and agnostic process of incremental science. This obfuscates the determining role of the researcher's assumptions about the nature of the research subject, participants, and relevance. Further, it disenables critical interrogation of these assumptions as part of the scientific process. In theory generative research, it is especially important to question these assumptions as they are novel and therefore would not previously have been subject to a critically scientific gaze. It is unacceptable for researchers obscure their motivation behind research aims. Superficially, grappling with *why* the researcher seeks particular knowledge – for example, to advance their

career, to prove a belief they hold, or out of curiosity – speaks directly to the research's credibility. On a deeper level, interrogation of the researcher's role in the research is increasingly acknowledged as a valuable, constitutive component of the research process. In this regard, the concept of *praxis* denotes the necessarily impactful nature of research (Eikeland, 2012; Kemmis, 2010; Lather, 1986; Lykes & Mallona, 2008). Participatory action research is an example of explicit adoption of social impact as a marker of research success – for example, Kidd and Kral describe choosing this research to "promote change in the lives of those involved" (2005, p. 187) and Baum, MacDougall and Smith because it "leads to action for change" (2006, p. 854). More generally, the research process of *reflexivity* is a mechanism for accounting for the inevitable influence of the researcher into the research (Alvesson & Sköldberg, 2009; Hess et al., 2016; Macbeth, 2001; Malterud, 2001). Conducting research with reflexivity rests on the assumption that the researcher has a stake in the research and it is their responsibility to make that stake explicit. Theory generative research originates with a discomfort with previously available theory. At the start of moving toward new theory, this discomfort will be visceral and embodied but not well-circumscribed. In this way, the process of theory generative research is a process of incrementally clarifying this original discomfort through a variety of analytic lenses. Theory generative research is not the dispassionate summary of previous knowledge and then extension of this knowledge with a set of evidence. Rather, it is a struggling, indefinite, and intuitive voyage of discovery into uncharted waters. As such, the researcher's motivation is central not peripheral – the gravity guiding the compass needle.

1.3.4 Methodology – how can it be known? What is the system of knowledge production that the researcher uses to substantiate their claim? This is the overarching frame for the group of processes, methods, and activities by which things come to be known. In general terms, Howell (2013) describes 9 categories of research methodologies in the socio-

behavioural sciences, creating these categories on the basis of shared disciplinary traditions or ideas. This particular list of 9 is contestable – Larkin (2013) does just this, arguing that feminism should be included as a tenth methodology. The salient point is not the accuracy of whichever set of categories for methodological traditions, but rather that all research is informed by a set of philosophical assumptions about how such research *should* be done. Within the definitive landscape of how the research might access the known, there remains great flexibility for particular activities. By way of analogy, specifying methodology is like asking what defines baking from cooking, not determining what type of cake might be baked. I argue that the set of assumptions underpinning a position in methodology are complex and co-informing. Examples of the layers necessary to adopt a methodological position include procedural structuring like triangulation (Blaikie, 1991; Flick, 2004; Jick, 1979), defining the ethics of process (Birnbacher, 1999; Haggerty, 2004; Hedgecoe, 2004; Ryen, 2011), and specifying a theory of power for which socio-behavioural science is a mechanism (Billig, 1995; Dixon & Durrheim, 2000; Gillies & Alldred, 2012; Rose, 1996; Shotter, 1993). The researcher is required to position their research relative to a politically contested history of research about social behaviour. Novel socio-behavioural theory necessarily questions the systems of knowledge production that have enabled existing theory. As such, theory generative research must outline a conceptualisation of knowledge production into which it fits.

1.3.5 Process – how do you try to know? Having specified a set of philosophical assumptions, how are these assumptions operationalised into a research process? Often this is the research philosophical position described in research protocols and academic reports. However, I deliberately list it last since I believe it to be of subordinate importance to the previous four components. Critical interrogation of the research process is necessary in striving toward quality in research (Bloor, 2016; Bohman, 1999; Eakin, Robertson, Poland,

Coburn, & Edwards, 1996; Harding, 1993; Tracy, 2010), however this can only be interpreted relative to other components of the research philosophy. Describing the research process is necessary for establishing credibility through theoretical cohesion and experimental or interpretive replicability. I emphasise a distinction between *methods* and the preceding question about *methodology*. I consider methods in terms of the *processes* of research and methodology in terms of higher order systems of knowledge production (Lincoln et al., 2011; Lynham, 2002; Scotland, 2012). In the overall conception of research philosophy described in this chapter, I ascribe primacy to the activity of *doing* research. Importantly, choices made in the research process do not represent the culmination of a research philosophical position. Rather, I draw a distinction between doing research and doing research philosophy – with the latter happening while doing the former but on different registers. Broadly, the processes of doing research are divisible into three parts: data collection, analysis, and reporting. Again, some positions relative to these sub-components tend to hang together more frequently than other combinations. However, as with the overall research philosophy, I argue that each may be answered independently. Further, that critical interrogation of the tensions and inconsistencies between these elements of the research process is fertile ground for theory generative research.

1.3.5.1 Process – what are the data? Data collection includes specifying three different components. Firstly, the contexts of data collection – for example, individual interviews, surveys, or researcher reflection. Secondly, the shape, form and content of the researcher's prompts to which the data respond – for example, questionnaire items, generative texts, or a conceptual problematic. Thirdly the form that the data are represented through – for example, transcripts, photographs, or tables of numbers. As research activities, these processes construct distinctions between some things as units of data and others not. Data collection is a misnomer for the active process of delineating, framing, and imposing an

interpretation that is data construction in socio-behavioural science (Antaki et al., 2003; Fairclough, 2001; Polkinghorne, 2005; Potter, 1996a, 1996b). In theory generative research, it is elucidatory to consider what rhetorical claims these distinctions serve. Further, all theory generative research will include multiple data collection processes as the research builds a case for a theoretical synthesis between diverse elements. Explicating complementarity and tensions between what the data are – through scrupulous description of how they are collected – enables critical interrogation of the underlying research philosophy.

1.3.5.2 Process – how did you make sense of the data? I present data collection and data analysis as separate components in the research process. This is not to say that these processes do not overlap. As argued above, data collection is an active process of rhetorical construction that includes interpretation. Further, all research and especially theory generative research, is an iterative process of interpretation between data and theory (Aneshensel, 2013; Miles, Huberman, & Saldaña, 2014; Wetherell et al., 2001). Rather, I draw the distinction between collection and analysis to challenge implicit assumptions that data can speak for itself. I emphasise the effort that the researcher must contribute in interpreting and making a scientific claim about data (Hosking & Pluut, 2010; Koch & Harrington, 1998; Kvale, 1994; Terre Blanche, Durrheim, & Painter, 2006). This also means that researchers have no shelter from our social, ethical, and moral accountability for the research findings we produce. Data analysis includes two elements. Firstly, the management and organisation of the data – for example the database structure and how software tools are used. Secondly, the systems of considering the data through multiple phases – including framing the research question, running a data query, writing down inductively observed patterns, and checking preliminary findings with participants. These processes operationalise the research philosophy by delineating particular parts of data worthy of consideration and others not. In theory generative research, the analytic process is necessarily multiple – a variety of attempts to

synthesize disparate conceptual and logical premises into a yet to be articulated theory. The credibility of such research is contingent on the availability of the researcher's abductive logic for external critique. As such, theory generative research is required to specify how conclusions were arrived at with great particularity. Further, to articulate when the proposed concepts and theoretical syntheses are tenuous leaps of faith – as abductive inspiration often begins and as this dissertation is – such that these might be further interrogated.

1.3.5.3 Process – how do you (re)present the data? Data representation includes two parts. Firstly, the formatting of findings – for example, as a dissertation, an oral conference presentation, or a community discussion. This does not mean that form is given precedence over substance as in structural linguistics (Z. S. Harris, 1951; Koerner, 1973; Malmberg, 1967; Matthews, 2001). The researcher's choice of formatting is a costume donned to position the findings to serve a rhetorical aim of credibility. In theory generative research, this position is necessarily a critique of existing theory. The framing of that critique reveals the researcher's research philosophy – for example, a plea for better theory in service of social need, a denunciation of iniquitous social architecture, or carnivalesque inversion. Secondly, the balance between presenting data with the researcher's extrapolations from that data – for example, verbatim excerpts from participants' talk, proportional statistics, descriptive themes, or a conceptual model. The processes of formatting and interpretation are co-creative and mutually limiting of truth claims for the research. In theory generative research, representation of the data is always subject to an explicit agenda to demonstrate the plausibility of conceptual models and theoretical synthesis. Pieces of data are purposively selected to illustrate a higher order rule or logic that is the subject of the theorisation. These data are constructed, cherry-picked, and then packaged with the express intent of demonstrating the theory's precepts and logic. This process is diametrically opposed to the presentation of data premised on the inherent truthfulness or prevalent occurrence in the data.

Theory generative research is not about proving that a particular interpretation of data is more accurate than another. Rather, theory generative research is to create non-normative interpretations of data. These are to be judged according to their internal cohesion and sophistication. Theory generative research cannot hide behind the pretence that data can ever be represented as neutral objects.

1.3.6 Doing a research philosophy. Assuming positions relative to these components of a research philosophy is not a simple selection from a list of options and then implementing this selection. Rather, *doing* a research philosophy is an active and iterative process that is replete with logical and moral tensions, inconsistencies, and reversals at every phase of the research. By tradition, certain positions relative to each of these five parts of research philosophy tend to hang together. For example, assumptions of ontological realism, empircist epistemology, and data collection and analytic processes emphasizing the statistical estimation of bias are a common set of co-occuring positions. There is no necessary imperative for positions relative to each to align so consistently. No element of the positions is derivative of any of the others. In other words, it is philosophically plausible to combine any set of positions relative to the five parts of the research philosophy without violating the assumptions of the others. For example, it is plausible to combine assumptions of ontological realism with phenomenomenologist epistemology, and critical discourse analytic processes. This assertion enables greater flexibility in research philosophy, tolerates tensions in the internal consistency of research philosophies and enables the resolution (or continuation) of these tensions in doing the research. It also demands that researchers explicate their philosophies through their research. In this way, research philosophy is 'emergent' in doing the research – see Figure 1.

1.4 Discussion part two – structural, stylistic, and formatting implications.

1.4.1 Structuring my PhD dissertation. I have organised my dissertation into five

Figure 1. Points of assumptions in a research philosophy for theory generative research

stand-alone chapters. I intended these chapters to be intelligible independent of each other in the style of academic papers and that this intelligibility is not influenced by order of reading. This is to be consistent with a central claim in my proposed model of 'the act' – see chapter 5 – that comprehension is not a linear progression from one logically derived conclusion to the next. In this way, the chapters are organised as utterances and the dissertation as the unitary synthesis of them. I intend each chapter to be a grappling with the same problematic of toward a conceptual model of 'the act' but from different angles. I end each chapter with an explicit statement of how it contributes to the whole of the dissertation. It is atypical of 'the act' to provide such a bald explanation from a narrator perspective, but I do so for clarity. In the imagery of my model of 'the act', I represent this dissertation as a five-pointed but nebulous shape – see Figure 2.

At the same time, I also organise the chapters into four sections intended to replicate the archetype of research reporting as (a) background/methods, (b) findings, and (c) discussion. The current chapter is *in lieu* of a description of background and methods. I then present a critical review of one problematizing of 'the act' as an object for public health intervention, an applied review problematizing 'the specific act' of young people in southern African schools' sex with respect to HIV, and a thematic summary of school-community members' conceptions of HIV prevention through intervention on young people's 'acts' as two chapters in a findings section. Finally, I present an applied contrast of two models of 'the act' for discussion. I have also oriented these five chapters by providing a meta-narrated introduction and conclusion. Under duress, I would represent the chapters as flowing logically from one to the other – see Figure 3.

1.4.2 Four stylistic mechanisms for theory generative research. The stylistic contrasts in these two representations of this dissertation illustrates the inherent tension in theory generative research. This research must at once propose something new, but also

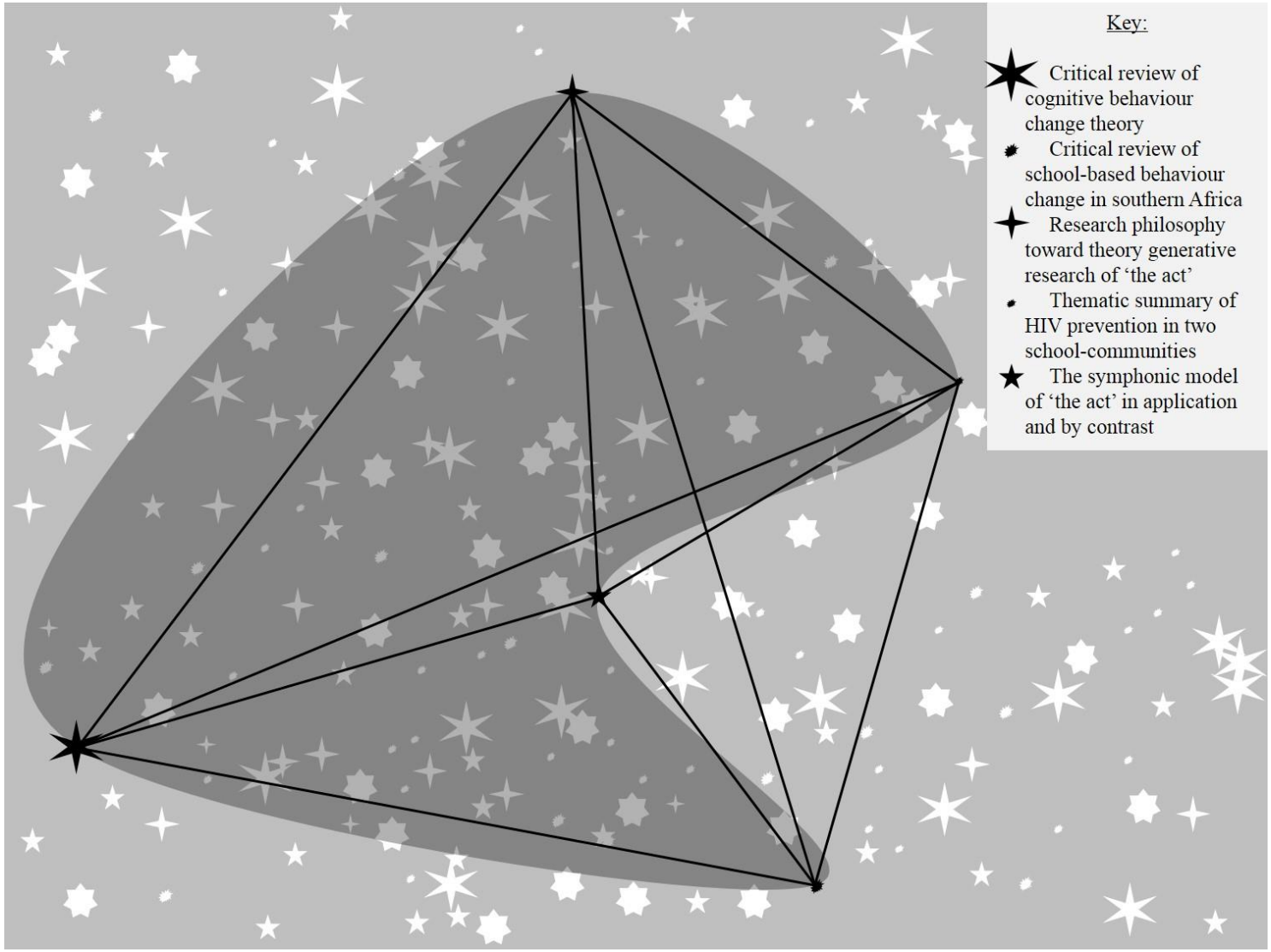


Figure 2. Illustration of the multi-dimensional organisation of this PhD as 'the act'

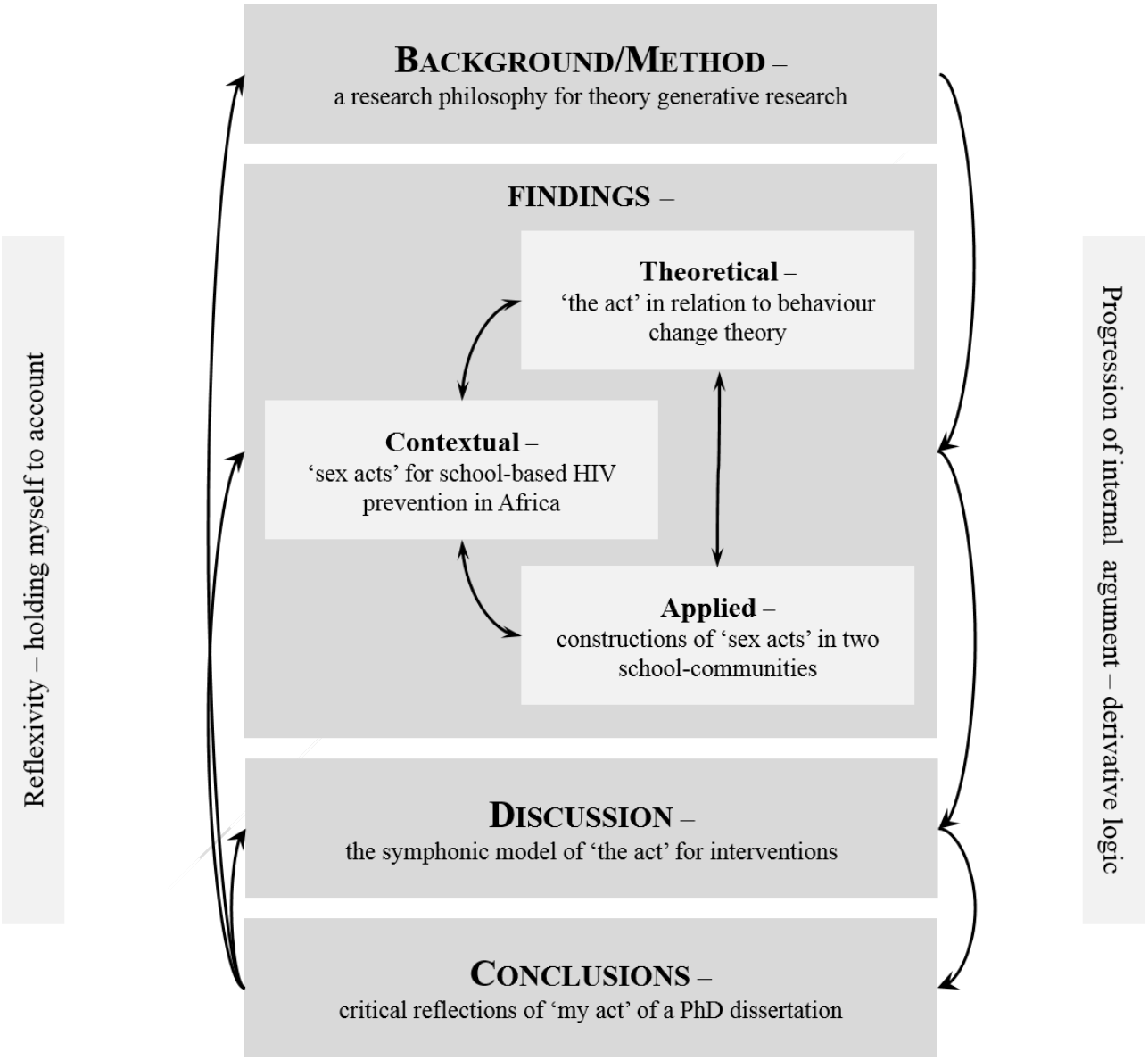


Figure 3. An organisation of this PhD by traditional research flow logic

remain recognisable to the old. This tension imposes itself into the granularity of how the work is articulated. Stylistic choices are not arbitrary, they reflect underlying research philosophical positions. I have learned four quirks in my writing style to reflect the primacy of struggling toward a tentative proposition that is theory generative research. These stylistic choices are an attempt to subvert the declarative style of normative scientific reporting of hypotheses, facts, and conclusions. Such a style prioritises the end of the research as final – what have we learnt from the study. I rather prioritise the struggling, contested, and error-strewn *processes* of research*ing* – what we learn as we study. This shift in focus is akin to the difference between a thematic analysis of speech (Braun & Clarke, 2006, 2012; Vaismoradi, Turunen, & Bondas, 2013) to a critical discursive analysis of the social rhetoric that makes the speech meaningful (Antaki et al., 2003; I. Parker, 1992; Potter, 2003; Potter & Wetherell, 2004; S. Taylor, 2001; Van Dijk, 1993; Wetherell et al., 2001). This is further complicated by doing the critical deconstruction of the rhetoric in parallel to doing the rhetoric itself. The stylistic mechanisms that I describe here are a failed but deliberate attempt to hold both these processes in the dissertation together.

1.4.2.1 Multi-narrative over-writing. I argue that a single narrative cannot represent the complexity of meaning. Rather, meaning arises in the contestations between multiple narratives. To mimic this contestation I make the stylistic choices to write each argument out in multiple ways. This choice is reflected in the overall structure of the dissertation in which every chapter is an attempt to explore the same question of 'the act' from different angles. I also embed it in the minutiae of sentence and paragraph organisation. I write paragraphs to include a positive phrasing of the research claim, and negative phrasing, and a variety of contingencies or implications. For example, I believe multi-narrative over-writing to be an effective technique to demonstrate the contestation of meaning, I do not believe it is redundant, as it enables exploration of the depth of the central claim. Further, I choose not to

repeat the same phrasing or use the same words in creating these narratives but rather to use synonyms. Again, I do this to demonstrate the continuousness of approximation toward the idea rather than a claim of final understanding.

1.4.2.2 Sentence addenda. I add addenda to sentences to shift between a first person narrative of the dissertation and a narrator voice with editorial interjections – the self-critic peering over my shoulder as I type. I use the dash punctuation mark to indicate these shifts in voice to the reader. The style is expository of my struggle toward a theory generative claim not definitive of a claim. This process is inherently messy and adding a mechanism of sentence addenda enables me to explicate that messiness for critical interrogation. These otherwise superfluous attachments to sentences demonstrate how meaning is created in the multiple processes of transcribing my otherwise disparate ideas – as I write an idea other lenses for exploring it are revealed. The sentence addenda also allow me to address other ways in which the idea could have been conceived – I can add disclaimers and qualifications otherwise implicit in the original framing. In addition to these sentence addenda, I use the phraseology of beginning successive sentences with logical extensions – such as further, rather, or alternatively – to achieve a similar aim in paragraphs.

1.4.2.3 Markers of indefiniteness. I use single quotation marks before and after ‘the act’ in order to emphasise my assertion that my conceptualisation is indefinite and open to further interrogation. This is directly opposite to writing a definition of the intellectual subject of the dissertation and then using the phrase as a technical term. Rather, I argue that my thesis is a journey toward a conceptualisation of ‘the act’. Further, that the most coherent and unitary description of my conceptualisation of ‘the act’ is the dissertation in totality, not any individual and therefore reductive, sentence. For clarity, direct quotations of other work or participants’ words are always indicated with double quotation marks. Therefore, I use single and double quotation marks completely differently and they are unrelated stylistically.

1.4.2.4 Expository figures. I think ideas through imagery. As such, I present sketches of my conceptualisations as expository figures in my dissertation. Further, I present iterations of these figures to demonstrate the development of an idea. Importantly, I intend these figures as heuristic devices for exploring a conceptual idea. In the same way that there is no single narrative for capturing the complexity of human experience, so too this cannot be reduced to a figure. I also do not intend that these figures be mistaken for schematic roadmaps that can be followed stepwise toward a particular outcome. Rather, the figures enable me to compare and contrast a variety of ways of framing ideas and highlight particular tensions in these framings. The figures also serve to expose my thinking processes for critical interrogation without the filter of written language. I believe that it is far more difficult to hide truth in images than through words. It is my research philosophical position that my thinking processes must be laid bare for critical interrogation – not disguised behind clever rhetoric – and these figures enable me to do this.

1.5 Discussion part three – principles for theory generative research philosophy.

In order to facilitate both actual and apparent cohesiveness between chapters, I rely on three heuristic principles. When deciding between alternatives for operationalising my research philosophy that are otherwise equal I use these heuristics to guide my choice. I make no claim of ultimate utility of these heuristics as rules for doing the research philosophy that I have outlined – whether for theory generative research, psychology or socio-behavioural science more generally. Rather, they are my thinking tendencies that I believe to be coping mechanisms produced by my ongoing struggle to complete my PhD dissertation. I explicate them here as another lens for the reader to turn a critical gaze on the research philosophy that I have outlined. More tentatively, I posit them as potential next points of conceptual refinement as I recreate my research philosophy with greater sophistication and with wider applicability.

1.5.1 Eclectic pluralism. I assume that theory generative research must push beyond the boundaries of current knowledge, including the epistemologies that support that knowledge. Further, I assume that the spaces between academic traditions are the nearest as yet uncharted waters to explore. Further still, that these spaces are illumined by comparing and contrasting a variety of established research philosophical positions and then actively pursuing slight divergences between these. Therefore, I argue for shifting pluralism in the selection of ontological, epistemological, motivational, methodological, and processual positions within a research thesis. Further, that these are combined eclectically to stimulate novel and uncomfortable positions that can then be critically interrogated. This heuristic is overtly rebellious, unabashed by likely errors, and resists the authority of tradition.

1.5.2 Showing by doing. I argue that theory generative research requires the positive output of an actual creation. This is different from theory de-generative research that has the primary aim of testing existing knowledge – whether empirically, by exploding assumptions, or through logical deconstruction (Alvesson & Kärreman, 2007; Corley & Gioia, 2011; Haig, 1995, 2011; Higgins, 2004; Lakatos, 1978; Meehl, 1967; Timmermans & Tavory, 2012). To be clear, I do not disparage the role that theory de-generation plays. In contrast, this is a highly important – and often first – step toward theory generative research. However, I also believe that theory generative research requires positing an alternative to the de-generated theory. This should include a description of the conceptual models, theoretical extrapolations, examples of applications, a socio-behavioural aetiology, and a specification of the research philosophy supporting the theory generative outputs. If the outputs of the theory generative research make or imply claims about the nature of human life that are contrary to the conventions of academia, then this must also be problematized in the doing of the research as an act in the researcher's life. The outputs of theory generative research are propositional, not

proofs. Therefore, the claims of theory generative research must be shown to the reader for critical interrogation by explicating the processes of doing the research philosophy.

1.5.3 Self-critical circumlocution. The exploratory nature of theory generative research requires extreme circumspection in making only tentative claims of discovery. Implicitly, all theory generative research carries the proviso that there are several stages of evidence gathering, testing, and refinement to follow. In this dissertation, chapter five is the start of outlining where to begin gathering evidence, not the product of evidence gathered. I argue that this requires a research philosophy that emphasises critical self-reflection at every point in the research process. Further that this self-reflection be made public so that it can be further interrogated as the background of assumptions and logical fallacies on which the theory is generated. Additionally, I argue that any first proposition of a conceptual model and theory that appears to be a *panacea* to solve the complexity of human experience is inherently suspicious. Rather, I argue that theory generative research best aims to provide only marginally more elucidation of the human condition. I believe this to be true even if the theory generated is a paradigmatic revolution from previous knowledge because the complexity of human life is near boundless. Therefore, I extend the self-criticality to be actively circumlocutory. Every attempt at positing in theory generative research is only approximate. I use circumlocution as a mechanism for facilitating this approximation to happen from different angles.

1.6 Conclusions.

My aim in this chapter was to present a revised framing for the components of research philosophy for theory generation in relation to moving toward a conceptual model of 'the act'. I have described a research philosophy for theory generative psychological research that evades defining research by the type of data collected. This might serve as a template for socio-behavioral science research generally. Specifically, I have argued that all theory

generative research should explicate its ontology, epistemology, motivation, methodology and process as part of the scientific process. Further, I have shown an application of this assertion to my PhD dissertation as a case example of doing this theory generative research and explicating its research philosophy in this way. I presented four stylistic mechanisms and three heuristic principles for operationalising this research philosophy for theory generative research. I have argued that improving our understanding of human condition necessitates a critical interrogation of how we research 'the act'.

Attempting to move toward an alternative conceptual model of 'the act' is an act of rebellion. Further, it must be a positive act not only a critique. Exploring the philosophical premises of research to create such an act reminds me that every act is inseparable from a rhetorically implied historical narrative. Further, that explicating this implicit narrative is necessary to exploring the act in its wholeness. In this chapter, I have attempted to position my act of proposing an alternative model of 'the act' relative to recognisable socio-behavioural science method paradigms. I have gone further to propose creative divergences from those established norms.

I believe that a key implication for my wider goal of proposing a conceptual model of 'the act' is that the process of proposition is similarly an active dialogue between the established and the new. In this dialogue, there will be multiple turns taken between perspectives in a creative clarification of 'the act'. This is radically different from 'the act' as a bald and ahistorical definitional statement. As a thing, 'the act' can only be in a process of *being* created, it can never *have been* described. More broadly, I suggest that between a philosophical genesis for 'the act' and the momentary statement of 'the act' is the dynamism that defines our experiences of 'the act'. That exploring historical assumptions to 'the act' is revelatory of 'the act' itself. As I move toward a conceptual model of 'the act', I will foreground exploring the genesis of 'the act' over its intention or final definition.

1.6.1 Limitations. This description is limited to being a statement of plausibility, not a proof. Future research should apply this framing of a research philosophy, principles and stylistic mechanisms to other theory generative research – beyond my PhD dissertation. If it proves sensible on this variety of contexts and its concepts are further clarified, then it might be experimentally compared to other normative framings of method, methodology and research.

Chapter 2 – A critical review of behaviour change theory

2.1 Introduction.

Behaviour change is a foundational mechanism of public health strategy (Champion & Skinner, 2008; Davis, Campbell, Hildon, Hobbs, & Michie, 2015; DiClemente, Salazar, & Crosby, 2013; Munro, Lewin, Swart, & Volmink, 2007). Changed behaviour, as a proxy for risk exposure, is a primary end-point for public health intervention design (Ryan, 2009; Spring, Moller, & Coons, 2012). Increasingly, behaviour change is also recognised as a mechanism for promoting uptake of (S. D. French et al., 2012; Jepson, Harris, Platt, & Tannahill, 2010; Lau et al., 2016) and adherence to (Easthall, Song, & Bhattacharya, 2013; Heath, Cooke, & Cameron, 2015) biomedical prevention modalities. There is strong academic advocacy that health interventions are better if informed by appropriate behaviour change theory (Aboud & Singla, 2012; DiClemente et al., 2013; Glanz & Bishop, 2010; Painter, Borba, Hynes, Mays, & Glanz, 2008; Prestwich, Whittington, Dombrowski, Rogers, & Michie, 2014; Wight, Wimbush, Jepson, & Doi, 2015). In the developing field of health psychology, reviews of behaviour change theory have emphasised rigorous synthesis (Michie, Ashford, et al., 2011; Michie, van Stralen, et al., 2011; Michie & Johnston, 2012; Michie & West, 2013; Stavri & Michie, 2012), experimental comparison (Noar & Head, 2014; Ory, Jordan, & Bazzarre, 2002; Peters, de Bruin, & Crutzen, 2015; Teixeira, 2016), and incremental increases in theoretical sophistication (Armitage, 2015; Conner & Armitage, 1998; Crosby & Noar, 2010; Head & Noar, 2014; B. T. Johnson & Michie, 2006; Noar & Zimmerman, 2005).

In contrast, there is also widespread critique of existing theory on the grounds of lacking conceptual clarity (Abraham, 2016; Michie & Johnston, 2012; Ogden, 2003; Sniehotta, Presseau, & Araújo-Soares, 2014, 2015), and poor predictive ability (Armitage & Conner, 2000, 2001; Aunger & Curtis, 2016; Chandon, Morwitz, & Reinartz, 2005; R.

Cooke, Dahdah, Norman, & French, 2014). More broadly, scholars such as Barnes (2015), Beckmann (2013), Bhagwanjee (1998), and Chan (2009) have critique these theories as imposing a culturally hegemonic perspective rooted in the western individualism that constructs people as accountable to their health outcomes regardless of their structural context .

Recently, there has been prominent debate about how to advance health behaviour theory generally (Davis, Campbell, Hildon, Hobbs, & Michie, 2015; Hall, 2015; Kwasnicka, Dombrowski, White, & Sniehotta, 2016; Noar & Mehrotra, 2011; Ogden, 2016) and how to improve existing theories specifically (Hagger, 2015; Head & Noar, 2014; Peters & Kok, 2016; Rhodes, 2015). Included in this debate have been calls for (Ogden, 2016; Sniehotta et al., 2014) and strong opposition to (Ajzen, 2014; Ajzen & Fishbein, 2004; Conner, 2015; Hall, 2015; M. Johnston, 2016; Peters & Kok, 2016; Teixeira, 2016) abandoning some long-established theories altogether. A key point in this debate is how to explain the poor association between the theoretically proposed 'antecedents' of behaviour and behaviour itself (Fishbein, Hennessy, Yzer, & Douglas, 2003; Loewenstein, 1996; S. Sutton, 2004; T. L. Webb & Sheeran, 2006).

As I explore toward a conceptual model of 'the act', I am searching for opportunities for divergence from how 'behaviour' is conceptualized in existing behaviour change theory. I aim to characterize the implicit logics of 'the act' in three prominent psychological theories of behaviour change. By explicating the ontological assumptions made about behaviour in these theories, I argue that 'the act' is systematically misapprehended. Further, that this causes philosophical tensions that conceptual models of 'the act' must engage. Specifically, my objectives are to:

a) describe the historical development of three prominent behaviour change theories,
b) summarise key ontological assumptions made about 'the act' in each of these theories,

c) illustrate the implicit logics of 'the act' in each of these theories through diagrams,
d) extrapolate general ontological challenges for conceptualising 'the act' for behaviour change theory, and
e) discuss opportunities for advancing behaviour change theory by refining conceptualisations of 'the act'.

2.2 Method.

2.2.1 Design. An exploratory critical review of articles published in peer-reviewed journals or in books. This design enables me to understand both the substantive contribution of each theoretical tradition as well as the context of that contribution (Feely, 1976; Guba & Lincoln, 1994; Mulnix, 2012). Such a review is an important component of the novel theory generative process I propose because it answers why existing models might have errors/limitations in the first place.

2.2.2 Sample. I selected the three most prominent behaviour change theories in health psychology as case examples – the health belief model (HBM), protection motivation theory (PMT), and the theory of planned behaviour (TPB). I argue that these three theoretical traditions illustrate the general philosophical challenges for behaviour change theories premised on belief-based decision-making. I used these three theories as rich-case samples (Suri, 2011; Teddlie & Yu, 2007; Trotter, 2012) qualitatively representative of behaviour change theory. I selected the sample purposively (O'Reilly & Parker, 2012; Polkinghorne, 2005; Tracy, 2010) to illustrate a historical perspective on the influence of ontological assumptions about behaviour on cognitive behaviour change theory – assumptions I hope to challenge.

Notable exclusions from this analysis are social cognitive learning theory (Bandura, 1989, 2001), and the stages of change or trans-theoretical model (Prochaska & DiClemente, 1982, 2005; Prochaska, Redding, & Evers, 2008). The scope of the analysis is limited to

theories that describe sets of bounded antecedents to behaviour – in contrast to *processes* of learning or behaviour adoption respectively.

I identified a total of 122 texts to include in the primary dataset and uploaded them into ATLAS.ti (2012) for data management – Tables 3-5 in appendix A. I supplemented this analysis by contextual reading of 152 texts related to the history of behaviour change theory – Table 6 in appendix A.

2.2.3 Data collection. For each theory, I identified texts through iterative exploratory searches in Google Scholar and Medline. The search terms I used were, 'health belief model theory', 'protection motivation theory', and 'theory of reasoned action planned behaviour'. Additionally, I reviewed articles cited in the reference lists of reviews and other selected texts. To retain a manageable dataset, I excluded applications of the theory to health challenges and reviews attempting to codify unifying or comparative frameworks.

2.2.4 Data analysis. I started the analytic process with a discursive, textual analysis (Antaki, Billig, Edwards, & Potter, 2003; Fairclough, 1992; Potter, 2003) of the seminal descriptive texts of each behaviour change theory in turn. The analytic hooks (Wetherell, Taylor, & Yates, 2001) I used for this analysis were any statements about the ontology of behaviour. I included both explicit statements made by the authors, as well as my inferences about their assumptions. I grouped and descriptively labelled the groups into lists of key ideas about behaviour held by each theory. I then used the list of assumptions I had identified as analytic lenses (Schiffrin, 2001; Wetherell et al., 2001) through which to consider philosophical tensions in behaviour change theory generally using inductive logic (Fereday & Muir-Cochrane, 2006; Hsieh & Shannon, 2005; Morse & Mitcham, 2002).

2.3 Findings part one – historical context of HBM, PMT, and TPB.

The ontological assumptions each theory makes about behaviour reflect the behaviours first problematized. These are dental disease, cancer, and Tuberculosis screening (Maiman &

Becker, 1974; Rosenstock, 1974) for the HBM, exercise and smoking cessation (Boer & Seydel, 1996; Floyd, Prentice-Dunn, & Rogers, 2000) for the PMT, and choice dilemmas (Ajzen, 1985; Ajzen & Fishbein, 1977) and then behaviours with limited volitional control (Ajzen, 1991) for the TPB respectively. In each theory, a conceptual model of behaviour change is articulated by describing (a) several cognitive antecedents to behaviour, and (b) the relationships between these antecedents and the behaviour. These models are represented differently over the history of each theory. See Figures 4-6 for a comparison of the key components and processes synthesized across the development of each theory. Importantly, all three theories position behaviour as an outcome of cognitive processing relative to contextual cues.

The historical moment of socio-behavioural science in the 1960's and 1970's was characterised by quantitative measurement, close ties to social policy, and cognitive individualism (Backhouse & Fontaine, 2010; Faye, 2011; Mata, 2010; Susser, 1985). In this context, each theory positioned health behaviour as a point of intervention, both because it was problematic but also because there was hope of resolving this problem. This created a necessary problematic of representing health behaviour as both predictable and difficult to predict. Each theory vacillates between conceptualisations of behaviour as salvational, equational and modifiable, and at the same time complex, intractable, and unpredictably variable. This tension is recurrent throughout the histories of each theory. Examples from the HBM, PMT, and TPB respectively with emphasis added in italics to highlight the tension between a conceptualising behaviour as both problematic and the solution to health challenges:

> [HBM] – It has long been known that *people's beliefs, values, and traditions may be antithetical to their seeking health services* … it is also known that a great many *people do not voluntarily enter the professional health care system* … and *yet the greatest*

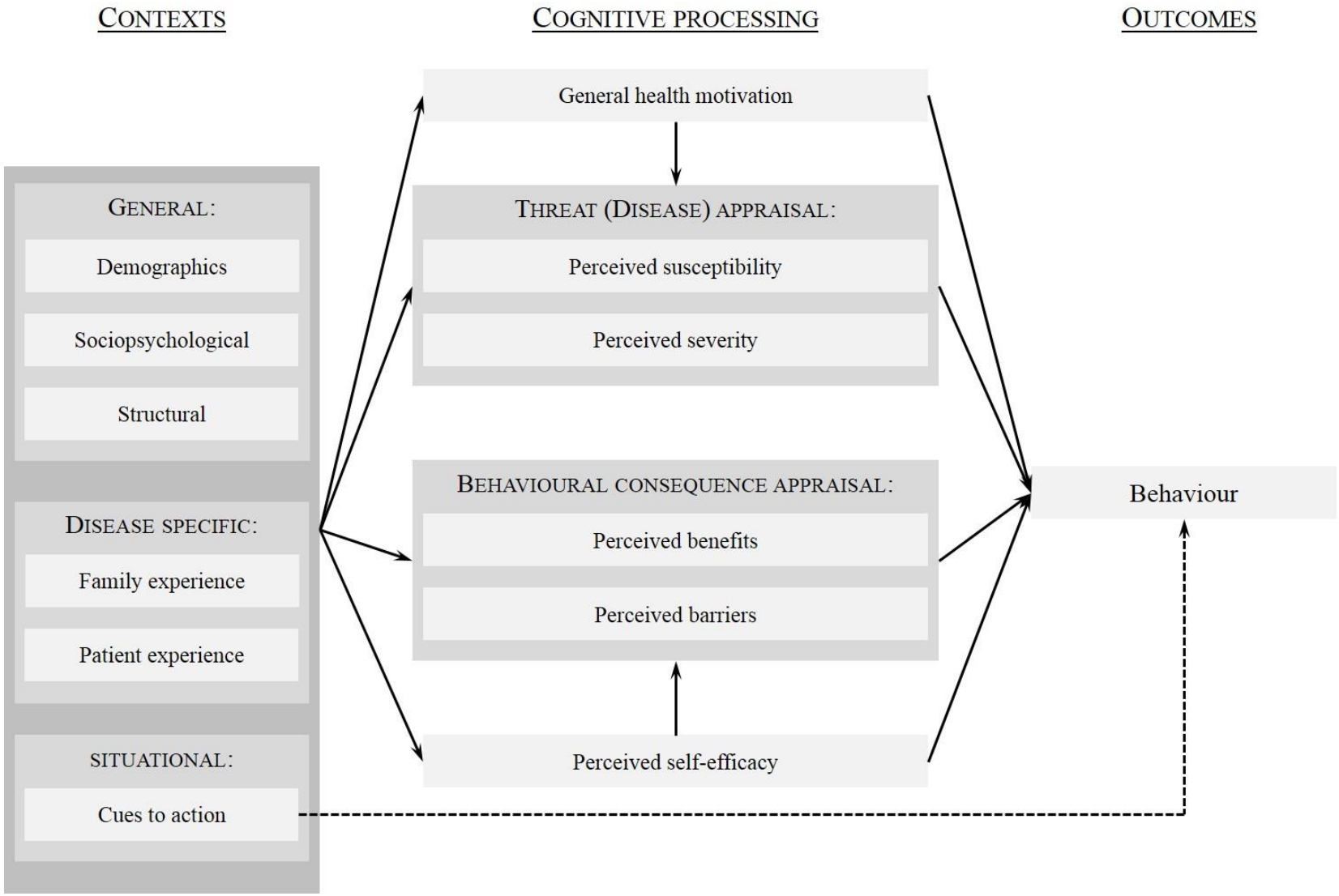


Figure 4. Health belief model

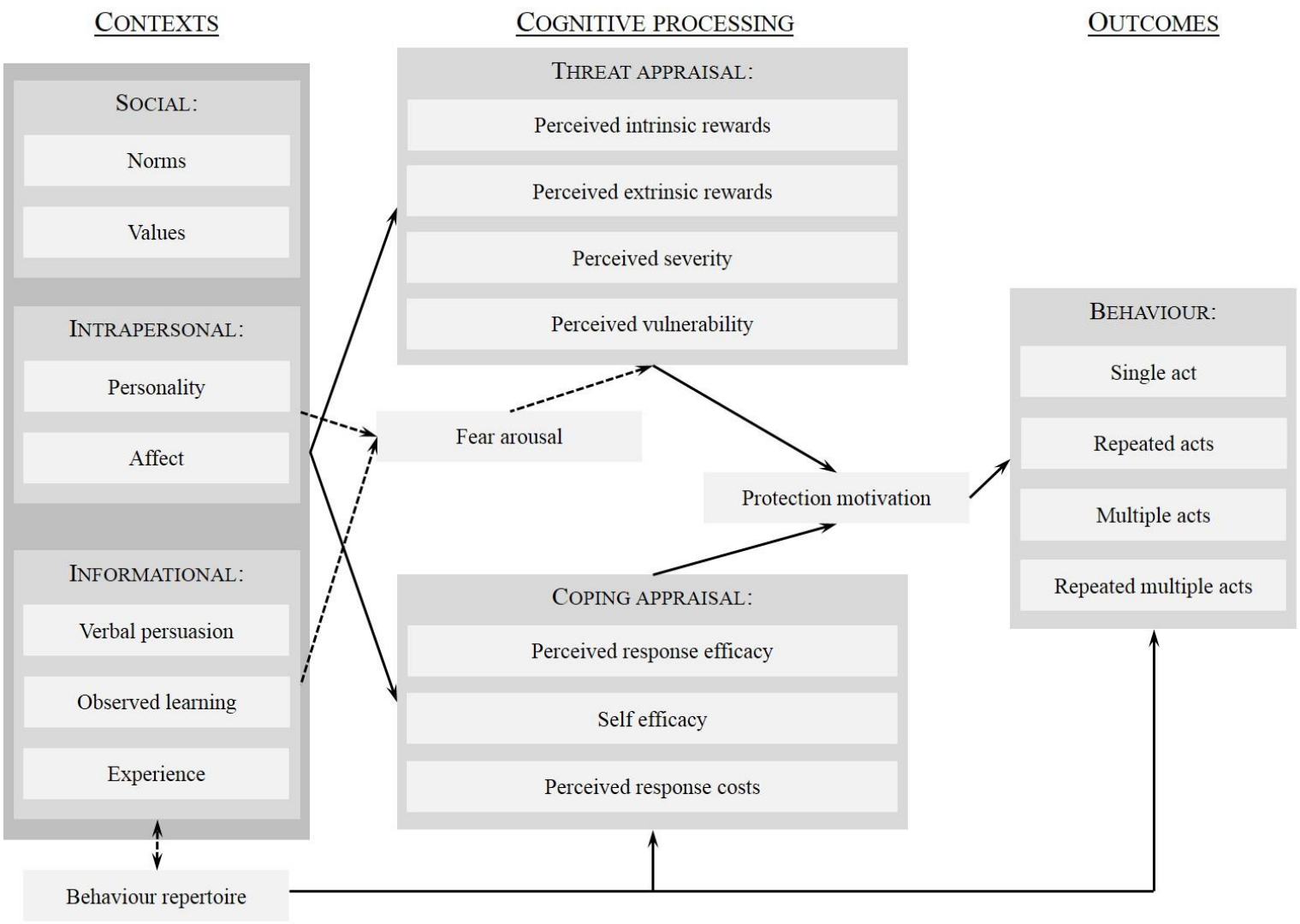


Figure 5. Protection motivation model

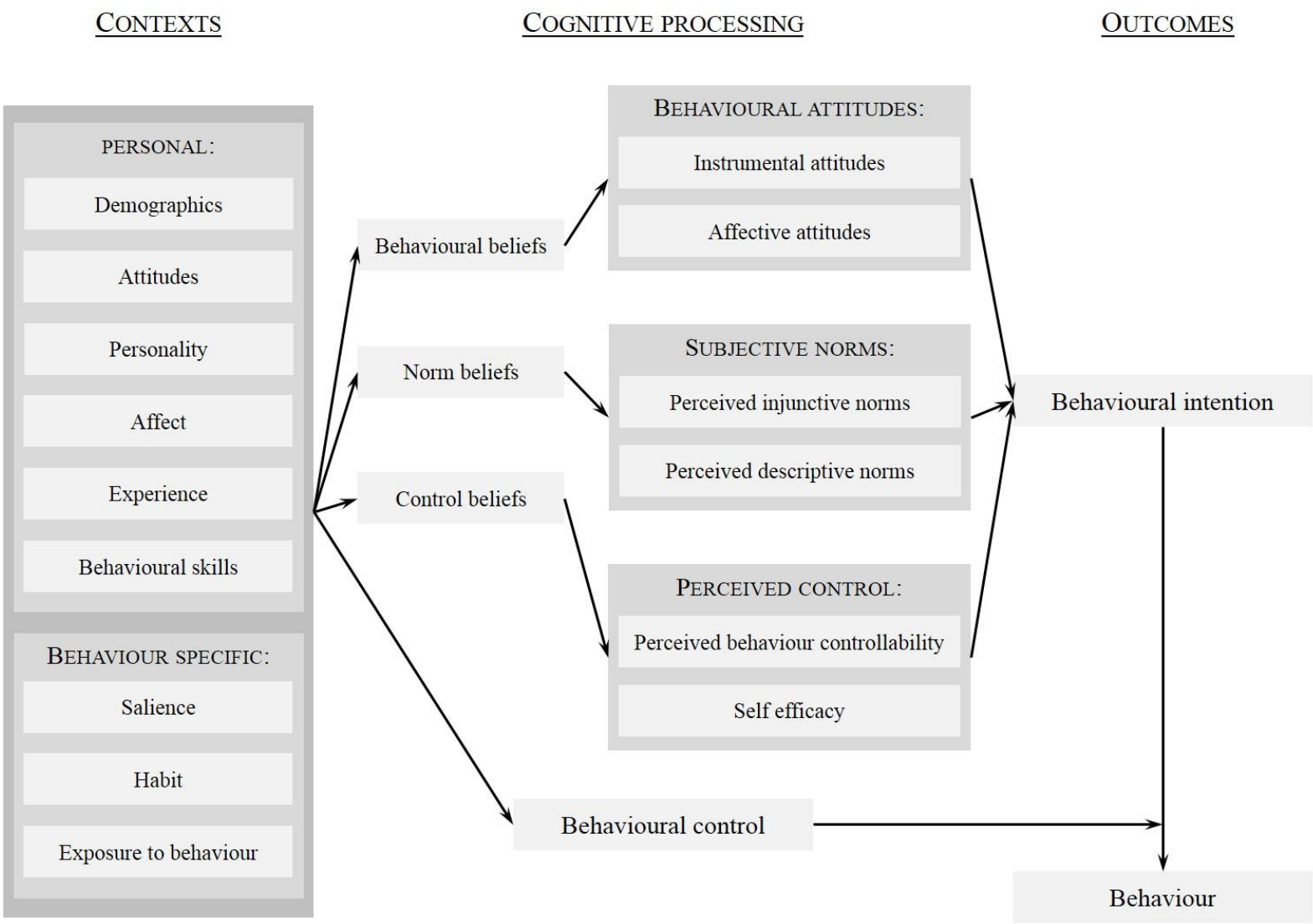


Figure 6. Planned behaviour model

> *potential contributions* of the health professions are to prevent disease or to detect and treat it in an *early presymptomatic stage* – (Haefner & Kirscht, 1970, p. 478).
>
> [PMT] – ... *the sinners* in Johnathan Edwards's congregation would *weigh the rewards associated with their wicked ways against their beliefs* that they might be consigned toan everlasting Hell. … The outcome of these two appraisal processes *would determine the flock's motivation* … Fear may add wings to the sinners' feet … but *protection motivation adds the wings that will enable them to soar over the bottomless pit* – (Rogers, 1983, pp. 173–174).
>
> [TPB] – … note that the TPB is in fact *not a theory of behaviour change*. Instead, it is meant to help explain and predict people's intentions and behaviour … large changes in beliefs will tend to produce smaller changes in attitudes, subjective norms, and perceptions of control; even less change in intentions; and *least in actual behaviour* … *We should immediately acknowledge that changing intentions and behaviour is not an easy task* – (Ajzen, 2014, pp. 133–134).

In each case, the authors position behaviour as at once the ultimate mystery and the theory as on the cusp of laying it bare. The authors justify the perpetuation of this tension through rhetorical techniques of emphasizing academic humility and appealing to the universal good of their ambition. In early texts on the HBM, Rosenstock is at pains to emphasise that the social psychological contribution is only useful if "administered and operated by dedicated people [health professionals] … making the maximum contribution to the total program" (1960, p. 301). Similarly, Tanner, Day and Crask write about the "potential of making significant contributions to society through the application of protection motivation theory to social problems" (1989, p. 275). Most cogently, Hagger summarises that the TPB's "legacy cannot be ignored … [and] will continue to serve as a basis or root of a multitude of new theories, revision and extensions … [that] helped shape the thinking

processes underpinning health behaviour" (2015, p. 127). Through such rhetoric, the theories escape accountability for predictive utility in real world contexts.

In addition to these similarities of genesis and self-justifying logics, none of the texts reviewed represent substantive interrogations of the nature of behaviour. In contrast, they are principally concerned with characterising cognitive correlates of behaviour and reference a philosophy of behaviour only indirectly. Rosenstock writes "we may now ask what behavioral science is … we may expect to understand, predict, and control man's (*sic*) *behavior* to the extent that we may adequately identify his *motivations* [emphasis added]" (1960, p. 296). Floyd, Prentice-Dunn and R. W. Rogers are similarly concerned with cognitions "There are numerous other biases in human thinking … the final threat and coping appraisals will reflect them and thus correspond closely with measures of intentions and behaviour" (2000, pp. 420–421). Equally, Ajzen framing of TPB is cognitive: "human behaviour is guided by … beliefs about the likely consequences … of the behaviour (behavioural beliefs), … the normative expectations of other people (normative beliefs), and … factors that may further or hinder performance of the behaviour (control beliefs)" (2002, p. 665).

2.3.1 Primary assumptions about the ontology of behaviour in the HBM. In the HBM, the primary ontological assumption is that behaviour is *determined*. A behaviour *is* by virtue of what it *means* with respect to social, intentional and future implications. The HBM also assumes that, once determined, the nature of a behaviour is *real*. Further, that changing any of the determinants of behaviour changes the behaviour itself. This enables the categorisation of behaviours and discrimination between behaviours based exclusively on these determinants. In the HBM, three determining characteristics of behaviour are especially frequently mentioned:

2.3.1.1 Anticipation of an outcome in the HBM. The first formulations of the HBM were to explain and predict preventive behaviour (Haefner & Kirscht, 1970; Kirscht, Haefner, Kegeles, & Rosenstock, 1966; Rosenstock, 1966). In these formulations, behaviour exists relative to avoiding negative health outcomes (Janz & Becker, 1984; Rosenstock, 1974). The nature of behaviour is therefore determined by the anticipated outcomes of doing (or not doing) the behaviour. As the HBM was extrapolated from prevention to disease-response, it retained a preoccupation with behaviour as determined by anticipated outcomes (J. A. Harrison, Mullen, & Green, 1992). This assumption is essential to the HBM in that both threat appraisals and benefits/barriers appraisals are dependent on their anticipated effects. For example, in recent applications of the HBM to treatment adherence by Jones, Smith and Llewellyn (2014), the primary programmatic query is to determine how people assess the risks of treatment interruption.

2.3.1.2 Social outcomes as determinants of behaviour in HBM. In the early presentations of the HBM, the social outcomes of a particular behaviour were contrasted with its medical outcomes. For example, Rosenstock (1966, p. 5) writes, "The variables deal with the subjective world of the behaving individual and not with the objective world of the physician … The two, no doubt, are correlated, but the correlation is far from perfect". The contrast implicitly laments the imposition of a subjective reality as a confounder to public health empiricism. For example, Kirscht, Haefner, Kegeles and Rosenstock describe their frustration with people's belief in individual exceptionalism: "many people who accepted [risk] … nevertheless thought that in their own cases, symptoms would appear before tests could detect the disease" (1966, p. 252). At the same time, the social nature of behaviour was acknowledged as an inescapable component that is determinative of all behaviour. Rosenstock is explicit about the social consequences of disease "the perceived seriousness of a condition may … include such broader and more complex implications as the effects of the

disease on his job, on his family life, and on his social relations" (1974, pp. 330–331). The increasing influence of social learning theory further reinforced this assumption and it is now axiomatic. For example, Champion and Skinner apply the HBM to HIV prevention, writing: "Perceptions of AIDS severity address the perceived costs of being HIV-positive … in this case, refers to … the probable biomedical, financial, and social consequences of contracting HIV" (2008, p. 58).

2.3.1.3 Intent determines behaviour in the HBM. Relatedly, in the first collation of works in the HBM, Becker (1974) used the conceptual framing of Kasl and Cobb (1966) to draw a sharp distinction between prevention, health and illness behaviours. The distinction between these types of behaviours is premised on the purpose that they are intended to achieve. Differences in behavioural intent meant the behaviours themselves were assumed to be qualitatively different too. For example, Kirscht relates differential health service uptake by social class to a failure to adequately account for the differential intentions of behaviour: "part of the dispute concerning poverty and health care results from not distinguishing preventive, curative, and maintenance type visits" (1974, p. 396). Importantly, it is *why* the behaviour is done that determines *what* the behaviour is. In applications of the HBM, each biomedical health challenge is categorised within a class of behaviours – for examples, breast self-examination (Erblich, Bovbjerg, & Valdimarsdottir, 2000), smoking cessation (Kaufert, Rabkin, Syrotuik, Boyko, & Shane, 1986), or condom use (Abraham, Sheeran, Abrams, & Spears, 1996). By extension, each behaviour is also unique in relation to its intent. A behaviour is only predictable insofar as it is an instance of a category of behaviours. In the HBM, there is therefore an inherent expectation that behaviour is only predictable within a margin of error created by the unique intent of each behaviour.

2.3.2 Two secondary ontological assumptions about behaviour in the HBM. Firstly, the HBM asserts that behaviours in a given context are *conditional* on external variables,

including material conditions, motive, and interference by extreme affect. For example, Rosenstock writes that "Legal compulsion and job requirements also account for much health behaviour" (1966, p. 17), and Kirscht et al. that "First, vulnerability to disease and helplessness in the face of disease tend to be associated with lower social status" (1966, p. 253). Rosenstock relates conditionality to individual motive "such as the frequency with which the person thinks about his own health and whether he generally goes to the physician right away if he feels sick (1974, p. 366) and similarly Maiman and Becker to "general and stable dispositions present in the individual (1974, p. 346). Kasl cites extreme affect as limiting condition where "something about these people … has disturbed their rationality, for otherwise, they would 'naturally' seek aid … Anxiety seems to interact with many other variables" (1974, p. 440) and Champion and Skinner echo that "fear… predicted actual behaviour" (2008, p. 62). In each instance, behaviours are conditional on context permitting that the behaviour be enacted. These conditional limits are convenient rhetorical loopholes for the HBM because any predictive failures are automatically positioned as a consequence of the limiting conditions and not a failure of the theory.

Secondly, behaviours are assumed to be *selective*. In the HBM, people are positioned as responsible for choosing a behaviour between options. Selection depends on their awareness, opportunity, and preference. Rosenstock writes that "some of the failures … are based not on difficulties in motivation, but rather on fairly simple gaps in information" (1960, p. 300) and Becker, Drachman and Kirscht present an example of "The mother … [who] has a child who is often ill, and she has learned the value of owning a fever thermometer" (1974, p. 215). Kasl reminds of the importance of "Increased availability of health care services (via a neighborhood health center) increases readiness to seek attention" (1974, pp. 437–438) and Rosenstock similarly distinguishes between "settings were such that the population … had been offered the opportunity to take action through ... cues to stimulate action" (1966, p. 13).

Finally, Rosenstock also argues that behaviour is selective from "conflict among motives and among courses of action … those which have the highest value or salience for the individual will actually be aroused" (1960, p. 299) and again "relative effectiveness of known available alternatives" (1966, p. 7). In each instance, behaviour is selected from between options.

The assumption of selectiveness legitimises a preoccupation with the beliefs of the individual. Expanding the possibilities between which people *select* their behaviour by removing deficits in their awareness is acknowledged as a more effective public health strategy than modifying beliefs (Abraham & Sheeran, 2005; Becker & Maiman, 1975; Haefner, 1974). At the same time, since they are correlates of threat and benefits/barriers appraisal respectively, only awareness and preference – and not opportunity – are positioned as within the scope of the HBM. In this way, the HBM is able to acknowledge the importance of conditions but still prioritise individual beliefs. For example, in graphical representations of the HBM (Abraham & Sheeran, 2005, p. 31; Becker et al., 1974, p. 206; Becker & Maiman, 1975, p. 12; Champion & Skinner, 2008, p. 49; Rosenstock, 1974, p. 334) conditions are depicted as "modifying factors" of all components of the model, yet only the components themselves are subject to its gaze.

In the HBM, the nature of behaviour is determined by its implications, conditional on context, and selective between options by an active agent. Behaviour is a determined outcome of interactions between cognitive appraisals of threat and opportunities to avert it. The behavioural outcomes of these intra-personal processes are conditional on the context of the world in which they are expressed and the selectivity of the behaver. Behaviour change is a secondary consequence of belief manipulation that is, by definition, only ever partial, approximate, and ancillary.

2.3.3 Primary assumptions about the ontology of behaviour in PMT. The PMT holds to three related ontological assumptions about behaviour – *responsiveness*, *patterning*,

and *cognitive mediation*. The PMT emerged from research on the effects of fear appeals and threat communications on behaviour (K. H. Beck & Frankel, 1981; Rogers, 1975; Rogers & Mewborn, 1976). Behaviour was characterised as principally *responsive* to threats. As PMT grew, increasingly behavioural responses were characterised as conforming to, or divergent from, an existing *pattern* of behaving. These patterns were considered ubiquitous property of behaviour that is either adaptive or maladaptive to the threat (Rippetoe & Rogers, 1987; Rogers, 1975). Behaviour was further characterised as dependent on variety of cognitive mediation processes between responsiveness to different threats and relative to existing patterns. These cognitive mediational processes were further characterised as dependent on efficacy, expectancy, learning, motivation, planning, and social consequence (Brouwers & Sorrentino, 1993; Milne, Sheeran, & Orbell, 2006; Rogers, 1983). In PMT, behaviour can therefore be considered a response pattern with cognitive mediation to prioritise between threats evoking responses.

2.3.3.1 Responding to a threat determines behaviour in PMT. In the earliest formulations of PMT, the primary point of contention was whether behaviour responded to threat because of the emotional experience of fear or because of avoiding appraised danger. For example, R. W. Rogers characterises PMT as an increase in sophistication from "a fear appeal [that] may initiate a danger control process … [to] (1) specifying the components of the fear appeal initiating the coping process … and (2) analyse this coping process in more detail" (1983, pp. 155–157). The ongoing project for PMT has been to clarify the relative contribution of various components of the threat appeal on behavioural responses. For example, Floyd et al. argue that "Understanding the relative impact of the key variables associated with the targeted protective behaviour would be important … may help to pinpoint areas for intervention, or … identify obstacles to improved health or safety" (2000, p. 422).

2.3.3.2 Being part of a pattern determines behaviour in PMT. The responsiveness of behaviour was also always characterised as a *pattern* of behaving. As the PMT grew, responsiveness to threat was increasingly cast as relative to the stage of adopting a new behaviour pattern. The first evaluation that included the idea of stage of adopting a new behaviour pattern with responsiveness was by Sturges and Rogers who speculated that "children may not have shown the boomerang effect … because they may not have yet developed the adult strategies of … danger control" (1996, p. 165). Similarly, Milne, Sheeran, and Orbell draw a distinction between the outcome of response by writing "Detection behaviours influence health only if the individual takes further preventive action after learning the result of the detection behaviour" (2006, p. 113). Most extensively, Lippke and Plotnikoff argued for "the strength of differentiating stage-specific mechanisms in a continuum model" (2009, p. 227) by integrating protection motivation with the transtheoretical model (Prochaska & DiClemente, 1982, 2005; Prochaska et al., 2008; Prochaska & Velicer, 1997; Whitelaw, Baldwin, Bunton, & Flynn, 2000).

Behaviour is therefore a continuous avoidance of threats. A recurrent framing of this continuousness was through the verb 'coping strategies'. For example, Maddux and Rogers explain associations between increased preventive behavioural intentions in the context of low threat or low response efficacy as precaution and hyper-defensive strategies that "Although … not strictly rational … operate to ensure individual's safety" (1983, p. 477). These strategies are patterns of behavioural response adopted under the continuous presence of threat appraisal. Behaviour change requires adopting a new pattern of responses. Refinements of PMT increasingly emphasised the existing behaviour patterns over components of the threat communication. For example, Tanner, Hunt and Eppright offer an early critique – reiterated by (Umeh, 2004) – that "A limitation of protection motivation theory is its assumption that the subjects have not already adopted a coping response … The

likelihood of choosing a maladaptive coping response is influenced greatly by past experience" (1991, p. 39). This is extended by Ho who emphasises the importance of a pre-existing repertoire of coping patterns that "may be triggered and appraised simultaneously with the threat information … threat appraisal also cues … existing repertory of coping responses" (2000, p. 116). Similarly, Brouwers and Sorrentino argued that personality differences influences response patterns because "differences in subjects' willingness to self-diagnose and learn more about a potential health problem … were mediated by their uncertainty orientation" (1993, p. 109). Existing behaviour patterns were later reformulated as presenting opportunities for intervention. Specifically, they present existing cues for implementation intentions (Milne, Orbell, & Sheeran, 2002) and providing supplementary information (Cismaru & Lavack, 2006).

2.3.3.3 Behaviour is cognitively mediated in PMT. In examining the relationship between responses to threat in relation to behaviour patterns, protection motivation is principally a theory of cognitive mediation. As R. W. Rogers writes "each of the three components of a fear appeal initiates a cognitive mediational process … individuals have different styles of appraising threatening events" (1975, pp. 97–98). Importantly, the ontology of behaviour is therefore fundamentally only intelligible in terms of the cognitive mediation processes by which it has come to have meaning. Behaviour is a teleological outcome of the meaning ascribed to response patterns during the cognitive mediation processes. To *do* is to have *thought about* doing.

In PMT, a number of related cognitive mediational processes interact to ascribe meaning to particular behavioural response patterns. Stanley and Maddux provide an example of "[a] situation in which these cognitive components might operate would depend on … the value of the expected outcomes" (1986, p. 103). Relatedly, Tanner et al. illustrate the importance of learning for cognitive mediation processes where "Sources of available

information used in the appraisal processes include previous experience, vicarious experience, and environmental stimuli" (1991, p. 37). R. W. Rogers writes that "three cognitive processes mediate the effects of … fear appeals upon attitudes by arousing … 'protection motivation.' [that] arouses, sustains, and directs activity" (1975, p. 98). K. H. Beck and Frankel argue that cognitive processes are important because "perception of threat appears to be a necessary but insufficient condition for protective threat-coping behaviour … one also needs a plan of action" (1981, pp. 214–215). Lastly, cognitive processes mediate the social implications of behaviour because "the social context of the alternative behaviour can influence which behaviour is chosen" (Tanner et al., 1991, p. 40). In each example, the cognitive appraisal of the implication of behaviour determines that behaviour.

Making cognitive mediation its central problematic, not behaviour, enables PMT to ignore the disjuncture between behavioural intention and behaviour. The disjuncture can always be explained away as an error in the cognitive mediational process and therefore not evidence against the theory but rather an opportunity for intervention. Further, it facilitates cycles of experimental evaluations of the components of the PMT with easy to collect self-reports of behavioural intention and related cognitive mediational processes rather than observed behaviours. These data lend scientific veracity to the PMT without evaluating its real-world utility for changing behaviour. In graphical representations of PMT (Boer & Seydel, 1996, p. 97; Floyd et al., 2000, p. 410; Lippke & Plotnikoff, 2009, p. 222; Rippetoe & Rogers, 1987, p. 597; Rogers, 1975, p. 99, 1983, p. 168; Tanner et al., 1991, p. 39) behaviour is only a distal outcome and all focus is on cognitive mediation processes.

In PMT, behaviour is responsive to appraised threat, patterned by behavioural repertoires, and mediated by cognitive processes by which meaning is ascribed. Behaviour is an ancillary outcome of coping with cognitive appraisals of the best way to avoid threat. Threat avoidance can result in both adaptive and maladaptive behaviour. Importantly,

adaptiveness is defined exclusively by the behaviour patterns objective ability to reduce biomedical harm. Behaviour change is possible by adopting a new pattern in response to a re-appraisal of the outcomes of continuing behavioural options. Without this cognitively mediated re-appraisal behaviour will continue to recur according to existing patterns.

2.3.4 Primary assumptions about the ontology of behaviour in TPB. In a commentary responding to a call for abandoning use of the TPB by Sniehotta et al. (2014), Ajzen (2014, p. 133) argues "that the TPB is in fact not a theory of behaviour change. Instead, it is meant to help explain and predict people's intentions and behaviour." Nonetheless, it is the subject of numerous health intervention evaluations (McEachan, Conner, Taylor, & Lawton, 2011) and remains a seminal contribution to behaviour change theory and health psychology as a discipline. Further, even if it is misinterpreted as a behaviour change theory, this is a ubiquitous misinterpretation that holds lessons about tensions over the ontology of behaviour in behaviour change theory in general.

The TPB was initially concerned with explaining the poor correlation between attitudes and behaviour (Fishbein, 1963; Smetana & Adler, 1980). In particular, Ajzen and Fishbein (1969, 1972, 1973) devised choice experiments to establish the intervening role of intentions between behavioural outcomes and antecedents – attitudes and subjective norms. Later, (Ajzen, 1991) perceived behavioural control was added as a third antecedent to better account for some of the gaps between antecedents, intentions, and behaviour in the context of diminished volitional control. A recurrent tension for critics of the TPB has been the lack of interrogation of how intentions lead to behaviour (Ogden, 2003; Sniehotta, 2009; Sniehotta et al., 2014). Assuming that behaviour is the outcome expectancy, planning, and specificity are foundational to TPB's intention formation process. Assuming that behaviour is the outcome of personal narrative and effort are particularly evident in attempts to extend the theory to explain more behavioural variance (Churchill, Jessop, & Sparks, 2008; Hagger &

Chatzisarantis, 2009; Manning, 2009; McEachan et al., 2011; Norman, Clark, & Walker, 2005; Rise, Sheeran, & Hukkelberg, 2010; Rivis, Sheeran, & Armitage, 2009; Sandberg & Conner, 2008; Terry, Hogg, & White, 1999). In the TPB, the ontology of behaviour is assumed to be self-evident. To do is to enact one's intention relative to volitional constraints.

2.3.4.1 Acting toward an expected outcome determines behaviour in TPB. The general logic of the TPB is that intentions result from a reasonable assessment of the expected value of adopting alternatives (Ajzen, 1991; Ajzen & Fishbein, 1972, 1973; D. P. French & Hankins, 2003; Miniard & Cohen, 1981; Smetana & Adler, 1980). For example, Ajzen manipulated instructions to participants in a prisoner's dilemma game to be either cooperative or competitive and showed "behavioural change can be initiated primarily in one direction in each of the motivational orientations" (1971, p. 268). The attitude beliefs represented in the theory are a summary of personal orientation toward alternative intentions, including a range of instrumental and affective associations (Hagger & Chatzisarantis, 2005). Determining the relative salience of these associations is regarded as instrumental for understanding intention formation (Ajzen, 2011; Montano & Kasprzyk, 2008). Similarly, the subjective norms are a summary of beliefs about the expected normative value of alternative intentions, including a range of descriptive, injunctive and moral associations (Hagger & Chatzisarantis, 2005; Manning, 2009; Rivis et al., 2009). For example, Sheeran and Orbell articulate that "Subjective norms motivate behaviour through the possibility of gaining approval or disapproval … [and] Descriptive norms … motivates the person by showing him or her what is the typical or normal thing to do" (1999, p. 2112). In either case, the relative expected value of the social implications determines the likelihood of adopting alternative intentions. So long as the measurement of intention is sufficiently precise and unless limited opportunity prevents this, intentions are assumed to be equivalent to behaviours (Ajzen,

2011). As such, is premised on the expected outcomes of adopting one or the other option – behaviour is relative to expectations of what doing it might mean.

2.3.4.2 Planning to realise intentions determines behaviour in TPB. Early iterations of TPB – that is, the theory of reasoned action – were concerned exclusively with behaviour under volitional control (Madden, Ellen, & Ajzen, 1992; Sheppard, Hartwick, & Warshaw, 1988). Over time, there was increasing interest in the *intent* of intentions as aiming toward adoption of a particular behaviour, rather than intentions as independent objects. Azjen (1991) initiated this trend by adding the antecedent of 'perceived behavioural control' to explain the relationship between attitudes, subjective norms, intentions and behaviours. Importantly, perceived behavioural control is recognised as moderating the relationship between attitudes, subjective norms and behaviours independent of intentions (Ajzen, 2011; Sheeran, Trafimow, & Armitage, 2003). Intentions must therefore necessarily interface with contextual constraints to determine if they are enacted as behaviours or not. For example, Beck and Ajzen note that "the stronger people's intentions to engage in a behaviour … the more successful they are predicted to be. However, the degree of success will depend [on] … availability of requisite opportunities and resources" (1991, p. 286). The work of Abraham and Sheeran (2003) to integrate goal theory (Gollwitzer, 1993, 1999; Gollwitzer & Oettingen, 2014; Gollwitzer & Sheeran, 2006; Perugini & Bagozzi, 2001) about *implementation intentions* is illustrative of recasting intentions from states to implicit plans toward specific behaviours. These plans serve to increase the likelihood of overcoming situational barriers to intentions being enacted as behaviours. Similarly, Churchill et al. (2008) theorise that impulsivity makes some people less likely to be able ignore situational cues therefore decreasing the congruence between intentional plans and behaviours. Reprising Ajzen "human behaviour is … neither capricious nor frivolous … following along lines of more or

less well-formulated plans" (1985, p. 11). The ontology of behaviour is planned relative to ambitions. Behaviour is by what we have planned it to be.

2.3.4.3 Behaviour in TPB is highly particular. The particularity of behavioural enactment of intentions has been emphasised throughout the history of TPB. It is a foundational premise to argue that "under consideration here is the individual's attitude toward performing a particular act in a given situation with respect to a given object, rather than his attitude toward the object or class of objects per se" (Ajzen & Fishbein, 1969, p. 402). This logic is used to explain empirical gaps between intention and behaviour and codified as boundary conditions by Fishbein and Ajzen (1975). Ajzen (1985) explicated this assumption further by classifying boundary conditions as (a) measurement error of either construct, (b) time delays between measuring either construct, and (c) lack of volitional control to enact the behaviour (Madden et al., 1992). This serves as a loophole for predictive failures and is used by J. Ogden (2003) to critique TPB as being unfalsifiable – any behaviour that is observed to be incongruent with intention is dismissible as outside the boundary conditions. The assertion of particularity also implies that each behaviour is the *unique* – and therefore non-replicable or predictable – intersection of a variety of antecedents to intention enacted relative to context.

2.3.4.4 Acting toward a coherent self-narrative determines behaviour in TPB. While each behaviour is particular, consistency in patterns of enacting intentions as behaviours follows an imperative to maintain cohesiveness of these behaviours as representations of *self.* As reported by Ajzen (1985, p. 21), "the very act of stating an intention may induce a heightened [personal] commitment to the behaviour". Later, Sparks and Guthrie (1998) discuss the usefulness of adding self-identity variables as antecedents to intention and moderators of the intention behaviour relationship. Similarly, Terry et al. report results from a study showing that "the self-relevance of the behavioural role and the

perceived group norm … were related, independently, to people's intention to engage in the behaviour" (1999, pp. 239–240). Relatedly, Conner, Sheeran, Norman and Armitage (2000) highlight the predictive power of past behaviour and the imperative toward temporal stability – that is consistency in how the self is represented by behaviour over time. Further, Chatzisarantis, Hagger, Smith and Sage (2006) and Hagger and Chatzisarantis (2006) demonstrate that the imperative to present a self that is accepted by social peers varies between people and is dependent on what they describe as *intrinsic* motivation. Alternatively, K. M. White, Smith, Terry, Greenslade and McKimmie argue that "Personal injunctive or moral norms can be defined as an 'individual's internalized moral rules' … and involve an ascription of responsibility to the self to act" (2009, p. 137). Throughout the development of TPB, intentions are assumed to be formed *by* a self and to be representative *of* that self. This reinforces the ontological position of behaviour as self-intentional and an expression of '*me*'.

2.3.4.5 Behaviour in TPB requires effort. Consistent with a formulation of intentions as proximal predictors of behaviours, the enactment of an intention as a behaviour is assumed to require effort. Similarly, when the particular context prevents the planned enactment of an intention, this is assumed to be because insufficient effort was made. As Ajzen describes "Intentions are … indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behaviour" (Ajzen, 1991). This formulation is repeated by L. Beck and Ajzen (1991, p. 286). McCaul, Sandgren, O'Neill and Hinsz argue that different health behaviours by definition require different effort levels and that "Breaking unhealthy habits … and instituting health-protective ones … are difficult goals" (1993, p. 233). Efforts to integrate implementation intentions (Orbell, Hodgins, & Paschal, 1997) are a response to an imperative to describe how some intentions are and others are not enacted as behaviours. Similarly, Armitage, Conner and Norman (1999) demonstrate how mood can influence the sufficiency of effort to enact an intention. In

Ajzen and Fishbein (2000), beliefs are described as associated with a positive or negative valence toward the behaviour, and that if the overall behavioural valence is negative then effort is required to enact it. This logic was extended further by Orr, Thrush and Plaut who hold that "Intention … is represented by the pattern of activation across the belief units … at any point in time, the intention of the system is roughly in one of three states: intend … not intend … ambivalent" (2013, p. 2). Worryingly, this assumption about behaviour positions the difficulty of behaviour as an absolute and the point of intervention the individuals' behavioural control. This has the perverse implication that increasing difficulty in behaviours be addressed by increasing efforts to build the will and skills of people to overcome this difficulty. By corollary, inability to perform a behaviour is a failure of will or skill and is therefore the person's *fault*.

In TPB, the ontology of behaviour is planned relative to its expected outcomes, particular to the context of its enactment, and an expression of a self-narrative that requires effort to enact intentions. Behaviour is the sometimes consequence of our attempts to impose our intent into the world. Behaviour change is the adoption of an alternative intent, or a change in behavioural opportunities to enact intentions.

2.3.5 Ontological assumptions about behaviour in behaviour change theories. The conceptual models of behaviour change, and their implicit ontological assumptions about behaviour are similar across the theories. In a graphic representation of these similarities in Figure 7, cognitive processes interpret preceding behaviour 'C', pushing away from anticipated unfavourable and toward anticipated favourable outcomes, and mediate selection between a variety of possible behaviours 'D'-'…'. Common assumptions about behaviour include: (a) cognitive processing between experience and behaviour, (b) contextual limits on possibilities, (c) assessments of the relative value of alternative behavioural outcomes, and (d) impetus toward favourable and away from unfavourable alternatives – especially with

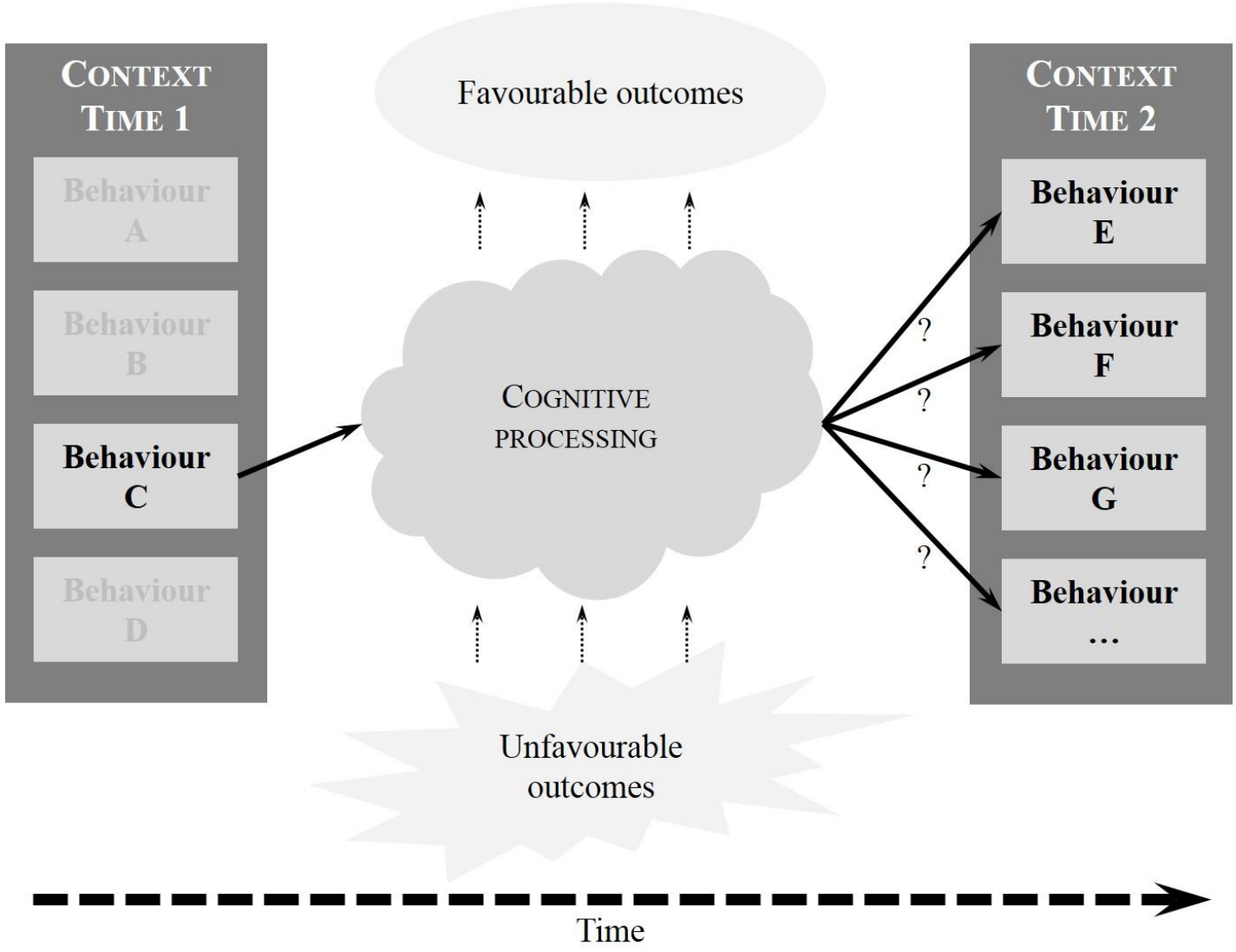


Figure 7. Ontological model of behaviour in behaviour change theory

respect to social identity. These assumptions are definitional of how we *should* behave. It is incongruous to imagine behaviour that is not thought through, impossible to achieve in a given context, not assessed relative to its likely consequences, or does not move toward favourable outcomes. This is exactly the challenge for behaviour change theory though – to account for the behaviours that fall outside of this imagined 'reasonability'. The ontological assumptions are reasonable, normative, and resonant with our day-to-day experiences of the world – see folk psychology (Churchland, 1989; Harold, 2012; Inkpin, 2010; Jackson & Pettit, 1990; Stich & Ravenscroft, 1994; Strijbos & de Bruin, 2012). However, they neither interrogate the processes of changing behaviour nor model health-problematic behaviours with any sophistication. As such, the theory is fundamentally unable to explain, predict, or change those behaviours that are of most importance to public health outcomes. Instead, the ontology of behaviour assumed in behaviour change theory is a fictional ideal.

2.4 Findings part two – seven philosophical challenges for theory.

Over the course of 50 years of development of behaviour change theory, we aggrandised an imagined archetype of behaviour. Further, we have taken the task of behaviour change theory to be explaining how we *would behave* if only we conformed to this archetype. Jaccard (2012) offers a subtle critique of this, calling instead for a focus on explaining behaviour *ideographically*. Alternative ontological assumptions about behaviour could instead prioritise (1) the *process* of behaviour change, and (2) the socio-cognitive structure of *problematic* health behaviours. In this section, I propose seven philosophical challenges to behaviour change theory for public health intervention design. I argue that any further theory development must begin with these challenges to articulate more sophisticated ontological assumptions about behaviour.

2.4.1 Philosophical challenge 1 – avoiding tautology in the search for parsimony.

An overriding imperative in theory development is conceptual parsimony. Achieving

parsimony requires first limiting the total number of variables included in the theory such that the simplest of equivalent solutions is preferred. Secondly, those variables that are included in the theory must be defined with as much specificity as possible. This ensures measurability and testability of the theory. Self-report items representing a person's cognitive appraisal or attitude toward a behaviour must ask about that behaviour specifically, rather than that category of behaviour. For example, if the behaviour is 'exercising', the questionnaire items should be about 'at least 30 minutes per day of physical activity that gets ones heart beating significantly fast', not about 'living healthily'. Measurement items that are insufficiently specific are likely to include 'error' because they include cognitive appraisals not only of this behaviour, but also of other behaviours – to extend the earlier example, 'living healthily' could also include reducing fat intake in one's diet. If the specificity can be further increased to include even lower levels of description and time intervals – for example, '30 minutes per day on a bicycle … between 16:30 and 17:00', then this is even more precise and rigorous.

Methodologically, the prioritization of parsimony is completely sound. However, theoretically it tends toward tautology. This is especially evident if behaviour is measured through self-report. For example, the statements 'I used a condom with my casual sex partner' and 'I believe that it is a good idea to use condoms with my casual sex partners' are logically derivative. If I did not use a condom with my casual sex partner, then by logical deduction I cannot always believe that doing so is a good idea – there must be some additional explanatory clause. This is true even if the behaviour is measured observationally, because the people behaving are still forming a narrative of their behaviour as part of its enactment. Such logical derivation is the antithesis of utility for designing behaviour change interventions. Pursuit of parsimony leads away from identifying points of intervention. The 'error' that is excluded from the most parsimonious presentation of the theory exactly excludes the complexity of behaviour. Acknowledgement without substantive interrogation

of feedback loops, reversals, multi-valent influences and general messiness of any behaviour exactly misses the point of intervention. The philosophical challenge for behaviour change theory is not to identify the most parsimonious logic statement of how a behaviour could, holding all other things equal, 'make sense'. Rather, it is to identify how intra-personal, inter-personal, and social processes interact to sustain *complex* behaviours.

2.4.2 Philosophical challenge 2 – problematizing the problematic not the normative. All behaviours are strongly related to health outcomes. This includes behaviours of proximate risk for negative health outcomes – for example, driving while drunk – and behaviours part of the general process of living – for example, sedentary desk-jobs. However, the specific contribution of a particular behaviour to a health outcome is usually only very marginal. This association is limited for three reasons: (a) all behaviours are simultaneously related to many possible health outcomes but a small number of those outcomes can occur simultaneously, (b) health outcomes are not absolute, rather behaviours are associated with changing the likelihood of outcomes, and (c) only a fraction of people who develop health outcomes also practice the associated behaviour. For respective examples, (a) some heavy alcohol users die in traffic accidents before developing liver toxicity, (b) use of pre-exposure prophylaxis reduces the odds of HIV transmission not eliminates all transmission risk, and (c) some people develop lung cancer without ever smoking, even passively. This weak association means that in adult populations and before advancing age dramatically affects health outcome likelihood, the chance that a behaviour will lead to a negative health outcome is small. As such, many people might be behaving in ways that at an epidemiological level place them at increased risk of a negative health outcome but who will never actually develop that outcome even if their behaviour remains unchanged.

Behaviour change must prioritise limited resources for interventions based on the maximum reduction in morbidity and mortality, not based on the statistical significance of

associations. For example, even though sun exposure is associated with increased risk of skin cancer, in India much more overall morbidity and mortality can be addressed by behaviours of water sterilisation to reduce diarrhoea than sun cream to avoid skin cancer. Similarly, if a small sub-group of the population are at much higher risk of acquiring a negative health outcome, then priority must be given to addressing their behaviour and not others'. For example, even though all members of a household that includes a person living with tuberculosis disease are at risk of acquiring tuberculosis, children under five years old are at a much higher acquisition risk, therefore behaviour change interventions should be prioritised for families with a child under five. These examples are obvious to public health practitioners. However, behaviour change theory has instead prioritised demonstrations that cognitive antecedents of behaviour *might* lead to behaviours under particular circumstances. The emphasis has been on proving the logical sufficiency of cognitive antecedents to explain behaviour in general and not the theorisation of particularly public health problematic behaviours specifically. Instead, cognitive variables are used as a triage heuristic to assess a person's likelihood of behaviours. While this is clearly useful, it does not problematise the specific processes of behaviour most strongly associated with negative health outcomes. For example, what are the intra-personal, inter-personal, and social processes specific to Malaria acquisition? The philosophical challenge for intervention design using behaviour change theory is how to focus on the specific public health intervention challenges rather than behaviour change in general and holding all things that matter as exceptions to the rule.

2.4.3 Philosophical challenge 3 – incorporating time-plasticity of cognitive processing. The experience of human life requires the iterative enactment of an 'I-narrative'. At a basic level, this narrative discriminates between behaviour that is of 'me', and behaviour that was done by my body but not by 'me'. Cognitively, there is therefore a clear discrimination between intentional behaviour because 'I' meant it, and non-intentional

behaviour that happened without the imposition of 'my will'. Examples of behaviour that is non-intentional include reflex, habit, and conditioned responses. Non-intentional behaviours account for much of everyday life. However, behaviour change theory treats such behaviour as the point of decisional-crisis in making a reasonable *choice* about adopting a new, intentional behaviour pattern. For example, the habit of lifetime high-calorie food intake is treated as a motivator for now choosing to adopt a healthier diet because not doing so risks heart disease. This is clearly *not* how that historical pattern of behaviour will influence future behaviours. Rather, patterns of behaviour are self-perpetuating. Alternatively, behaviour change theory problematizes the pattern of cognitions associated with the behaviour as the point of intervention by engaging the person to think differently. For example, asking people who self-harm to describe their thought patterns and encouraging them to re-evaluate the veracity of those thought patterns. There is a risk of slippage between patterns of behaviour that *can be* articulated as part of the 'I-narrative', with patterns of cognitions *about* behaviour.

In contrast, I suggest that the cognitive ascription of intent to behaviour is a super-ordinate, often superfluous, function of our brains' complexity. Cognitive *processing* of the narrative about behaviours is parallel to the cognitive *processes* of behaviour. Further, the higher-order narrative of the intentional meanings of behaviour happens before, during, and after the behaviour. A behaviour occurs once, but our cognitively processed 'memory' of its meaning can be re-interpreted *ad infinitum*. For example, the behaviour of not taking a contraceptive tablet might first be an example of forgetfulness, and later evidence of wishing to have a child, and later still the divine intercession by which my daughter was conceived. Further, the cognitive processing of behaviour continues indefinitely in an intentional, social world independent of the behaviour itself. Most troublesome for behaviour change theory is that much of the cognitive processing of behaviour happens *post hoc* to the behaviour itself.

For example, I eat a pie, and *then* I describe why I made this choice – I was feeling down and wanted comfort food. This is in direct contradiction to the behaviour change theory that describes cognitive *antecedents* of behaviour. The philosophical challenge for refining behaviour change theory is how to accommodate the time-plasticity of cognitive processing of behaviour. This is not only a problem of measurement. Rather, it is a challenge to reconceive the interdependent roles of two streams of cognitive processing that: (1) perpetuate behaviour, and (2) enable conceptualisation of behaviour in 'I-narratives'.

2.4.4 Philosophical challenge 4 – not conflating description with injunction. In the process of making 'my' behaviour meaningful, it must also be articulated with respect to the social world. This social world is inseparable from injunctive norms of what my behaviour *should* be. Hermans and Dimaggio (2004) argue that 'the self' is best conceptualised as a never-ending dialogue between intra-personal voices, derived from inter-personal communication. This dialogue is a contestation to gain supremacy in narrating our behaviour. The meaning of behaviour in the social world is therefore never neutral. Further, internalising inter-personal communication includes the social values system in which a behaviour is made sensible. Therefore, any conceptualisation of behaviour as socially meaningful must be relative to a particular set of injunctive judgements. For example, it is impossible to consider the meaning of sex without also understanding the cultural norms of relationships, power, fertility, virtue and so on. However, the influence of these injunctions on behaviour is imperfect, transient and variable. For example, sometimes sex is an affirmation of the power to choose how to enjoy my body, sometimes sex is a moral transgression, and often it is both and many other things besides. Importantly, there is no property of the coital act that can determine these meanings. Rather, the injunctive meaning is only a consequence of meaning making *about* the behaviour.

Behaviour change theory must accommodate the influence of this social injunction. However, it must necessarily be explicated as a component of behaviour *in* the model, not a property *of* the model itself. For example, recreational drug use to the point of bio-toxicity leading to bodily system failure is clearly health maladaptive. However, this does not mean that the behaviour of drug use is ontologically maladaptive. Rather, it is an imposition of implicit social values that position this behaviour relative to the injunctive norm of avoiding morbidity and mortality. Instead, behaviour change theory should articulate what social processes of injunctive norms facilitate the conceptualisation of drug use as (in)appropriate and how these norms are associated with behaviour. Put another way, in order to inform intervention design, behaviour change theory must articulate what behaviour *is* and not what it *should be*. This requires critical interrogation of how explicit and implicit assumptions of normality are part of the behaviour change theory. Importantly, all theory is a product of a social context, therefore no theory can escape holding a set of normality assumptions. The philosophical challenge for refining behaviour change theory is how to explicate, interrogate and include *the theory's* injunctive norms alongside a variety of changing social injunctions as mechanisms describing behaviour.

2.4.5 Philosophical challenge 5 – integrating that behaviour change triggers resistance. In some circumstances, some people are resistant to the imposition of change. Just like the power of observing a behaviour is known to change the behaviour itself – Hawthorne effect – so too the perception of change being imposed encourages resistance to change. For example, a parent telling their teenage daughter not to date the local 'biker' with tattoos, a leather jacket, and the freedom of the open road, triggers a motivation to do just that. Such resistance to change is both evolutionarily and socially adaptive because it protects cultural/group norm integrity. As such, the imposition of any behaviour change intervention requires not only the adoption of a new behaviour pattern from a neutral starting point, but

also the impetus to overcome the idiopathic resistance to change. Further, public health interventions are explicitly targeted toward large groups of people. In groups, there is an identity imperative for individuals in the group to differentiate themselves from each other. One point of differentiation is the individuals' responses to the imposition of change. As a group changes to a new norm of behaviour, a fraction of the group are likely to *not* because to do so would be to conform. Instead, there is a creative imperative for some members of the group to behave contrary to the norm.

This is especially problematic for behaviour change theory if the resistance-triggered behaviour creates risk to health. For example, the HIV acquisition risk-reductive effect of male circumcision is undermined if it also creates a 'counter-culture' that aggrandises sex with men with foreskins since they have the 'real deal'. This is particularly problematic if the odds of being part of the sub-group who resist the intervention is also associated with the baseline epidemiological risk. For example, people who sneer at a campaign promoting seatbelt use might be exactly the group of people less likely to use seatbelts in the first place. Importantly, in order for behaviour change interventions to be effective and cost-efficient, they must especially reach people for whom an intervention might promote resistance to change. A change intervention that most influences people who conform to the theory's assumptions of reasonableness lacks utility. On the contrary, it is the very purpose of change interventions to address health problematic behaviours. In order to do so, the intervention must accommodate *resistance* with as much openness as *compliance*. Rather than an inevitable hurdle to successful intervention implementation, behaviour change theory must conceptualise resistance as a necessary and positive component of the change process. The philosophical challenge for refining behaviour change theory is how to facilitate processes of behaviour *contrary* to expectations. In doing so, the theory must balance the proliferation of

creative alternatives by a diversity of people while still aiming toward a particular pattern of health adaptive behaviours.

2.4.6 Philosophical challenge 6 – incorporating insufficient but necessary variables. The influences on a specific behaviour are myriad. Further, every behaviour is relative to wide range of possible alternative behaviours. For ease of conceptualisation, the diversity of influences are abstracted into categories – for example, attitudes, social norms and threat appraisals. Each category of influence is treated as a representative of an equational balancing of the specific influences on behaviour within that category. For example, all of the antecedents specified in the HBM, PMT, and TPB are characterised as plural. They are the collective weight of the particular abstracted to the bottom line influence of this category on behaviour. However, each specific behaviour is not influenced by abstractive categories of antecedents. Rather, specific behaviours are influence by a unique set of sensory-memory experiences. There are a plethora of systemic pathways, operating in parallel and across time, that combine to create a behaviour. For example, the cognitive antecedents of getting an annual flu-vaccination *can* be summarised as my belief in the efficacy of such a vaccination compared to alternatives and my desire to avoid the experience of illness compared to other desires at the time. However, my particular behaviour of going to a pharmacy and being vaccinated is actually influenced by a restless feeling while sitting at home, a memory of my winter flu last year, a benefit scheme on my medical insurance incentivising vaccination, seeing a television advert for nasal spray and so on. None of these sensory-memory experiences is likely to have been sufficient to lead to behaviour independent of the others. Further, other logically relevant experiences – for example, a professed general trust in biomedicine – might be inexplicably irrelevant to this particular behaviour due to the vagaries of salience.

It is imperative for intervention design to determine the minimum number of necessary and sufficient variables for behaviour change. Abstractions to higher-order categories avoids having to engage with the detail of more particular cognitive pathways to specific behaviours, in certain contexts and by a particular individual. However, it also reduces the sophistication of the model through too general categories of behaviour, across contexts and individuals. It is equally an intervention design imperative to create multiple pathways toward change such that it is as broadly applicable as possible. Public health interventions might include multiple components, delivered in a variety of media, and that can be used in a variety of different ways but all aiming toward the same behavioural outcome. For example, adherence support interventions can include multiple counselling sessions, smart pillboxes that beep reminders, messages sent to mobile phones, and visits from lay treatment supporters. Importantly, the sum of this package of intervention components is often greater than any single component. The behaviour is more likely if the intervention components act synergistically. Even more importantly, the different intervention components have different relevance for different people. Combining these individually insufficient influences on the categorical antecedents of behaviour capitalises on their collective necessity to promote change in general. The philosophical challenge for refining behaviour change theory is not about pairing away individually insufficient behavioural antecedents. Rather, it is about articulating the complexity of pathways by which a group of systemic changes can lead to behaviours.

2.4.7 Philosophical challenge 7 – accommodating but still engaging context constraint. All behaviour happens in context. Further, this context limits what behaviours are possible. For example, adherence requires a context of uninterrupted treatment supply. In behaviour change theory, this context is conceptualised as an immutable reality outside of the scope of consideration for intervention. Further, context sets the baseline parameters for cognitive processes that in turn lead to behaviour. For example, educational attainment and

socio-economic status influence our patterns of cognition such that we might prioritise immediate or longer-term behavioural outcomes. In either case, the historical socio-politic on which these differential contexts are premised is ignored. Behaviour change theory acknowledges the central role that context plays in shaping both what behaviour is possible, and how cognitive processes lead to these behaviours. However, it fails to turn any critical gaze onto the architecture of this context. Instead, inequity in context is merely lamentable. The role of behaviour change has erroneously been to explore how we behave the best we can relative to our contexts.

Context is not a box in which people behave – rather it is an interactive environment. Further, behaviour challenges and perpetuates the context. Liberation philosophies – for example, the works of Freire (2005), Biko (2002), and Sen (1981) – emphasise the importance of shifting the limits of what is contextually possible, rather than intervening on 'the behavers'. For example, providing free sterilised needles for intravenous drug users shifts the limit of their behaviour away from the necessity of sharing needles. This is in stark contrast to intervening on their thought processes by informing them of the HIV acquisition risk of sharing needles. The philosophical challenge refining behaviour change theory is to problematize the impact of context on cognitive processes. Further, it is to identify how these cognitive processes can support challenging the context rather than kowtowing to its implacability. The goal of public health intervention is to create significant, sustained, and meaningful change toward better health in the broadest sense of the term. Unless behaviour change theory embraces this directly, it risks perpetuating inequality – fiddling over proofs of the sufficiency for conceptual variables while the proverbial city burns.

2.5 Discussion.

My aim in this chapter was to characterize the implicit logics of 'the act' in three prominent psychological theories of behaviour change as I searched for opportunities of

divergence from how 'behaviour' is conceptualized. I have described the historical development of HBM, PMT, and TPB as representatives of behaviour change theory. I have argued that they share several problematic ontological assumptions about behaviour and illustrated these diagrammatically. I have extrapolated seven philosophical challenges to our conceptualisation of 'the act' and discussed opportunities for refining behaviour change theory.

2.5.1 Limitations. This analysis is limited in that it purposefully selected only three examples of behaviour change theories, the thematic summaries of the ontological assumptions made in each theory are reductive, and the seven challenges are premised on induction, not empirical evidence. Instead, this analysis is intended as a moment of reflection on 50 years of theorisation, and to chart a course of optimizing the contribution of behaviour change theory in an ever increasingly complex world. I have laid down seven philosophical challenges as hypotheses to be critiqued, refined, and empirically tested in future research and as a point of departure of my move toward a conceptual model of 'the act'.

2.5.2 Conclusions. I propose three rules of thumb for using behaviour change theory to design public health interventions. Firstly, abandon judging intervention logics based on whether or not they should 'make sense' to a reasonable person. Sometimes people will conform to this expectation of reasonableness, and sometimes they will not. Behaviour change theory should explicate the processes that facilitate conformity/non-conformity. It is not the work of health interventions to impose such reasonableness. Further, in developing interventions, assumptions about reasonableness should be actively interrogated and avoided. This is especially true when interventions premised on reasonableness appear, in broad terms, to achieve empirical support. It is here that we are most easily lured into the false heuristic of how the intervention works. Secondly, behaviour change theory identifies the processes logically antecedent to behaviour. For example, holding a strongly negative belief in the

efficacy of a treatment is often associated with delays in seeking care. However, this does not mean that this cognitive process should be targeted as the point of intervention – for example, educating about the 'true' efficacy of the treatment. Rather, the cognitive processes are symptomatic of a particular socio-historical, inter-personal, and intra-personal experience. In biomedicine the priority is on treating causes of ill health not symptoms. Patterns of cognitive processing are symptoms, not causes of behaviour. Further, the self-report of these symptoms are akin to a patient history that should be used to understand patient experience, not as a diagnosis. Thirdly, public health interventions rarely have the same possibility of harmful side effects as drug interventions. Instead, addressing the socio-historical, inter-personal and intra-personal contexts such as income-inequity is likely to have positive social benefits beyond health. Further, the complexity and diversity of social systems into which health interventions intervene far exceeds that of biological systems with which drug interventions must interface. Obsessing over which component of an intervention contributes most significantly to change is, from the perspective of designing effective, synergistic, and sustainable interventions, both unnecessary and misguided. To continue the comparison with drug interventions, it is not important to pare down to the essence of the 'active ingredient' in the cognitive processing of behaviour. Rather, open the entire dispensary and tailor combinations of treatments to a variety of client types and temporal situations. For example, do not attempt to compare the relative independent contributions of an education programme on attitudes with a social marketing campaign to change social norms. Rather, design interventions that integrate both so that they either component can support the other. In the instance of health intervention design the whole is always greater than the sum of its parts. Here, it is the role of behaviour change theory to describe the complexity of pathways by which as many processes as possible can lead to change. Conner (2015, p. 143) draws a distinction between this "practitioner approach" from that of "academic researchers" aiming

to refine constructs and explicate the influence of context on their operation. This critical review of behaviour change theory has revealed that it has much to offer health intervention design, but only if its assumptions are interrogated, its tensions engaged as creative moments, and pragmatic impact prioritised.

Chapter 3 – A review of school-based HIV prevention in southern Africa

3.1 Introduction.

In 1992, 258 young people completing the final two years of schooling in six Tanzanian primary schools participated in an experimental HIV prevention intervention (Klepp, Ndeki, Leshabari, Hannan, & Lyimo, 1997). The intervention was called *Ngao* – the Swahili word for shield. Over the course of two to three months, these young people spent an average of 20 class-hours learning about HIV. The programme was intended to teach (a) increased openness of communication about AIDS (*sic*), (b) information about HIV prevention, and (c) that caring for people living with HIV is safe. Further, the programme intended to (d) foster restrictive attitudes and subjective norms against early sexual activity and (e) reduce learners' intentions to have sex. The processes of learning included a mix of didactic fact giving, group work, role-play, and performance activities. Comparing the learners who experienced *Ngao* to learners from 12 matched schools, the evaluation team reported that:

> Twelve months after the implementation … students from the intervention schools reported being exposed to AIDS information and discussing HIV/AIDS significantly more frequently … demonstrated a significant increase in their AIDS-related knowledge level and reported significantly more positive attitudes toward people with AIDS – (Klepp et al., 1997, p. 1934).

By this account, the *Ngao* intervention appears to have been successful in significantly improving information and communication about HIV and reducing HIV-related stigma through increased knowledge. However, this is not evidence that the intervention has HIV prevention benefits for young people. Instead, the results continue by indicating that trends in restrictive attitudes toward sex and reported sexual debut in the preceding year were non-significant (Klepp et al., 1997). Further, the effect of the intervention might be an artefact of differential attrition leading to sampling bias (M. L. Bell, Kenward, Fairclough, & Horton,

2013; Crutzen, Viechtbauer, Spigt, & Kotz, 2015; Graham & Donaldson, 1993; Schmidt, Muijtjens, Van der Vleuten, & Norman, 2012) and social desirability bias (Fenton, Johnson, McManus, & Erens, 2001; C. A. Kelly, Soler-Hampejsek, Mensch, & Hewett, 2013; Langhaug, Sherr, & Cowan, 2010; Plummer et al., 2004). The drop-out rate was higher among young people reporting "less exposure to AIDS information … and to hold subjective norms more favourable toward becoming sexually active" at baseline (Klepp et al., 1997, p. 1934). This experiment is described as "the first controlled, multiple-community test of an HIV/AIDS prevention program targeting primary school children in a developing country with a high prevalence of AIDS and HIV infection" (Klepp et al., 1997, p. 1934).

Contemporaneously, Kirby et al. (1994) published a seminal review paper evaluating 23 school-based sexual health education interventions implemented in the global north. The tone of Kirby et al.'s review is both hopeful that school-based interventions can protect young people from HIV and cautionary that school-based interventions are insufficient for HIV prevention. At roughly the same time, UNAIDS released its first report on the impact of sexual health education (Grunseit, 1997; Grunseit, Kippax, Aggleton, Baldo, & Slutkin, 1997). The rhetoric of this report is that school-based HIV prevention interventions are insufficient but still necessary to HIV programmes. I present extracts from the review and report with emphasis added to highlight the underlying rhetoric that intervention in sub-Saharan African schools is imperative, despite limited evidence of HIV incidence impact:

> [Review] – Nearly a century has passed since the first programs to reduce unprotected intercourse were implemented in schools. Subsequently, many approaches have been tried. *There has been considerable disappointment*, partly because programs have not been nearly as effective as many people had hoped. … However, *there is room for some optimism*; … *there is now evidence that a few programs can reduce unprotected intercourse* … The studies we reviewed indicate that *these programs do not increase*

sexual activity. … If these effective programs are implemented in our schools, *they can have an important impact upon reducing sexual risk-taking behavior. Clearly, they do not represent a total solution to the problems of unprotected sexual intercourse* – families, community-based organisations, churches and the media all must be involved – *but they can provide an effective component in a larger overall strategy to reduce pregnancy, STD, and HIV* – (Kirby et al., 1994, pp. 358–359).

[Report] – Influences on young people's sexual lives are *not restricted to explicit messages about sex*. In pursuit of an appropriate and effective way to promote healthy, positive sexual behaviour, engagement with those influences is vital. … *evidence indicates* that *safer sexual practice among young people may be achieved through education*. … *Failing to provide appropriate and timely information and services to young people* for fear of condoning and encouraging sexual activity *is not a viable option* – (Grunseit et al., 1997, p. 29).

In 2008, 16 years after the implementation of the *Ngao* experiment, 853 young people in 21 Ugandan secondary schools participated in an experimental HIV prevention intervention (Rijsdijk et al., 2011) called the World Starts With Me (WSWM). Over the course of five months, these young people spent 14 lessons in extra-curricular educator-facilitated clubs learning about HIV. The programme was intended to teach (a) self-esteem and decision-making ability, (b) coping with social influences on decision-making, (c) how to avoid sexual health problems, and (d) positive goal-setting. The processes of learning were guided by virtual peer-educators and included a mix of presentations by the peer-educators, group work, role-play, and applied assignments. Comparing the learners who experienced WSWM to learners from 24 matched schools, the evaluation team report post-test results from immediately after programme end:

> At post-test, students who followed WSWM had, on average, lower knowledge scores as compared to pre-test … Students from the intervention schools scored significantly better … when it came to wrong beliefs concerning pregnancy. … No significant effects were found for beliefs about STIs, or for beliefs about HIV. … No significant effects were found on risk perception. … – (Rijsdijk et al., 2011, pp. 6–8).

By this account, the WSWM intervention appears to have been unsuccessful at influencing many of the intended outcomes. The few effects WSWM demonstrated were limited to self-reported intentions and not knowledge or behaviour. These unsatisfactory results are explained in part by a completeness analysis that showed "all … significant effects disappeared for the schools that implemented less than 50% of the lessons" (Rijsdijk et al., 2011, p. 8). A further analysis of "partial and full fidelity groups showed an increased mean score at post-test, but the increase among the partial fidelity group was significantly higher" (Rijsdijk et al., 2011, p. 9).

This WSWM experiment is described as "one of the few large-scale evaluations of a school-based sex education programme in sub-Saharan Africa" (Rijsdijk et al., 2011, p. 9). It is one of a series of 22 school-based HIV prevention intervention evaluations implemented in sub-Saharan Africa over two decades. I argue that the HIV prevention lessons from this extensive body of work have been limited. Fundamentally, very little appears to have changed in the premises of interventions from the early 1990s to now. It is abundantly clear – true to the caution of the Kirby et al. (1994) review – that school-based HIV prevention through interventions premised on behaviour change cannot be credited with sustained or wide-scale success. At the same time, such interventions are, at least at the policy level, ubiquitous components of education curricula in sub-Saharan African countries (Mavedzenge, Doyle, & Ross, 2011). Further, the large-scale experimental evaluation of new

such interventions remains active (Fonner, Armstrong, Kennedy, O'Reilly, & Sweat, 2014; Mathews et al., 2012).

Since the start of the *Ngao* intervention there have been six systematic reviews of school-based HIV prevention interventions implemented in sub-Saharan Africa and premised on behaviour change – Gallant and Maticka-Tyndale (2004); Harrison, Newell, Imrie and Hoddinott (2010); Kaaya, Mukoma, Flisher, and Klepp (2008); Mavedzenge et al. (2011); Michielsen et al. (2010); and Paul-Ebhohimhen, Poobalan, and van Teijlingen (2008). All six of these reviews explicitly state that school-based HIV prevention interventions are *unlikely* to produce changes sufficient to impact on HIV incidence. This is especially so if these interventions are implemented without structural changes to the context in which young people's sex acts happen – emphasis added to highlight the consistent message that change in behaviour requires change in context:

> [Review 1] – Alternatively, additional HIV/AIDS programmes in experimental communities and schools would be expected to accentuate the experimental effect and lead to stronger evidence of change. … the results reported here support the conclusion that school-based HIV/AIDS prevention programmes targeting youth *can be* successful in changing knowledge and attitudes, and, *under certain conditions, behaviours* – (Gallant & Maticka-Tyndale, 2004, p. 1350).
>
> [Review 2] – In summary … within these trials the effects of most interventions on reported sexual risk behaviour or biological outcomes were limited … First, *moving beyond individual-level measures of knowledge and psychosocial factors to address social and structural factors underlying HIV risk is the main success of these interventions*. … An important second lesson, then, is the need for interventions to adopt structural approaches that can alter the context of young people's HIV risk – (A. D. Harrison et al., 2010, p. 9).

[Review 3] – *The lack of or minimal programme effects on actual and intended protective behaviours are disappointing* … They also had small, sometimes negative, effects on susceptibility to infection, self-efficacy, behavioural intentions and (most importantly) behaviour – (Kaaya et al., 2008, pp. 80–81).

[Review 4] – It is encouraging to note that taken together the evidence indicates that sex education and condom promotion activities among youth does not increase sexual activity, nor promote risky sexual behaviour. *However, we could not observe large positive changes either. Youth did not significantly reduce sexual activity* … Resource constraints and general disorganization in schools often hampered implementation of the planned activities – (Michielsen et al., 2010, p. 8).

[Review 5] – To summarise the effectiveness of interventions … we found that the most significant changes were reported in knowledge, being followed by changes in attitudes. Outcomes relating to future intentions were next, while *the least significant changes were in actual behaviour* – (Paul-Ebhohimhen et al., 2008, p. 11).

[Review 6] – … many countries in sub-Sarahan Africa have now integrated sexual and life skills education into their standard curriculum. However, *the lack of impact of school-based interventions … suggests that such interventions may not be sufficient to reduce the risk of HIV, sexually transmitted infections, or early pregnancies* – (Mavedzenge et al., 2011, pp. 583–585).

The 258 young people in Tanzania (Klepp et al., 1997) were followed by 1380 young people in KwaZulu-Natal, South Africa (Harvey, Stuart, & Swan, 2000), 231 young people in Cape Town, South Africa (L. Kuhn, Steinberg, & Mathews, 1994), 287 young people in Uganda (Shuey, Babishangire, Omiat, & Bagarukayo, 1999) and many others in being exposed to experimental HIV prevention interventions. Interventions *expected* to have neither substantial nor sustained ability to reduce their HIV acquisition risk. If these interventions do

not work, why were they persisted with at all? Further, the interventions repeatedly showed effectiveness at influencing the theoretical antecedents of young people's sex acts – that is, knowledge, attitudes, and intentions – but not the sex acts themselves. Surely the underlying conceptual model relating behaviour to 'behavioural antecedents' is therefore questionable?

As I explore toward a conceptual model of 'the act', I am searching for applied examples of the challenges for theory-based behaviour change intervention design. I use the case example of school-based HIV prevention in sub-Saharan Africa. I interrogate the narrative processes enabling continued reference to a conceptual model of 'the act' in the face of contradictory evidence about it. By explicating the rhetorical mechanisms in these texts, I aim to articulate a list of thinking traps that I must avoid in moving toward a conceptual model of 'the act'. Specifically, my objectives are to:

a) describe a history of experimentally-designed evaluations of school-based HIV prevention interventions implemented in sub-Saharan Africa,
b) present a discursive analysis of rhetorical processes used to reconcile findings that indicate discrepancies between behaviour and behavioural 'antecedents',
c) consider the effect of the standardized format and reporting conventions in academic texts contributes to repeated mis-conceptualisation of young people's sex acts, and
d) propose a list of thought principles in moving toward a conceptual model of 'the act' that is responsive to the applied challenges of school-based HIV prevention interventions in sub-Saharan Africa.

3.2 Method.

3.2.1 Design. A critical review (Grant & Booth, 2009) of articles published in peer-reviewed journals to explicate implicit assumptions about 'the act' of young people's sex. I positioned this analysis relative a wider history of problematizing young African's sex in HIV research from the global north. Broadly, I used school-based HIV prevention

interventions in sub-Saharan African schools as a case analysis (Andrade, 2009; Hyett, Kenny, & Dickson-Swift, 2014) of conceptual models of 'the act' in behaviour change theory.

3.2.2 Sample. I included all evaluations of school-based HIV prevention interventions implemented in sub-Saharan Africa and published in a peer-reviewed journal. The first such evaluation began in 1992, and I included all subsequent evaluations until 2012 to represent the first two decades of this type of HIV prevention programme – see Figure 8 for a timeline of evaluations by cumulative number of study participants.

I limited the analysis to evaluations with an experimental design – loosely defined – a to facilitate comparability of their underlying logic between evaluations. Further, the intervention outcome was required to have been systematically evaluated for impact, typically by having a pre- and post- or comparator group receiving a control intervention. Notably, the relative scientific strength of the research design is not important to this analysis because it is not a meta-analysis. Similarly, I did not analyse the scientific trustworthiness (Tracy, 2010) of the reported outcomes. Rather, I analysed the reported and implicit logics of how the intervention is expected to have worked in relation to a conceptualisation of 'the act'. Some elements of the intervention had to have been delivered in or through the school system to facilitate comparability in how 'the act' of young people's sex is constructed in school-based HIV prevention interventions. If the intervention package being evaluated had some elements delivered in school combined with outside of school elements (for example, training for health workers at the local clinic), then it was included. Also, if the intervention had at any point in the evaluation period included school-based delivery then this text was included even if the intervention delivery changed over the course of its delivery – for example, I included Cowan et al. (2008). Conversely, if the intervention was delivered to young people of school-going age and might have occasionally used the school as a place in the community

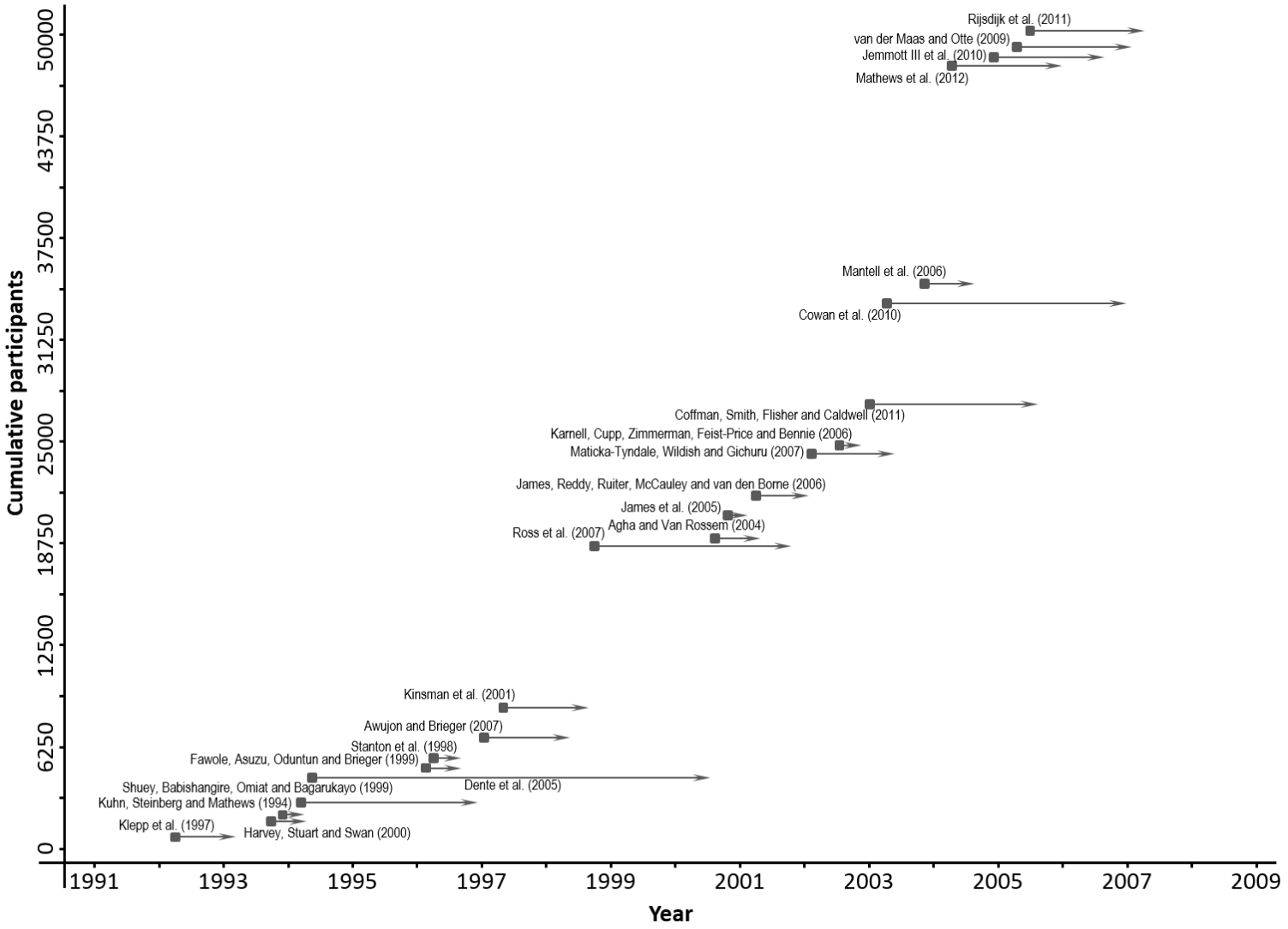


Figure 8. Timeline of experimental evaluations by number of children exposed

to meet up with these participants but did not otherwise engage the school system then it was excluded – for example, the 'Stepping Stones' intervention for out-of-school youth reported on by Jewkes et al. (2008). In addition, the evaluations also had to be published in a language I read (either English or Afrikaans). Journal articles published in another language or left unpublished were excluded by default.

In total, I included 22 evaluations in the analysis – see Table 1. Cumulatively, these studies enrolled 691 schools and 50,677 learners in 7 countries. The interventions evaluated included core taught components as well as a range of supporting components such as educator training, promotion of youth friendly health services, and peer-support.

3.2.2.1 Notable evaluations excluded from the analysis. Seven other evaluations were also instrumental in understanding the development of school-based HIV prevention interventions in sub-Saharan Africa. The World Bank released a non-peer reviewed working paper (Duflo, Dupas, Kremer, & Sinei, 2006) into the relative effectiveness and cost-effectiveness of three school-based HIV prevention interventions in Kenya. It demonstrated that a structural intervention of subsidising the cost of school uniforms was much more effective and cost-effective in reducing drop-out rates, teen marriage, and childbearing that knowledge, attitude, capacity or intention-based interventions. The evaluations reported on by C. C. Bell et al. (2008) and Jewkes et al. (2008) show important findings about HIV risk reduction but are only school-relevant, and not school-based intervention programmes. The analysis in Visser (2005) is insightful, but does not report an experimental evaluation design. The two large-scale interventions reported on by Parker (2003) and Stadler (2001), and Peltzer and Promtussanon (2003a) included mass-media campaigns targeting school-aged young people in South Africa and are not equivalent evaluation designs or interventions for this analysis. Lastly, I was only able to access the abstract to Rusakaniko et al. (1997) and excluded the text on the basis that I had insufficient information on the intervention.

Table 1. Primary texts included in critical review

Reference	n schools	n learners	Country(ies)	Implementation period
Klepp et al. (1997)	18	814	Tanzania	Mar 1992 – Mar 1993
Harvey, Stuart and Swan (2000)	14	1080	South Africa	Late 1993 – Early 1994 (6 months)
Kuhn, Steinberg and Mathews (1994)	2	482	South Africa	Unspecified (pre-1994; 2 weeks)
Shuey, Babishangire, Omiat and Bagarukayo (1999)	76	800	Uganda	Feb 1994 – Nov 1996
Dente et al. (2005)	22	1312	Uganda	1994 – Sep 2000 (post-test evaluation only)
Fawole et al. (1999)	11	440	Nigeria	Feb 1996 – Aug 1996
Stanton et al. (1998)	10	515	Namibia	Autumn – Spring 1996 (6 months)
Ajuwon and Brieger (2007)	4	1029	Nigeria	Jan 1997 – Mar 1998
Kinsman et al. (2001)	31	2077	Uganda	Mar 1997 – Oct 1998
Ross et al. (2007)	121	9645	Tanzania	Late 1998 – 2001 (3 years)
Agha and Van Rossem (2004)	5	416	Zambia	Jul 2000 – Apr 2001
James S. et al. (2005)	19	1168	South Africa	Unspecified (pre-2005; 6 weeks)
James S., Reddy, Ruiter, McCauley and van den Borne (2006)	22	1141	South Africa	Unspecified (pre-2006; 10 months)
Maticka-Tyndale, Wildish and Gichuru (2007)	80	3452	Kenya	2002 – 2003 (18 months)
Karnell, Cupp, Zimmerman, Feist-Price and Bennie (2006)	5	661	South Africa	Jun – Nov 2002a
Coffman, Smith, Flisher and Caldwell (2011)	9	2429	South Africa	Beginning 2003 – Beginning 2006
Cowan et al. (2010)	82	6791	Zimbabwe	Feb 2003 – Apr 2007
Mantell et al. (2006)	4	983	South Africa	Late 2003 (4 months)
Mathews et al. (2012)	80	12139	South Africa & Tanzania	Feb 2004 – 2005 (15 months)
Jemmott III et al. (2010)	18	1057	South Africa	Oct 2004 – Dec 2006
van der Maas and Otte (2009)	10	250	Nigeria	Feb 2005 – Apr 2007
Rijsdijk et al. (2011)	48	1986	Uganda	Mar – Oct 2008

3.2.3 Data collection. I identified texts in four iterative phases – see Figure 9. The three web-based repositories I used to search for texts were Pubmed, Medline, and PsychInfo. In addition, I searched for further material using Google Scholar. The primary keywords used in these searches were 'HIV', 'AIDS', 'School*', 'Prevent*', 'Africa*', 'Interven*', and 'Evaluat*'. With these results, I scanned through abstracts and excluded all duplicates, those that were obviously unrelated to the topic area, and those that definitely did not meet the inclusion criteria. For all remaining texts as well as related systematic reviews, I then searched for and reviewed all the texts listed in their reference lists. Using this process was particularly useful for identifying older publications. Further, it facilitated the retrieval of supporting information on all the texts that would later be reviewed. I then read the entire text and made any final exclusions.

Once I had identified the primary outcome evaluation paper reporting on each of the 22 included studies, I conducted additional searches for other texts about the intervention described in the evaluation – for example, design descriptions, process evaluations, or reporting on qualitative data. I used these supplementary sources to extend my understanding of the intervention package and sense-check my interpretation of the implicit assumptions about 'the act' in each study.

3.2.4 Data analysis. I selected discourse analysis because I wanted to inductively identify implicit rhetorical devices (Atkinson, 1997; Fairclough, Mulderrig, & Wodak, 2006; I. Parker, 1992) and generate theoretically explanatory models (Ritchie, 2003; Tsoukas, 1989). The analysis followed an iterative (Srivastava & Hopwood, 2009) pattern of re-reading the texts. I started the analysis by coding inductively in NVivo 8 (QSR International Pty Ltd, 2008) with a portion of the papers that I had identified to that point. However, I abandoned this because my code list was too long, and the codes were too narrow. I restarted the analysis with the 22 texts and instead used printed copies and manual highlighting to

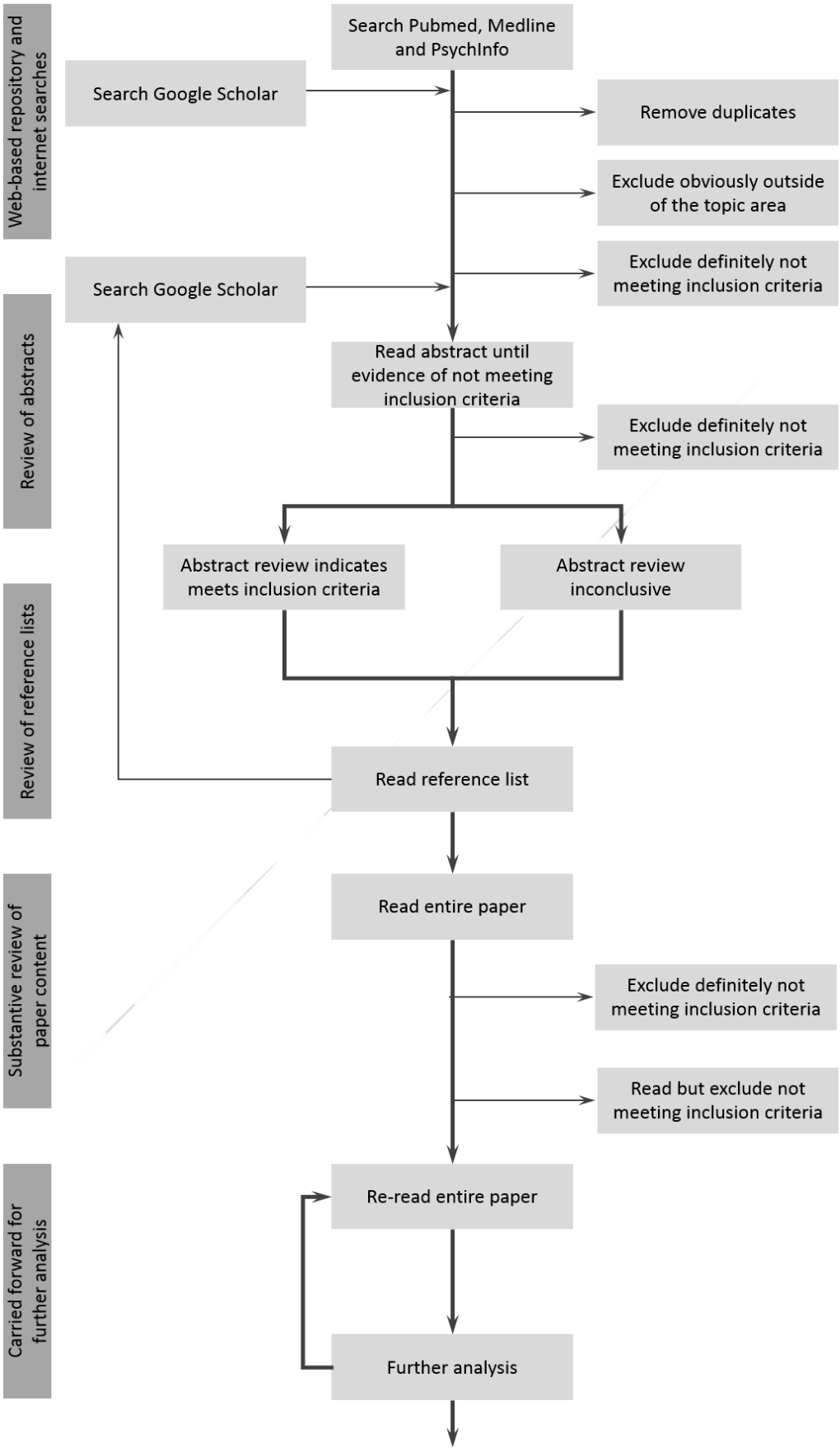


Figure 9. Flow of reviewing papers for inclusion in narrative analysis

note my developing understanding of the ideas. I read of each paper at least three further times and re-drafted multiple versions to graphically represent the rhetorical processes used by the text authors to reconcile discrepancies between behaviour and behavioural 'antecedents'.

A key challenge in developing my understanding of these rhetorical processes was finding the balance between acknowledging what the texts' authors explicitly state as their rationale and what I infer to be the logic allowing such a rationale. Often these were at odds. For example, Coffman et al. (2011, p. 164) present a detailed, theoretically plural and grounded program model premised on "ecological systems theory". However, they report results based on changes in learners responses to a questionnaire and *not* a change in the school 'ecology'. In my analysis, I assumed a responsibility to interpret critically and not take the text authors' assertions at face value.

3.3 Findings part one – school-based HIV prevention in Africa in context.

The implementation of school-based HIV prevention in sub-Saharan Africa coincides with a wider trend that Crane (2013) dubs a turn toward Africa in HIV research. This was primarily driven by clinicians or health researchers in the global north who had experienced the fear and stigma toward people living with HIV in the 1980s. In that context, HIV had been known as the four 'H' disease, signifying the overwhelmingly highest risk for homosexuals (*sic*), haemophyliacs, heroin users, and Haitians. The turn toward Africa reframed this narrative and increasingly articulated HIV as an epidemic among Africans, an international health crisis, and a threat to development (J. Cohen, 2002; de Cock, Ekpini, Gnaore, Kadio, & Gayle, 1994; Hunter, 2010b). With this historical context, school-based HIV prevention in sub-Saharan Africa is cast as a humanitarian response equivalent to the broadly contemporaneous famine relief efforts in Ethiopia that triggered Live Aid. Young people were framed as the most socially vulnerable and therefore most deserving of this

humanitarian response. Their sex acts became the mechanism for delivering salvation through chastity.

Such a framing built on long-established histories of academic problematization of the sex acts of young people in sub-Saharan Africa. In broad terms, this is an example of the intrusion of the biomedical into the inter-personal (C. Campbell & Williams, 1999; Hartley & Tiefer, 2003; Ogden, 1997; Rose, 2007; Waldby, 2004). More specifically, it is a colonial and liberation politic. As Epprecht (2010, p. 768) writes "In colonial times, Africans' supposed stunted or brutish sexuality was thought to oppress and degrade women, engender laziness and stultify intellectual growth in men." At base, missionaries and colonial governments promoted a propaganda that Africans had too much sex and enjoyed it too much. In contrast, liberation scholars and political leaders propounded an equivalent propaganda that African sexuality was virile, hetero-normative, and culturally sacrosanct but had been corrupted by structural disempowerment of the colonial state. As Epprecht (2010, p. 768) further argues "In modern times, African sexuality has been invoked to explain the high rates of HIV/AIDS in much of the continent." HIV/AIDS has thus become a public health excuse for conservative governments, international donors, and religious institutions to reinvigorate the policing of African sex acts.

Much socio-behavioural science scholarship has been preoccupied with contesting this reductionist, fetishist, and racist rhetoric of African sexuality (Arnfred, 2004; Epprecht, 2010; C. Macleod, 2011; Nyanzi, Nassimbwa, Kayizzi, & Kabanda, 2008; Oriel, 2005; Reid & Walker, 2005; Shefer & Foster, 2001; Steyn & van Zyl, 2009). Further, public health assumptions that HIV prevalence in Africa is caused by African hyper-sexuality has been repeatedly disproven. Nonetheless, school-based HIV prevention interventions premised on behaviour change must be considered as artefacts in state attempts to control problematic African sexuality (Morrell, 2003). Further, the public health imperative of HIV prevention is

only ancillary to the central political, social, and moral tensions about young people in sub-Saharan Africa's sex acts. Three points are salient in this history. Firstly, the concepts of 'young people' and 'sex acts' are definitionally difficult to reconcile (C. Campbell, Gibbs, Maimane, Nair, & Sibiya, 2009; Furman, Brown, & Feiring, 1999; Kincaid, 1998; Lamb, 2001; Levine, 2002; C. Macleod, 2011). Secondly, there has been a sustained and extensive research effort to change young people's sex acts irrespective of HIV prevention benefits. Thirdly, the nature of young people's sex acts has been repeatedly misapprehended or the complexity of these acts vastly distorted through over-simplification.

3.3.1 Interventions in schools to change HIV-related behaviour. Across the 22 reviewed evaluations, there was a wide range of variability in the stated scientific aims of the study, the study scope, the evidence available at the time of the intervention design, and the claims made about the 'success' of the intervention in the paper. Further, the evaluations cite a range of different behaviour change theories when describing the intervention rationale. The schooling contexts in which the interventions were implemented vary by learner age range, resource availability, and existing curricula. The delivery mechanisms for the interventions included educator-facilitated, peer-facilitated, didactic, experiential, in-school, out-of-school, and many other innovations. Despite heterogeneity in the particularities of intervention packages, the fundamental premises and logic for how the interventions were intended to produce an effect is remarkably similar across all evaluations – see Table 2 with emphases added. In every instance the primary intervention mechanism is overwhelmingly focussed on equipping young people with capacity to do their sex acts differently.

Despite the 20 year timespan, there is remarkably little deviation from the core logic that changes in behaviour *require* changes in knowledge, attitude, skills, self-efficacy, and intentions. Further, that these prerequisites for behaviour change can be instructed and then

Table 2. Interventions always designed to change young people's knowledge and skills

Reference	Citation
Klepp et al. (1997)	"Specific program activities were as follows: (1) *Teachers provided factual information* about HIV transmission and AIDS. … (5) Students wrote and performed role-plays in which they argued publicly, trying to convince each other about aspects of HIV risk behaviors or *practicing refusal skills relating to sexual involvement*. … *Other activities* were designed to increase communication with parents and other community members" (pp. 1932-1933)
Harvey, Stuart and Swan (2000)	"The programme consisted of a three-phase intervention. During the first phase, teams composed of *qualified* teachers/actors and nurses *presented a play incorporating issues surrounding HIV and AIDS to each school*. The second stage of the intervention involved team members running drama workshops … using participatory techniques such as role-play." (p. 105)
Kuhn, Steinberg and Mathews (1994)	"The AIDS awareness programme … took the form of an intense, high-profile focus on AIDS in the school over a 2-week period. It used *a variety of different education methods* and operated through a number of channels … *Classroom-based activities included structured information sessions on AIDS*." (pp. 162-163)
Shuey, Babishangire, Omiat and Bagarukayo (1999)	"The key interventions were: (1) *Improved access to information and other resources for health sexual behaviour decision making*. (2) Improved adolescent to adolescent interaction regarding information and decision making relating to AIDS, sexuality and health. … (9) Answering of questions in student question boxes." (pp. 412-413)
Dente et al. (2005)	"The study aim was to evaluate the impact of Voluntary Counselling and Testing (VCT) and School Health Education (SHE) on *HIV/AIDS related knowledge, behaviours and risk perception* … The direct target group of the SHE programme is school teachers. They are trained and supported … to *deliver HIV/AIDS health education sessions to their students*." (pp. 1-3)
Fawole et al. (1999)	"A *comprehensive health education curriculum* was developed in conjunction with health education experts from the sub-department of Health Promotion and Education of the Department of Preventive and Social Medicine … Six weekly *AIDs/HIV education sessions were implemented* … A demonstration on the proper use of condoms was done after receiving approval of the school principal." (p. 676)
Stanton et al. (1998)	"the 'Focus on the Kids' curriculum … *focuses on basic facts about reproductive biology and HIV/AIDS*, other risk behaviours including alcohol consumption and intra-relationship violence, *communication skills, and a framework for decision-making*. Each of the 14 sessions contains a variety of narratives, games, facts, and exercises …" (p. 2474)
Ajuwon and Brieger (2007)	"Studies have demonstrated the value of peer education alone and teachers' instruction alone … students were requested to nominate … who they prefer as *sources of reproductive health information* … These teachers were trained for five days on *adolescent sexuality, ... STD/HIV/AIDS, condom promotion and distribution*, drug abuse …" (pp. 48-50)
Kinsman et al. (2001)	"Our programme *includes basic information about HIV/AIDS* … the selection process recognized that knowledge of AIDS alone may be insufficient to bring about sustained healthy sexual behaviour. … *The four primary antecedents to behavioural risk reduction ... knowledge acquisition, attitude development, motivational support and skills development*." (pp. 87-89)
Ross et al. (2007)	"The main aims of the intervention were to *provide young people with the knowledge and skills to enable them to delay sexual debut, reduce sexual risk-taking by sexually active youth* … and increase appropriate use of sexual health services … The most intensive component was a participatory, teacher-led, peer-assisted, in-school programme." (pp. 1944-1945)
Agha and Van Rossem (2004)	"there is considerable *confusion about HIV/AIDS in the minds of Zambian adolescents* … To increase adolescents' *factual understanding of how sexual behaviour can lead to HIV transmission* … emphasize the importance of correct and consistent condom use when abstinence is not possible." (pp. 442-443)
James S. et al. (2005)	"*Laduma* provides the reader with *accurate factual information to increase their knowledge and reduce misperceptions* about sexually transmitted infections … *Factual information is provided about sexually transmitted infections*, through appropriate responses by a clinic nurse and discussion amongst friends. … reinforced by a question and answer section." (p. 159)

James S., Reddy, Ruiter, McCauley and van den Borne (2006)	"The program addressed a range of topics *starting with facts about HIV and AIDS* … This was *followed by a component that addressed relevant determinants of life skills* related to the prevention of HIV and AIDS. *The focus was especially on knowledge about HIV and AIDS*, attitudes to condom use and people living with AIDS, gender norms, and perceptions about sexual behavior." (p. 283)
Maticka-Tyndale, Wildish and Gichuru (2007)	"The pedagogy of PSABH was based on social learning theory with role modelling … As a result, *training focused on a pedagogy of delivering correct information*; … For pupils to a) *increase HIV-related knowledge*, b) increase communication with parents and teachers about HIV, AIDS and sexuality, c) increase assistance to each other to avoid sexual activity, d) *increase self-efficacy* …" (pp. 174-175)
Karnell, Cupp, Zimmerman, Feist-Price and Bennie (2006)	"The centerpiece of the adapted curriculum consisted of a series of monologues delivered by four fictional teenaged township characters. … The objectives of the program were to *impart key HIV and alcohol related facts, enhance students' understanding* **...** and *enhance students' ability to plan ahead* to avoid situations in which they would be likely to engage in risk behaviors." (p. 298)
Coffman, Smith, Flisher and Caldwell (2011)	"HealthWise is based on a positive youth development approach and is concerned with understanding and influencing *how youth engage with their social settings*, and how that affects their risk and protective factors … *Self-efficacy results in an increase in intention to use a condom as well as an increase in actual condom use*." (p. 163)
Cowan et al. (2010)	"The youth programme for in- and out-of-school youth … using participatory methods which aimed to *enhance knowledge and develop skills*. … The programme for parents and community stakeholders … aimed to *improve knowledge about reproductive health* … communication between parents and their children and … community support for adolescent reproductive health." (p. 3)
Mantell et al. (2006)	"The curriculum … designed to create a positive approach to gender relations and *build prevention skills*. It focused on issues of gender, empowerment and sexuality as mechanisms to promote condom use and delay initiation of sexual debut … by: *providing factual and realistic information on HIV/STI transmission and risk behaviours* … scripting peer behaviour … was used to engage youth and *facilitate skills development*." (pp. 117-118)
Mathews et al. (2012)	"The interventions … were developed using intervention mapping, a systematic method using empirical evidence, behavioural change theory and formative research. … *behavioural intentions are shaped by personal attitudes, social norms and self-efficacy*. … The intervention consisted of 11-17 h of classroom sessions … The sessions involved teacher presentations, group discussions and role-plays." (p. 112)
Jemmott III et al. (2010)	"The interventions were developed based on social cognitive theory, the theory of planned behaviour, and … 'targeted ethnography'. … to (1) *increase HIV/STD risk-reduction knowledge, (2) enhance behavioural beliefs ... and (3) increase skills and self-efficacy* … because girls in South Africa are vulnerable to rape … sex-specific modules addressed sexuality, sexual maturation, appropriate sex roles, and rape myth beliefs." (p. 924)
van der Maas and Otte (2009)	"The purpose of the study was to assess whether peer education is an effective method of *HIV/AIDS awareness, in terms of knowledge, misconception, and behavior* … The peer education program was not curriculum based. However, *the AIDS Ministry staff developed a teaching plan to ensure coverage of all relevant topics.*" (p. 548)
Rijsdijk et al. (2011)	"the comprehensive sex education programme … aiming to *empower and support young people in making their own, informed decisions about sex*. … This combination empowers young people not only to obtain *necessary knowledge to develop appropriate attitudes and learn healthy and responsible behaviour and life skills* … The fourth section focuses on applying lessons learned about goal setting regarding the students' future." (pp. 2-3)

adopted. Changes in capacity are aggrandized as independently valuable regardless of actual behaviour change. For example, Agha and Van Rossem (2004) describe their intervention as "giving correct factual information" (p. 442) and this is good because this reduces "the considerable confusion in the minds of Zambian youth" (p. 442). Contrarily, the educational rationale that the 'antecedents' of change *can be* taught perversely reinforces the assumption that they *must be* taught in order to influence 'consequent' behaviour. Even when evaluations showed change in one of the components of the model of behaviour but not others, this was framed as anomalous and did not challenge the model. For example, Maticka-Tyndale et al. report changes in abstinence self-efficacy among sexually active girls but not any reduction in number of sex acts. This is explained as the change in self-efficacy having not been *sufficient* to overcome situational barriers.

3.4 Findings part two – implicit logic for behaviour change interventions.

Schools in sub-Saharan Africa are at once products and productive of their social and health context. At the micro-level of social interactions between people, the complex sets of participants, histories, and institutional praxes of each 'school-community' sets it apart as a unique complex of social systems. These school-communities are defined geographically, and by the shared interest of education for young people. Conversely, writ large, schooling implies uniformity of purpose and stepwise, progressive processes. Schooling is intelligible as central to young peoples' rites of passage into contemporary society. It is also a recent imposition for reproducing modern societies and is therefore part of global systems of post-modern governance (Ball, 2013). Institutionalised schooling, with its classrooms, optimum learner to educator ratios, standardised curricula, and systematized grading, is historically anomalous and arose in response to particular societal pressures of industrialisation and empire building in the global north (J. Macleod & Yates, 2006; Popkewitz, 1997).

The geo-economies and accompanying inter-national, class, and race politics of power, colonisation and subsequent independence have been instrumental in the development of schooling in sub-Saharan Africa (Bassey, 1999; Brock-Utne, 2000, 2001; Chisholm & Leyendecker, 2008; Dei, Asgharzadeh, Bahador, & Shahjahan, 2006). The dualist characteristic of schools in sub-Saharan Africa being whole units with complex social components and also representative of broader social trends make them an interesting space in which to consider 'the act'. On the one hand, they illustrate the granularity of 'the act' and on the other hand each school's acts embody wider social problematics. From the 1990s to early 2010s, schools in sub-Saharan Africa were also especially important in terms of in HIV epidemiology and the rapidly changing HIV prevention and treatment programme. This confluence of social contexts accentuates the contested nature of young people's sex acts and is therefore helpful in demonstrating 'the act' in its wholeness.

I identified three narratives and 14 sub-narratives underlying the discursive structure of the texts reporting on school-based behaviour change evaluations. These narratives are my understanding of the rhetorical turns perpetuating avoidance of the stark disjuncture between behaviour change 'antecedents' and behaviour – in this instance young people's sex 'acts'. In summary, the narratives construct strong reasons to intervene on young people's sex 'acts', supported by positioning young people's sex acts as inherently problematic, and by always finding future opportunities to adapt and intervene again. Together, the narratives represent an implacable logic that school-based HIV prevention through behaviour change interventions are inevitable. This drowns out any thought that fundamental assumptions about the nature of young people's sex acts might be faulty. I present a summary of the narratives below and then substantiate them by describing the sub-narratives part of each narrative with an illustrative example. The narratives are co-constitutive and co-dependent on the others – see Figure 10. The sub-narratives simultaneously resolve and complicate the narratives.

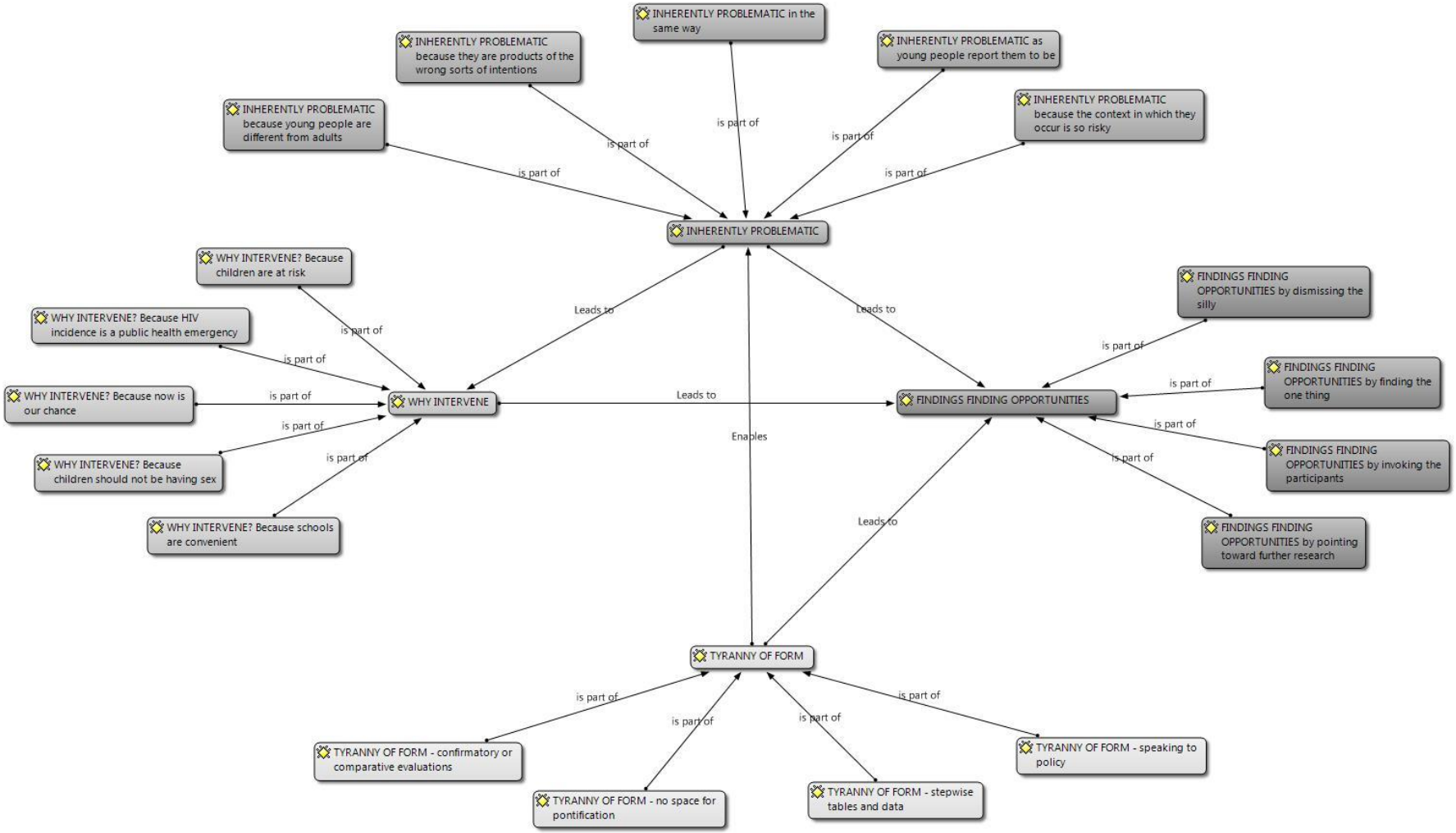


Figure 10. Narratives in texts reporting on evaluations of school-based HIV prevention

3.4.1 Narrative 1 – Why intervene? Emphasizing the 'ultimate value' of finding an effective and cost-effective way to reduce HIV incidence is a powerful rhetorical tool for pre-empting doubt about the value of school-based HIV prevention interventions. This narrative follows the faulty but compelling form that 'because this is so important, therefore it must work'. Further, it is reinforced by the similarly erroneous but compelling implicit moral undertone that to question the actual effectiveness of the intervention is to question the importance of intervening at all. The narrative conflates what is with what should be. When made explicit, this is patently false. However, this form of narrative is implicit and pervasive throughout the texts. These texts are academic journal articles. Some degree of rhetoric about the ultimate importance of the research is required – to motivate why it should have been undertaken in the first place and to justify publication of the findings. However, none of the texts distinguished between determining whether *this* evaluated intervention was effective and the broader aim of identifying *a* successful intervention. The narrative of 'why intervene' provides a rhetorical turn whereby authors' insistence of the importance of research to identify an effective intervention is incorrectly transferred to (a) the assumption that such an intervention exists, and (b) that the particular intervention under evaluation must therefore be effective. Five sub-narratives are part of this rhetoric:

3.4.1.1 Why intervene? Because schools are convenient. The first sub-narrative that supports the rhetoric of these interventions is that schools are a convenient way to reach young people. Further, designing an intervention for young people without using schools is, on face value, unnecessary, wasteful and silly. This sub-narrative enables the smooth transition from the fact that many young people spend much of their time in schools to the unsubstantiated assumption that schools are an appropriate institutional mechanism to deliver effective HIV prevention interventions. Further, the irreplaceability of schools in the HIV prevention programme is compounded by the assumption – made in all 22 texts – that

successful behaviour change is dependent on *learning* new knowledge and skills. Schools are naturally assumed to be the best place for young people to learn. This logic becomes cyclical and tautological when the assumption that schools are the best place to reach young people is combined with the second assumption that when in school young people must be learning. For example, Mantell et al. (2006) argue that because young people are in school, then schools are important for intervention despite the schools listed limitations:

> "Although *South African schools have been condemned for high levels of violence and criticised for their limited capability to actively engage with HIV prevention, we decided on a school-based intervention.* A high proportion of young South Africans attend school, nearly 80% off 15-19 year-olds in this area. *As a result, schools can be a major source of HIV/AIDS information and are an important institution for socialisation of youth, particularly in rural areas, and potentially for changing sexual behaviour norms*." (p. 116)

3.4.1.2 Why intervene? Because* children *are at risk. The sub-narrative that children are 'at risk' for acquiring HIV sounds a moral clarion call to drown out any potential mutterings that there is insufficient proof of intervention effect. This call is all the more loud and insistent when the children's vulnerability resonates with global – northern – aide parochialisms about vulnerabilities of being 'poor', in Africa, and otherwise unfortunate. For example, in Jemmott III et al. (2010) the characterisation of young people being at risk begins with alarming statistics about HIV incidence in the introduction, is carried through the intervention design rationale and ultimately reinforces the conclusion that this intervention is worthwhile:

> "It is estimated that more than one-half of all South African individuals aged 15 years in 2006 will not survive to 60 years of age. Young adolescents, before or just after the

initiation of sexual activity, are singularly important to intervention efforts because they are highly vulnerable" (p. 923) …

"The apartheid regime created Mdantsane, the second largest South African township after Soweto, as the living space for cheap African labor. … Electricity was not available in many of the classrooms; consequently, we could not use video, an often-used strategy in efficacious interventions." (p. 924) …

"In conclusion, sexual transmission of HIV is a major risk faced by adolescents in sub-Saharan Africa, and interventions are needed urgently to reduce their risk. This study provides the first evidence… among youth South African adolescents in the earliest stages of their sexual lives." (p. 928)

3.4.1.3 Why intervene? Because HIV incidence is a public health emergency. In contrast to the moral imperative to help children at risk is the sub-narrative that failing to address HIV incidence among young people might lead to greater public health costs. This appeals to notions of frugality as well as equitability and humanism – since costs incurred in one part of the public health system are missed opportunities in others. The rhetoric is reinforced with reference to the 'cold hard facts' of statistics. Often, the sentence structure uses passive voice with a missing subject creating the illusion that the imperative for the intervention is a natural fact devoid of political stakes or positions. For example, Stanton et al. (1998) frame the imperative to intervene as a regional socio-economic crisis:

"*The epidemic of AIDS* in sub-Saharan Africa *calls for urgent interventions*. … One such country is Namibia … With an average annual per capita gross national product of US$2000, *biomedical prevention and treatment methods are simply not affordable* to most citizens or to the government. However, as of the time that the study described in the present paper was completed, *HIV prevention efforts in Namibia were largely limited to clinic-based posters*. (p. 2474)

3.4.1.4 Why intervene? Because* now *is our chance. Adding much urgency to the imperative to implement the evaluated intervention is the sub-narrative that there is a soon to be closed window of opportunity to intervene. Further, that failure to intervene in this window will lead to calamity. Rather than quashing scepticism about the intervention's absolute effectiveness, this sub-narrative accommodated allowing the intervention to being only the best available *for now* because there is hope for future improvement. For example, Kuhn et al. (1994) acknowledge the multiple social-context challenges that implementing an effective HIV prevention intervention faces. Yet they still argue to pursue an evaluation of intervention effectiveness premised only on 'psychological determinants' of behaviour – lest the opportunity to intervene be missed:

> "AIDS is one of the most serious challenges to post-Apartheid South Africa. Comparatively speaking, *South Africa is in the early stages of the epidemic, hence the preventive potential is large*. … Projections suggest that this may reach an endemic level of 30% of all the adult population by 2010 … *The apartheid legacy of migrant labour, gross deficiencies in education opportunities and medical services, including, primary and secondary preventive health services, widespread poverty, and civil conflict and political violence, exacerbates the spread of HIV infection.* High rates of other sexually-transmitted diseases … add to *the formidable list of problems facing an HIV/AIDS control programme in South Africa*. … In this study, we evaluate a pilot *AIDS education programme* in a South African high school in terms of its impact on selected, psychological determinants of behaviour." (pp. 1-2)

3.4.1.5 Why intervene? Because children* should not *be having sex. The moral, paternalist imperative that young people should be protected from sex carries semi-religious overtones of protecting chastity, purity, and avoiding 'defilement'. Positioning the intervention as attempting to preserve these values implicitly constructs the intervention itself

as inherently of moral value. This drowns out quibbles about lack of evidence of effectiveness. In other words, even if the evaluation demonstrated that the intervention has questionable health benefits at least an attempt is being made to have fewer young people having sex which is positioned as an absolute good. For example, Ajuwon and Brieger (2007) frame adolescents and adolescence as a public health 'challenge' because of so many young people acting so out of control:

> "Developing strategies to address the reproductive health needs and concerns of the adolescents in Nigeria poses a major public health challenges. One of the factors contributing to this challenge is *the sheer size of the adolescent population in the country*. Adolescents … account for a significant proportion of Nigeria's population of 140 million. The second challenge is that *a significant proportion of the Nigerian adolescents engage in risky practices* including unprotecting sex with multiple partners. For example … 76% of the secondary school youths had been sexually active within the past 12 months, *5% with prostitutes and 56% with more than one partner*… In 1999, *persons aged less than 24 years accounted for 10% of all HIV infections* compared to 5.4% for adults." (p. 48)

3.4.2 Narrative 2 – Young people's sex acts are inherently problematic. Implicit across all the texts are assumptions that young people's sex acts are inherently problematic. Once reason is given for *why* young people's sex acts are problematic, then it is no longer necessary to establish *that* they should be intervened upon at all. Further, problematizing young people's sex acts establishes the pursuit of an intervention as inherently good by seeking to resolve an 'obvious challenge'. Therefore, the attempt to intervene becomes laudable, independent of whether or not it is successful in producing an effect. In other words, because young people's sex acts are by definition problematic, striving to 'solve' them is definitively good. As a rhetorical tool, this negates questioning the underlying

assumptions of the specific intervention being evaluated because *any* intervention is good. Five sub-narratives support this narrative.

3.4.2.1 Inherently problematic because young people are different from adults. A key premise for intervening on young people's sex acts and not on the sex acts of 20- to 30-year olds is that young people's sex acts are somehow different from adults'. Epidemiologically, the best point of intervention is closest to the point of highest incidence risk. HIV incidence peaks at late 20s and early 30s in women and men respectively (Shisana et al., 2010; Tanser et al., 2008), not among school learners. However young people's sex acts are positioned as better points of intervention because they are (a) formative of later habits rather than entrenched, (b) malleable to instruction, (c) more risky because of biological immaturity, and (d) inherently problematic. For example, Kinsman et al. (2001) draw no distinction between the HIV incidence risk for young adults with that of adolescents and proceed to define young people's sex acts as malleable, formative, risky and therefore requiring intervention. This holds rhetorical power even though the listed reasons for young people's sex acts being different are either tautological or fail to hold up to scrutiny when compared to people of other ages that are not in long-term monogamous relationships:

> "Seventy percent of all current HIV infections occur in sub-Saharan Africa, where an estimated 24.5 million people carry the virus … Strategies to address this unacceptable situation should ideally include *promotion of safe sexual behaviour for adolescents and young adults, who tend to be at higher risk than the rest of the population*. Not only can comprehensive AIDS education for *this age group*." (pp. 85-86)

3.4.2.2 Inherently problematic in the same way. In establishing young people's sex acts as distinct from adults there is also a subtle homogenizing effect that all the sex acts of all young people are 'basically' the same. The defining characteristics of young people's sex act as different from adults' and inherently problematic is so ubiquitous that variability within

young people's sex acts is disregarded as negligible. This rhetorical turn enables observed differences of the context in which young people's sex acts are done to be brushed aside as external to the sex act itself. The fundamental assertion is that young people's sex acts are about their choice and that their choices are wrong. Simultaneously, the intervention is excused from having to address the contexts in which young people make these 'choices' because they are beyond the core scope of a school-based intervention for young people. Rather, the narrative twists ignoring intervention effort to change contexts into a *virtue* by positioning the intervention as 'empowering' young people to choose their sex acts better in spite of context. For example, Rijsdijk et al. (2011) describe the context for their intervention as being one in which young people are at high risk of coercion. They then describe their intervention as empowering young people's self-esteem and goal setting. In this way, the intervention's lack of attention to addressing the context of coercion directly is twisted into a laudable focus to 'help' the young people – but instead makes them unjustifiably responsible HIV prevention:

> "*Coerced sexual intercourse is also a major problem for many young Ugandans,* both girls and boys. … *However, girls who receive gifts and money from their boyfriends, and the other way around, for having sex, is also often considered part of normal dating behaviour among Ugandan adolescents*. … The programme … aims to *build self-esteem and personal decision-making*, gaining insights into a person's identity and sexual development. … the role of the social environment (e.g. peers, family, close friends, teachers, and media), gender equity and sexual and reproductive rights are addressed, *in order to teach young people to cope with social influences on their own decision making*". (pp. 2-3)

***3.4.2.3 Inherently problematic because they are products of the wrong* intentions.**

Closely linked to the sub-narrative about the universal nature of young people's sex acts

(above) is that they are the direct consequence of young people's misguided intentions. This sub-narrative is pervasive throughout the texts and is rhetorically fundamental to maintaining a narrative that school-based HIV prevention *should* be implemented. The sub-narrative is a chimeric truism and therefore very difficult to disprove, even despite evidence that in many instances it is palpably false. Instead, acts that illustrate young people's sex acts are *not* driven by their intention are either (a) treated as anomalous, or (b) disregard as too 'proximal' to the act, and more distal intentions are reconciled as the actual 'causes' of the act. For example, Agha and Van Rossem (2004) found that the intervention they evaluated produced positive intentions to use condoms, but that these intentions quickly dissipated without impacting on behaviour. Instead of questioning the link between intention and behaviour, they invoke a broader – unmeasured – intention to comply with religion and political leadership to explain away the 'anomaly':

> "*Positive changes in attitudes regarding condoms, such as the approval of and the intentions to use condoms were observed* immediately after the intervention *but reversed within 6 months. … The social context of sexual behaviour in Zambia may also have contributed to the lack of a sustained impact of the intervention on these indicators*: church groups have consistently opposed condom use and political leaders have sometimes made highly publicized statements against condoms." (p. 451)

3.4.2.4 Inherently problematic as young people report them to be. All the texts treated young people's sex acts as exactly congruent with young people's self-reports about their sex acts. In order to be accurately self-reportable, the sex acts must be self-known. Further, young people's sex acts are positioned as expressions of the intentional 'self' who knows and does what it intends. The effect of interventions on young people's sex acts is most frequently measured through self-reported questionnaires – often with sub-sections on knowledge, attitudes, capacity, intentions and behaviour. Implicitly, this imposes the

responsibility for knowing 'their' acts onto young people. This negates any notions that young people's sex acts might be the consequence of context, impulse, or unconscious processes because the reasons for 'the act' must be known by the young person as represented in their response to questionnaire items. This sub-narrative allows more emphasis to be placed on *if* the intervention works rather than understanding *how* it does. For example, James S. et al. (2006) describe a self-fulfilling logic for what young people's sex acts are by delineating how they are reported:

> "The outcome variables of interest were *knowledge* about HIV infection, *attitudes* to condom use and people living with HIV and AIDS, *perceptions* about sexual behavior, *communication* about safer sex, *perceived* social support, *confidence to assert oneself,* and *reported intended sexual behaviour*. The different outcome measures such as knowledge and attitudes were measured by a set of items. To test if the items were related to each other, factor analysis was used. The items with a high loading (>0.4) were grouped to form a factor and *then interpreted and given meaning*." (p. 285)

3.4.2.5 Inherently problematic because the context in which they occur is so risky. Finally, the sub-narrative that young people's sex acts are dependent on risky contexts is common to all the texts. This ubiquitous assumption would appear to contradict the sub-narrative that young people's sex acts are products of intentions. If context is so important, then why are the interventions not targeted at changing the contexts? Paradoxically, this sub-narrative reinforces the assertion that the point of intervention should be young people's sex act *intentions*. Even though contexts are repeatedly described as the source of riskiness, this risk is also positioned as (a) ubiquitous, inescapable and therefore not worth intervening on, and (b) only a space in which the primary problematic of young people's sex act intentions are played out. For example, Karnell et al. (2006) foreground the importance of a context of endemic alcohol use for HIV risk. They then describe an intervention for young people to

learn the *skills* to resist both HIV and alcohol-use risk – not an intervention changing alcohol availability in the first place:

> "In South Africa … use of *alcohol among adolescents has been implicated in the spread of HIV* … Flisher, Ziervogel, Chalton, Leger and Robertson (1996), for example, found associations among binge drinking, cannabis smoking, and sexual intercourse. In South Africa … alcohol is related to risky sex especially within first-time sexual encounters. … In general, *the knowledge, attitudes, and skills necessary to avoid risk behaviors* such as binge drinking are closely related to those necessary to avoid risky sex." (p. 297)

3.4.3 Narrative 3 – Opportunities for more intervention always found. All academically published evaluations of interventions must provide a reconciliation of findings and cohesive conclusion about how to interpret the data. In these texts, this facilitated a narrative that always identified opportunities for further implementation and research to refine the evaluated intervention. None of the texts discussed that school-based HIV prevention through behaviour change interventions were *not* worthwhile of future investment. Regardless of any evidence reported on in the text. Rather, any contrary data were dismissed, and any data conforming to expectations frequently over-interpreted. This third narrative sustains an internal conceptual cohesion that negates the opportunity to proffer alternative interpretations of data. In other words, pursuing the scientific aim of 'making sense of the data' blinds the interpreter to 'non-sense' or 'uncommon sense' data that would genuinely revise their understanding of how the intervention relates to HIV risk. In all the texts, the only conceptual model of the influence of a behaviour change intervention on young people's sex acts was via knowledge, skills, and perceptions, to intentions, and to behaviour. Four sub-narratives are part of this narrative.

3.4.3.1 Finding opportunities by dismissing the unconventional. At a most superficial level, data that appear spurious were dismissed without further interrogation. Such data were framed as either 'outliers', or irrelevant to the core aims of the evaluation. The assumption of some degree of inherent randomness or 'error' fundamental to statistics was often over-extended to support this narrative and facilitate dismissal of non-conforming data without elaboration. As such, this sub-narrative is an out-of-hand rhetoric that can be employed as long as there are other more 'important' – read 'more consistent with implicit logic' – findings that can be given further consideration. For example, Stanton et al. (1998) describe the positive impact on the intervention on perceptions of self-efficacy in relation to four outcome measures by listing these outcomes in the text. Two other outcomes not listed were about asking a partner about past sexual relationships and refusing sex with a partner who would not use a condom. These appear conceptually pivotal to young people's HIV risk in the context of this intervention. However, why the intervention did not impact on these was not discussed and they are instead brushed over as 'remaining issues':

> "Of the six areas of self-efficacy regarding condom use that were assessed, *four were positively impacted by the intervention and two remain unchanged*. … intervention youths were significantly more likely than control youths to believe that 'condoms are easy to find when I need them'. … Strong intervention impacts overall were seen regarding 'knowing how to put a condom on correctly' … A slight increase in the perceived ability to make a partner use a condom was seen overall 12 months post-intervention, whereas an overall increase in the ability to ask for condoms at a clinic was seen … *No intervention impact was seen with regards to the remaining issues*." (p. 2478)

***3.4.3.2 Finding opportunities by finding the* one thing.** Closely related to dismissing the unconventional is a sub-narrative of finding – and clinging to – the one part of

evaluation data that *does* conform to expectations. This narrative requires establishing that (a) the interpretation of all the other data is only ambiguous not definitively contradictory, and (b) the finding from a limited set of data is logically compelling and somehow 'more important' to the intervention. Further, the sub-narrative implies that the intervention would have worked if only circumstances were different. The implicit logic runs that the intervention itself is not flawed, it is only not as effective as would have been hoped because of some transient contextual interference. In this way, the internal coherence of the intervention logic is protected from scrutiny. Attention is instead deflected onto the vagaries of the context in which it was implemented. For example, Karnell et al. (2006) describe no intervention effects for variables that are purported to mediate the effect of the intervention on young people's sex acts. Instead, they foreground the effect of the intervention on intention to use a condom. This one effect of the intervention is then expounded upon to pronounce the intervention 'successful':

> "*No intervention effect was reported for HIV-mediating variable*s such as perceived social norms regarding sexual activity, attitudes toward condom use, or condom use self-efficacy. *However, results did show an intervention effect on intention to use a condom* among those who had had sex at the time of the pretest … *The strongest effects of the intervention tested in this study were found in HIV-related behaviors and mediating variables*. … Basic knowledge about refusal, negotiation, and condoms and their use should be added to the curriculum." (pp. 306-308)

3.4.3.3 Finding opportunities by invoking the participants. When data are open to multiple interpretations, a safe rhetorical twist is to invoke the 'actual words' of the participants. This requires some qualitative data to complement the experimental evaluation. As a rhetorical device ventriloquism of young people's experiences negates other interpretations as if it were an appeal to a 'deeper truth'. This sub-narrative is pervasive,

foundational even, in the texts. However, why should we expect that young people have any particular conceptual sophistication to understanding their behaviour beyond the lay? Secondly, even direct citation of young people's experience is subject to the same requirement of interpretation by the authors as the outcome evaluation because it must be framed by the wider narrative of the text. This sub-narrative holds a pattern of *faux* deference for young people's lived experiences to legitimate the most basic folk psychological interpretation of outcome data. The narrative enables cherry-picking of quotes from participants in order to substantiate expected outcomes lending them greater credibility and ignoring other more conceptually problematic data. For example, Maticka-Tyndale et al. (2007) present excerpts from group discussions with young people to 'illustrate' how the effect measures with positive outcomes are sensible. However, they then also note that the quotations do not quite explain the unexpected findings and that is left as a mystery:

> "In focus group discussions girls described *the strategies they were learning for maintaining abstinence*. These included clear communication about their intentions: 'When a boy approaches you for friendship you have the right to tell him that you are still in school and you do not want to hear about sex'. … *This represented a substantial shift from the dialogue in pre-program focus groups* where girls spoke of the necessity of a boyfriend … *However, despite apparent shifts in girls' ability to manage cross-gender relationships, they still described situations where boys would force or coerce them to have sex if they resisted*." (p. 181)

3.4.3.4 Finding opportunities by pointing toward further research. If no ready reconciliation of the data with the intervention logic was apparent, then this sub-narrative allows a formal statement of indefiniteness of outcomes without challenging the intervention assumptions. Specifically, the resolution of contrary findings might be deferred to future research means no attempt at alternative interpretation of the data reported is necessary in the

text. Appeals to future research are rhetorically powerful in that they (a) acknowledge the evaluations limitations without addressing them, (b) include the evaluation in a wider collaborative body of research and shared narrative, and (c) conform to the formatting of academic reporting. Far from being a challenge to the conceptual logic of the intervention, calling for further research becomes a strength. In so doing, it contributes to the perpetuation of the same intervention logic in future research. For example, Rijsdijk et al. (2011) call for more research to ensure successful implementation of their intervention even though the evaluation showed poor implementation and limited effect:

> "*As WSWM is not part of the school curriculum, the programme should be made more flexible in such a way that it enables teachers to make logical adaptations* according to time constraints and address specific problems and issues faced by students. … Apart from the reason of having limited time, it is unknown why some schools only had implemented 50% of the lessons at post-test … *More research is needed on factors influencing complete and successful implementation of comprehensive sex education programmes such as WSWM in Uganda*." (p. 11)

3.4.4 Maintaining incoherence between behaviour and 'behavioural antecedents'.

The relationship of the narratives and sub-narratives to each other is multiple, changing, and re-created in each instantiation of maintaining a misapprehension of young people's sex acts. Each text instantiates a different combination of narrative assumptions, and version of those narratives that its authors find rhetorically useful to support their data interpretation. Further, as these are rhetorical mechanisms they exist only insofar as they are invoked in the 'speak' of the texts. Maintaining narrative cohesion about young people's sex acts as a point of intervention despite conceptual and empirical incoherence between behaviour and purported 'behavioural antecedents' is like walking a rhetorical tightrope. The challenge faced in each of the texts was to carefully balance the moral, political, and funding imperative to believe

that an effective intervention is possible while indicating how this evaluation contributes in bringing that willed-into-being reality closer. Whilst walking this tightrope, the narrative must be steered away from a glance down at the dearth of data supporting this progression, instead focussing on the ultimate future aim of successful HIV prevention for young people. In this analogy, the set of narratives function as a safety net. Whenever there is a misstep with data that challenge assumptions about if and *how* school-based HIV prevention interventions work then the narratives were rhetorically mobilised to bounce off and back to the 'true path' of the tightrope. By extension, the rhetoric is maintained by treading a very careful line between two registers of what *should* be and what *is* observed and accounting for stumbles along the way through the force of common sense dictums.

School-based HIV prevention interventions evaluated in sub-Saharan Africa in the last two decades have systematically misapprehended young people's sex acts because they have never been required to re-imagine 'the act' in total. The safety net not only enables staying on the imagined path toward finding the most effective version of this intervention, it also delineates a very small area over which to explore potential explanations for the data. Consequently, only a narrow range of possible interpretations of 'the act' conform to those imagined to be necessary to the aim of identifying the most effective intervention. Other possibilities of 'the act' need never have been explored. I propose stepping off the tightrope and heading off tangentially to see what is beyond the safety net.

3.5 Findings part three – tyranny of form in reporting in academic texts.

The peculiarities of academic reporting informed the narrative structure of the texts. There were some stylistics difference between the journals but there was also a consistent rhetorical meta-structure to the arguments and framing of arguments in the texts. Specifically, the texts followed a linear progression from (a) 'it is important that something is done', (b) 'this is what we did', (c) 'this is how we assessed what we did', (d) 'this is what we saw', and

(e) ‘this is what we learned’. Importantly, this rhetorical structure reinforced a logic of incremental progression toward the most that can be known about the evaluated outcome. This logic was only required to be internally cohesive by answering questions in terms of how they are framed by the text rationale in preceding sections. The form did not allow for a wholescale re-conceptualisation of the problem itself. In consequence, the way these texts were written to meet academic publication expectations inhibited re-imaging of alternative explanations for the data presented – directly contrary to theory-generative research. Rather, it enabled a self-fulfilling narrative in which what was learned was always what was expected to be learned. Firstly, data collection limited the types of results possible and conformed to a narrow conceptual model of the interventions’ expected effects. Secondly, multiple outcome ‘end-points’ were interpreted singularly and non-significant, contrary outcomes ignored. Thirdly, data interpretation elevated ‘results’ that aligned with expectations to proof and dismissed data that did not align with expectations as lacking face validity.

I am not arguing that the format of academic papers is so restrictive to the point of compelling authors to interpret the data in only this way. Rather, I am acknowledging that authors do not interrogate data in a vacuum. That the wider context of socio-cultural assumptions and rhetorical politicking applies to scientists as much as any other people and is similarly reinforced by the normative narrative structures of the group – in this instance academic publications. There were opportunities in the stated formatting template of most of the journals in which these texts were published that allowed critical reflection on limitations and alternative explanations of the data. However, only one of the 22 texts took this opportunity to question the ontological premises of the intervention despite all presenting data that could have benefitted from sceptical interpretation. Specifically, Ross et al. (2007, p. 1951) write that “observed differences in reported behaviour may have reflected better knowledge of the promoted behaviours rather than changes in actual behaviour” as one of

five disclaimers about their discussion of results. They offer no further exploration of this lack of association between knowledge and behaviour despite it being fundamental to the rationale of the intervention reported on in this text.

I believe in the good intentions and do not contest the scientific credentials of the authors of these texts. I am not arguing that there is either deliberately conspiratorial or negligently systematic mis-interpretation of data to promote a particular model of young people's sex acts. Rather, I argue that the structure of these academic texts subtly restricts the possibility of radical reinterpretation of our understanding of young people's sex acts. Specifically, I have identified four features of academic texts that impose what I labelled a 'tyranny of form' into our thinking about the ontology of young people's sex acts:

3.5.1 Tyranny of form – confirmatory or comparative evaluations. The texts report on experimentally designed evaluations. The evaluations are premised on the notion that they are testing the effectiveness of the intervention. However, in practice the evaluation serves to either confirm the degree to which the intervention contributes a positive effect or its comparative effect relative to other such interventions. Either case assumes that an archetypal, perfect version of the intervention exists and that the evaluation is a step in the process for identifying this effective intervention. The possibility that effective school-based HIV prevention interventions might not exist at all is unfathomable. Wherever some component showed indications of favourable effect, this was extrapolated to indicate *potential* effect for other components and the intervention as a whole. For example, Stanton et al. (1998) describe a large sex differential in the impact of the intervention. They then do not question their understanding of how the intervention works but instead assume that it is in principle sound, but requires sex-specific adaptation:

> "A second issue addressed by these findings is that of the differential effects of the intervention according to sex. … *these data do support sex differences in response* to

the intervention but *do not support concerns that only one sex benefited from the effort*. These findings regarding the differential effects according to sex have also been reported in Western settings, prompting some investigators to recommend sex-specific (rather than generic) programmes." (p. 2479)

In contrast, components that showed no indication of favourable effect were never extrapolated on. Implicit in the design of experimental evaluations is a process for applying multiple contingencies to the limits of the data reported on – for example that they come from a particular sample, at a particular time point, and with some degree of measurement error. So long as these caveats are acknowledged, experimental evaluations also facilitate the wide generalisation of findings. By design, experimental evaluations do not encourage philosophical questioning of the variables and associations between variables under evaluation. The texts I analysed had little opportunity to re-think our conceptual model of young people's sex acts because that was not what they were designed to do.

3.5.2 Tyranny of form – no space for pontification. The limitation on space in academic journal articles also creates the premise to prioritise the interpretation, extrapolation and reconciliation of only a portion of findings. A sub-idea to the tyranny of form narrative is that there is an implicit bias towards reconciling those data that are most closely related to the internal logic of the intervention and to dismiss those that are more contrary to this logic as beyond the scope of the paper. For example, Cowan et al. (2011) includes 10 pages of tabulated supplementary information, but the interrogation of why the intervention was found to be effective in changing attitudes, knowledge, capacity and intentions but not behaviour is limited to a terse paragraph:

Clearly improving knowledge and changing attitudes of young people are important endpoints in their own right. … Changing attitudes relating to gender issues is thought to be a particularly important *prerequisite* to changing the HIV risk environment and it

is encouraging that the intervention was able to make modest gains in this regard, particularly among young women. *However, beliefs relating to the rights of women are deeply entrenched, and will consequently be difficult to change*. (pp. 7-8)

3.5.3 Tyranny of form – stepwise tables and data. The presentation of data in sequential arrangement in paragraphs or in tables listing each variable of interest reiterates an illusion that the concepts measured by variables presented earlier in the sequence also precede in a pathway toward behaviour. Specifically, when the impact of the intervention on 'knowledge', then 'attitudes', then 'capacity', then 'intention', then 'behaviour', then 'behavioural outcomes' is presented in this order in a table, then this stepwise progression reinforces the linear relationship from knowledge to behavioural outcomes in the ontology of young people's sex acts. The formal separation of experimental outcomes into primary and secondary further entrenches this relationship. An alternative presentation of the data such as in the reverse order presented above would risk subverting the internal logic of the intervention by delivering the 'punch line' too early. If the intervention effectively changes behavioural outcomes, why would the reader remain interested in its effect on knowledge? For example, James, S. et al. (2005) present their results in two main sections with bolded headings. The first section is about knowledge, attitude and communication and the second is about sexual behaviour, condom use and future intentions. In the first section, the analysis is positioned as producing a parsimonious effect with a list of simple covariates. In the second section, the analysis is positioned as a more complex hierarchical regression analysis and includes a longer list of covariates. This clear stylistic distinction reifies an ontological distinction between precursors to behaviour and behaviour:

> In testing the impact of Laduma on *knowledge, attitude and communication*, the most parsimonious effect model for all these dependent variables included gender, group … and time … *A hierarchical logistic regression analysis was performed with having or*

> *not having had sex in the six-week period between T2 and T3 as the dependent variable*. Covariates in the model at step 1 were 'having had sex in the last six months' before the intervention (past sexual behaviour), language, gender and group (intervention versus control). (pp. 161-163)

3.5.4 Tyranny of form – speaking to policy. The academic form of journal articles also requires that the data are interpreted in relation to policy recommendations –to explicate how what is found is of relevance to HIV prevention. This enables a focus on pointing toward future endeavours rather than the resolution of uncomfortably problematic data. Specifically, the conclusions of the evaluation must advance the field in order to be considered a worthwhile academic contribution, even if the findings demonstrate no significant effect. This is especially so in the context of reporting on research to inform large-scale policy for public health crises like the HIV epidemic. Questioning fundamental premises of the intervention logic risks being interpreted as taking the public health agenda backwards, not forwards toward HIV prevention. For example, instead of interrogating *how* the intervention failed to produce an effect, Ross et al. (2007) conclude that future evaluations need to include more stringent outcome measures. As such, the evidence that the intervention evaluated failed to produce a significant effect is turned into argument for further investment with more sensitive measures:

> The lack of any consistent effect on the biological outcomes measured in our trial, despite substantial impacts on knowledge, reported attitudes and self-reported behaviours, raises serious questions about the interpretation of previous studies, and *argues strongly for the inclusion of biological outcomes in future programme evaluations*. (pp. 1952-1953)

3.6 Discussion.

My aim in this chapter was to interrogate the narrative processes enabling continued reference to a conceptual model of 'the act' in the face of contradictory evidence about it. I have described a history of experimentally-designed evaluations of school-based HIV prevention interventions implemented in sub-Saharan Africa. I then presented a discursive analysis of the rhetoric of academic journal articles reporting on school-based HIV prevention intervention evaluations in sub-Saharan Africa. Specifically, I presented three primary narratives and 14 sub-narratives enabling continued incoherence in the implicit conceptual model of young people's sex acts in these texts. Finally, I considered the impact of the standardized format and reporting conventions in academic texts in concretizing these narratives as standard practice.

3.6.1 Limitations. A limitation of this analysis is inherent in all critical discourse analysis in that I present my interpretation of implicit narratives. These are frequently at odds with the explicit narratives given by the texts' authors. I presented work examples with extended quotations from the texts to illustrate each interpretation that I ascribed. I also described my analytic process that included numerous iterations toward the final set of narratives described here. However, the examples only include a fraction of the analysed texts. A repetition of my analytic process by a second analyst would increase the trustworthiness of my findings.

A further limitation is that I made no attempt to weight the credence given to any of the texts based on scientific credibility. It is inevitable that the included texts vary in quality. However, they have at least all passed a peer review process. Further, the intention of my analysis was to account for the overall trajectory of school-based HIV prevention interventions in sub-Saharan Africa, not only the best examples of this science.

3.6.2 Conclusions. I present three heuristics for moving further toward an alternative conceptual model of 'the act'. These heuristics originate in an attempt to synthesize my reflections on 'the act' whilst doing this analysis of published school-based HIV prevention intervention evaluations. As such, they are only propositional and no claim is made for their ultimate 'truth'. Rather, these critical reflections point toward further exploration for how an alternative model of 'the act' might be formulated. Firstly, the common sense rationality of behaviour predicated on primarily the realisation of the person's agency and secondarily the contexts 'in which' it is done is problematic. In contrast, what would a model of 'the act' look like if it took as a starting premise that intentions are only obliquely related? Or that 'the act' is done in chronological parallel to an intention about 'the act' being created? Or that attitudes are recurrently re-created in the moment of 'the act' rather than setting limits on what possible acts are imaginable. These possibilities are contra-logical to a conception of people as sensible and explainable. Testing the ontological validity of assumptions about 'the act' means embracing quirky logic with the aim of explicating how such logic is ontologically sound regardless of its *prima facie* appearance of illogicality.

Relatedly, an alternative model of 'the act' will require creative generation. Rather than incremental refinement, the process of moving toward an alternative model of 'the act' requires the delineation of an alternative ground on which and language through which to consider this model. The critique above argues that each instantiation of 'the act' is born conceptually when it is 're-created' for use to explain and predict people's behaviour. By definition, moving toward an alternative model of 'the act' requires imaginative leaps of perspective and language to 're-create' the model of 'the act' differently from previous iterations. Further, the ambition to depart wholly requires much creative energy to escape the centripetal forces (Bernard-Donals, 1994; Morson & Emerson, 1990) that constrain conceptual diffusion.

Finally, a core problematic identified above is the slippery shifting of register between what *should be*, what *is wished to be*, and what *is*. Moving toward an alternative model of 'the act' is proposing an alternative of what *is*. Doing so successfully must clearly distinguish between what is believed to be, what is imagined to be, and what will be if the alternative model of 'the act' is accepted. Moving toward an alternative model of 'the act' is motivated by conceptual utility – that is, providing a model that is more useful to understanding, predicting, and influencing people – rather than ontological 'truth' seeking. As such, moving toward an alternative model of 'the act' is an imposition rather than a revelation.

I believe that the application of these three thought principles will facilitate escaping the narrative traps about 'the act'. If directed toward school-based HIV prevention, they offer opportunities to step around the hegemonic rhetoric about the sex acts of young people in sub-Saharan Africa outlined above while still enabling the design of applied intervention packages. More broadly, I suggest these principles as a starting point for re-conceptualising 'the act' for behaviour change theory not premised on perceptions, attitudes and intentions as direct and necessary cognitive 'antecedents' of behaviour.

Chapter 4 – Assumptions about sex agency in languages around HIV risk

4.1 Introduction.

In the literature of HIV prevention in southern Africa, young people's sex acts are variously problematic (Ahlberg, Jylkäs, & Krantz, 2001; Bancroft et al., 2004; Dunkle et al., 2004; Francis, 2010; A. D. Harrison, Xaba, & Kunene, 2001; Holland, Ramazanoglu, Scott, Sharpe, & Thomson, 1990; Holland, Ramazanoglu, Sharpe, & Thomson, 2000; Kaufman & Stavrou, 2004; Lary, Maman, Katebalila, McCauley, & Mbwambo, 2004; Njue, Voeten, & Ahlberg, 2011; Pettifor, Van Der Straten, Dunbar, Shiboski, & Padian, 2004; Philpott, Knerr, & Boydell, 2006; Skidmore & Hayter, 2000; D. J. Smith, 2004; Wechsberg et al., 2012). They are loaded with relational, social, identity developmental, and morally fundamental implications. At the same time, young people's sex acts are often naïve, haphazard, and otherwise unpredictable. They are both instances of broad socio-politics and intimately personal. Talk about young people's sex acts carries multiple overtones about the control of the young person and the future society they represent. Narratives that intersect young people and sex acts typically divest the young people of any agency by positioning the sex act as an outcome of biological urges. In contrast, young people who demonstrate agency in sex acts are positioned as dangerous to society. Instead, young people, especially young women, are located as succumbing to sex acts under the predations of adults or the socio-economic pressures of a wayward society.

The meta-significance of young people's sex 'acts' is further complicated by the region's history of religious integration (Adogame, 2007; Chikwendu, 2004; Joshua, 2010; Krakauer & Newbery, 2007; West, 2002), colonialism and freedom struggles (Chilisa, 2005; Heimer, 2007; Hunt, 1996; Hunter, 2010a; Marks, 2002; Niehaus & Jonsson, 2005; Petros, Airhihenbuwa, Simbayi, Ramlagan, & Brown, 2006; Shell, 1999; Yeboah, 2007), and culturally entrenched patriarchy (Albertyn, 2009; Burchardt, 2013; Jewkes & Morrell, 2010,

2012; Reddy & Dunne, 2007; Seeley, Grellier, & Barnett, 2004). Schools in the region have been sites of contesting this complexity – sometimes complicit in the perpetuation of iniquitous dogmas and sometimes the pathway to liberation through conscientization (C. Campbell & MacPhail, 2002; Chilisa, 2005; Delius & Glaser, 2002; Hatcher et al., 2011; MacPhail, 2006; Mannah, 2002; Morrell, 2003; Niehaus, 2000). Moreover, the HIV epidemic foregrounds young people's sex 'acts' as a social crisis. Schools are an extension of parental supervision of young people's time and bodies. Unfortunately, they are also all too often sites for sexual abuse by educators (Jewkes, Levin, Mbananga, & Bradshaw, 2002; Prinsloo, 2006), sex-related bullying (Cluver, Bowes, & Gardner, 2018; Townsend, Flisher, Chikobvu, Lombard, & King, 2008), and young people's anxieties around their rapidly changing sexually-social identities (Buthelezi et al., 2007; A. D. Harrison, 2008). Discordance between institutional policy and practice, and heterogeneity in values among the members of school-communities are normative. In consequence, schools in sub-Saharan Africa are loudly silent and quietly cacophonic about young people and sex acts.

My goal in this dissertation is to move toward an alternative, general model of 'the act' and *not* a descriptive model of acts to prevent HIV in schools in southern Africa. I argue that exploring talk about young people's sex acts in the context of planning a school-based HIV prevention intervention offers a fertile ground for this exploration. I aim to explicate assumptions about the nature of young people's sex acts. In so doing, I hope to reveal alternative conceptualizations of those acts that I can extrapolate to a more general model of 'the act'. Specifically, my objectives are to:

a) locate talk about young people's sex acts in the historical context to sex education in schools in Hlabisa,
b) describe contrasting case narratives of two school-communities as a lens through which to consider school-based interventions into young people's sex acts,

c) describe rhetorical contexts in which school-community members position their assumptions about young people's sex acts,
d) explicate ontological assumptions about young people's sex acts in the talk of school-community members around school-based HIV prevention interventions, and
e) formulate a list of ontological rules for conceptualising 'the act' for interventions.

4.2 Background and context.

4.2.1 The Hlabisa health sub-district (2007 – 2011). The Hlabisa health sub-district is an area of roughly 1200km^2 that forms part of the Umkhanyakude health district in the province of KwaZulu-Natal, South Africa – see Figure 11. The Hlabisa health sub-district is contiguous with 6 of 8 education wards in the equivalently named education sub-district. At the time of data collection there were a total of 52 public secondary schools in these 6 wards, with approximately 30,000 learners enrolled in any given year. All schools offered all five secondary school grades each year – that is, grades 8-12. There was also one privately run school that fell within the geographic area of the sub-district but outside of the purview of the Hlabisa education sub-district authorities.

The main geographic feature of the Hlabisa health sub-district is the intrusion of the Hluhluwe-Imfolozi Game Reserve into its heart – see Figure 12. The sub-district bends around the reserve in a roughly u-shape. There are two main towns in the sub-district – Hlabisa is a rural town inland of the reserve, and Mtubatuba is a previously racially segregated town along a large national highway that is bordered by KwaMsane township and a government allocated housing development. In the east of the sub-district is St Lucia, a previously whites-only village and holiday destination for wealthy South Africans and tourists. The sub-district's eastern borders are the iSimangaliso Wetland Park and the Indian Ocean. Travelling between Mtubatuba and Hlabisa either requires a circuitous trip of approximately two hours on gravel roads around the reserve of approximately 105 minutes,

Figure 11. A map of South Africa highlighting the Hlabisa health sub-district

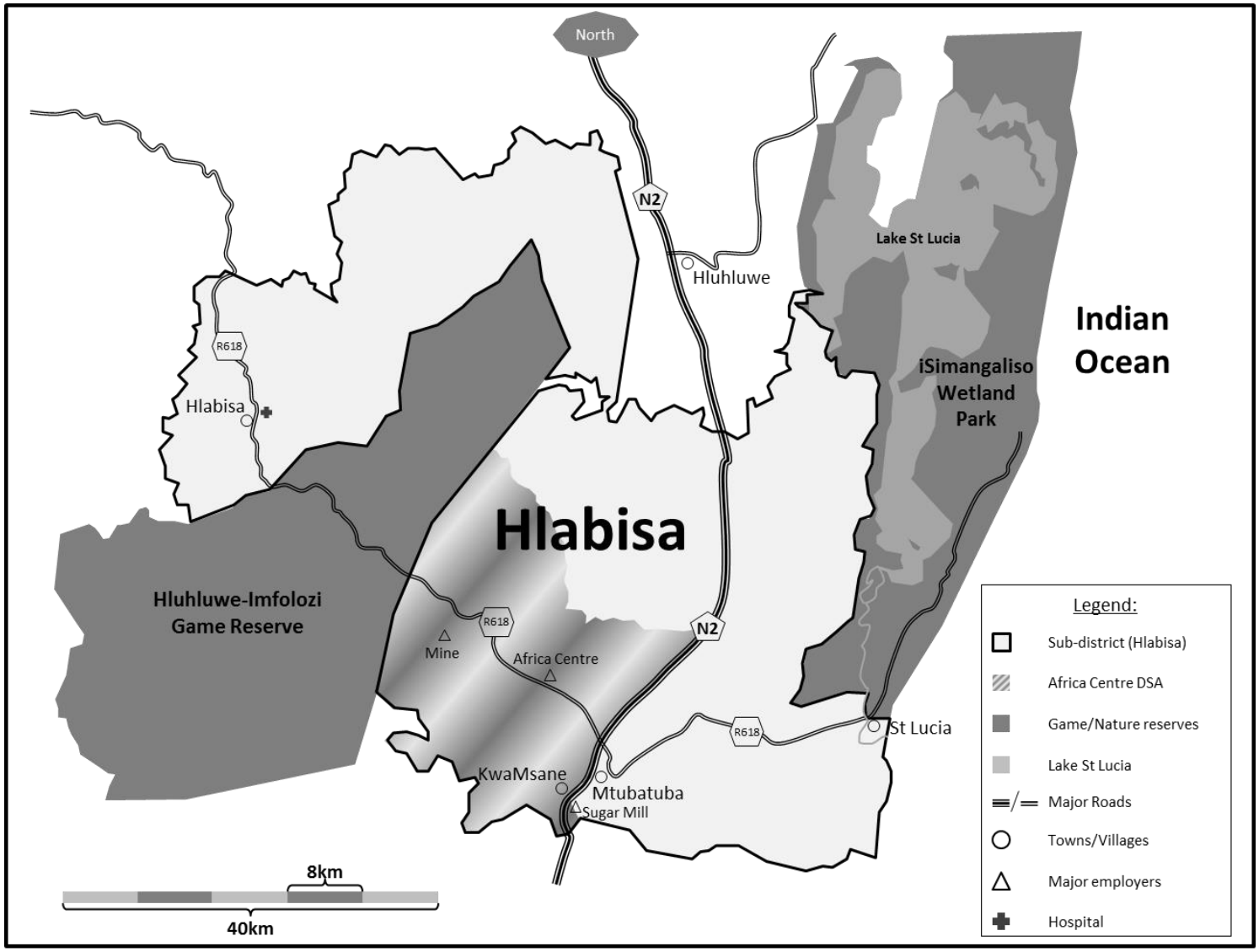


Figure 12. A map of the Hlabisa health sub-district with key features

or an hour-long drive through the reserve on the R618, a tarred and stringently speed-controlled game corridor. The vast majority of residents identify as *amaZulu*, although there are small *Afrikaner* and British-descendent populations in Mtubatuba and St. Lucia as well as very small pockets of other cultural groups. A sugar mill, a dolerite mine, and the Centre are major employers in the area, although many residents are subsistence farmers with meagre income. The public health services are delivered by one district-level hospital in Hlabisa town, and 15 primary health care clinics distributed across the sub-district – and that have delivered anti-retroviral therapy (ART) since 2005 (G. S. Cooke, Tanser, Bärnighausen, & Newell, 2010; Houlihan et al., 2011; Lessells et al., 2014).

4.2.2 School characteristics. Formative research – that I led by conducting a survey at each school – showed that there were a few schools with high annual enrolments of up to 2000 learners and roughly 8 classes of 50 learners each per grade. The majority of schools were small ranging from as few as 260 learners in total, with approximately two classes of 50 learners per grade. Median school enrolment was 514 learners. The average class size decreased from 57 learners per class in grade 8 to 35 learners per class in grade 12. Girl learners accounted for approximately 50% of enrolments in grade 8, with this proportion steadily increasing by grade to 55% in grade 12. Learner ages ranged from 11 to older than 25, with 35.1% of girl learners and 57.9% of boy learners being at least two years older than expected for their current grade. Among enrolled learners, almost all schools reported daily attendance rates over 90%. The median reported grade 12 pass rate was 49%, ranging from 12% to 100%.

In 2007, the national DoE instituted total fee exemptions for schools in the poorest two quintiles provided the school met performance criteria. Quintiles were calculated by the national treasury on the economic status of households in the school's catchment area. Schools in quintiles three to five received incrementally less subsidy. Subsequently, fee

exemptions were expanded to also include schools in quintile three. At the start of data collection, 84.1% of schools met the criteria for fee exemptions, with a further 11.4% in quintile 3 that would move toward fee exemptions by 2010. In addition to the national DoE's exemption, all fees were determined by meetings of schools' parent bodies, and individual learners could be fee-exempted on the prerogative of these bodies. Among schools reporting fees, one school reported much higher annual fees per learner of R3850.00 [USD308], while the average annual fees per learner at the other non-fee exempt schools was R139.79 [USD11.18]. Poverty remained a widespread and serious impediment to quality education and for many learners fee exemption was necessary but insufficient to overcoming the structural barriers to learning such as distance to school (Dieltiens & Meny-Gibert, 2012; Mestry & Ndhlovu, 2014).

4.2.3 School governance – policy into practice? The participation of school-community stakeholders in school governance was based on expediency rather than democratic principles (S. G. Lewis & Naidoo, 2006). The agenda for translating education policy into school level practice was typically driven by the principals' mandate of running the school efficiently. This frequently amounted to attempting to avoid 'incidents' that would draw the attention of district or higher-level authorities (Heystek, 2004). Theoretically, a representative school governing body (SGB) was a mechanism to (a) to foster inclusivity in community participation in education, and (b) to enable schools to be responsive to local contextual challenges and opportunities, including HIV (Bush & Heystek, 2003). However, tensions between SGBs and parents (Mncube, 2007), principals (Heystek, 2011), educators (van Wyk, 2004), and Department of Education (DoE) policy officials (Clase, Kok, & Van Der Merwe, 2007) around the implementation of policy are well documented. Despite a widespread acknowledgement of the importance of the education system to HIV prevention (Coombe, 2000), the school-level implementation of relevant policies had been sporadic,

poor, and under-evaluated (van Vollenhoven, 2003). SGBs were legislatively empowered with the authority and prerogative to be HIV-responsive and members lived in the highest prevalence communities in the world. However, in practice SGBs lacked the requisite information, social capital, and community-level mandate to do so (Hartell & Maile, 2004; Mabasa & Themane, 2002; Motala, 2001; van Wyk & Lemmer, 2007). In many cases, this resulted in either disavowal of involvement in HIV education at all or very conservative stances toward HIV-related issues (Bhana, Morrell, Shefer, & Ngabaza, 2010; Chikoko, Gilmour, Harber, & Serf, 2011; Helleve et al., 2009; Moletsane, Morrell, Unterhalter, & Epstein, 2004; Rugalema & Khanye, 2004). For example, the Childrens Act (Republic of South Africa, 2006) stipulated that no person may refuse distribution of condoms to children aged 12 and over. However, when offered support to deliver condoms in schools, SGBs defaulted indefinitely to on-going consultation on the issue believing that they were *not allowed* to distribute condoms at school (Han & Bennish, 2009). The lack of clear school-level policy implementation is also reflected in the difficulties that educators experienced in teaching HIV-related material (Ahmed, Flisher, Mathews, Mukoma, & Jansen, 2009; Mathews, Boon, Flisher, & Schaalma, 2006; Peltzer & Promtussananon, 2003b).

4.3 Method.

4.3.1 Design. A critical analysis of qualitative data collected in a formative study. The study was called *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* [A Fountain for Youth: Empowering the School-Community] and was conducted in two schools in the Hlabisa health sub-district between November 2009 and April 2011. The study objectives were to explore mechanisms for delivering a multi-component HIV prevention intervention in rural South African schools by partnering with local-level stakeholders, and to demonstrate the feasibility for implementing such an intervention in these schools. The study included questions about optimum collaboration, clarifying stakeholder roles, implementation

processes to limit negative impact on schooling, building on positive norms, and navigating culturally-loaded concepts such as virginity testing, promiscuity, and condom use.

I present a re-look at the processes, positionalities and narratives about young people's sex acts in the *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* study. The analysis presented here is distinct from the original study aim and objectives. I position this analysis relative to a wider history of governance, education, and health in Hlabisa. I use the analysis as a worked example to explore the practical implications of an alternative conceptual model of 'the act' for behaviour change.

4.3.2 Sample. The *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* study was implemented in two purposively sampled (Curtis, Gesler, Smith, & Washburn, 2000; Malterud, 2001; M. N. Marshall, 1996; Mays & Pope, 1995; Miles & Huberman, 1984; Pope & Mays, 1995; Ritchie, Lewis, Elam, Tennant, & Rahim, 2014) school-communities – with the pseudonyms of Bright Start and Valley Home. Selection of these two schools was through the convergence of three imperatives. Firstly, to meet the scientific aims of the study, schools were chosen that would demonstrate the plausibility of a complex HIV prevention intervention being implementable in schools in the Hlabisa sub-district and more widely in rural, developing country contexts. The selected schools were to accommodate the breadth of large, relatively well-resourced and small, poorly-resourced schools using case study design logic (Eisenhardt, 1989; Lincoln & Guba, 2002; Onwuegbuzie & Leech, 2007). These two schools met the principle of sampling for diversity (Draucker, Martsolf, Ross, & Rusk, 2007; Seawright & Gerring, 2008). Secondly, there was an element of convenience sampling (Malterud, 2001; Miles & Huberman, 1984) in that Bright Start had an existing relationship with the Centre and both schools were welcoming to the researchers when asked about the possibility of hosting the study. The study was not attempting statistical generalisability. Rather, it aimed to induce explanations of context and process that were transferrable (K.

Kelly, 2006; Rothman, Gallacher, & Hatch, 2013; Schofield, 2002; Terre Blanche, Kelly, & Durrheim, 2006) and that could be evaluated in a later experimental design. Thirdly, the study offered an opportunity to demonstrate the Centre's commitment beyond the community in its immediate vicinity.

The *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* study was conducted over 24 months. Data collection included iterative participant observation throughout this period and 25 semi-structured group discussions of approximately 3-hours each. All group discussions were audio and video recorded, conducted in Zulu with field translation for my benefit, and transcribed and translated verbatim. For the study's primary analysis, the data were analysed iteratively and together. For the analysis presented in this chapter, I included all these data to critically re-consider my experiences conducting the data collection with respect to a conceptual model of 'the act'.

4.3.3 Permissions and consent. In keeping with the principle of on-going informed consent for research participation (David, Edwards, & Alldred, 2001; Lidz, Appelbaum, & Meisel, 1988; Molyneux, Peshu, & Marsh, 2004) there were broadly four phases to approaching schools and school-community members. Although the processes are described in a linear fashion here and the stakeholders treated as discrete and consistently constituted entities, in practice the process was far more complex and messy. Permission to conduct the study was granted by the Biomedical Research Ethics Committee of the University of KwaZulu-Natal – HSS/0567/09. Permission to conduct the secondary analysis described here as part of my PhD was granted by the Humanities Research Ethics Committee of the University of KwaZulu-Natal – HSS/1051/011D, see Appendix B.

Prior to the start of *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* there was a process of consultation and permission seeking with three stakeholder groups. Firstly, secondary schools in the Hlabisa health sub-district were informed of the possibility of a

study like this during the situational analysis conducted in 2008. Secondly, I met in person with the KwaMsane office of the Hlabisa education sub-district in the persons of their sub-district manager, deputy sub-district manager, and ward superintendents for each of the 8 wards in the Hlabisa health sub-district who informed schools of their support for the study. Thirdly, once the two candidate schools were identified, the study proposal was presented to each of the two relevant *Inkosi* and their traditional councils and community representatives at a routine monthly meeting of the traditional authority.

Following this level of approval, but prior to data collection there were three processes of consultation and permission seeking with school-community-level stakeholders. Firstly, at a meeting between the school principal and whomever of the senior staff and school governance representatives they deemed appropriate, a research assistant and me. Secondly, the principal brought the proposal to a routine SGB meeting. Thirdly, in both schools the SGBs recommended that the proposal be shared at routine quarterly parents meetings. At Bright Start school the SGB chose to present the study themselves, and at Valley Home I was invited to the parents' meeting for this purpose. Further, once data collection had started, the first group discussions at both schools were with school-community decision-makers and parents so that these groups could have first-hand experience of the qualitative data collection process before young people in their school-community. Only once school-level approval was granted, individual members of the school-community were approached for recruitment into particular group discussions.

All participants in the group discussions signed written informed consent documents in Zulu or English depending on their preference at each group discussion – see Appendix C. During the entire period of data collection, two research assistants at each school were present in the school for approximately two days per week. The research assistants provided an immediate point of contact between school-community-level stakeholders and researchers

during the period of data collection for the purposes of on-going informed consent. I was also physically present at each school at least 12 times during the data collection as school premises were used for all group discussions except two at Bright Start – the group of out-of-school youth here preferred to use the local traditional authority hall. In addition, I had regular phone contact with each of the school principals to update them on study progress, as oversight to ensure that the research assistants were supporting the school appropriately, and to receive any feedback.

Following the completion of data collection and summative analysis in late 2011, the main findings and recommendations were presented to a collective group of the participating individuals at each school, at both of the offices of traditional authority, at the Hlabisa education sub-district office at KwaMsane, and at specially organised ward-level meetings of secondary school principals.

4.3.4 Data collection. We collected all data between September 2009 and August 2011. The data were collected by a team of four research assistants – two per school community – and me. The research assistants were all recent graduates of the school in which we were working and had extensive local knowledge of the school-community. I led the facilitation of group discussions and implemented bi-weekly debrief meetings with the research assistants about their experiences in the schools.

4.3.4.1 Iterative participant observation. The research assistants worked two days per week as teaching assistants supporting the delivery of the Life Orientation curriculum in either school. As part of the feasibility demonstration for *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* the study intended to illustrate that young people from school-communities were plausible candidates for supporting school staff in delivering HIV-related interventions in schools. The schools were encouraged to use the research assistants' time as best suited the needs of their school, but not to mark or otherwise evaluate learners' work.

While much of this support mainly about helping the educators to manage class sizes of about 60 learners, the collaboration was successful in identifying learner HIV-related education needs and appropriate mechanisms for addressing these needs. At Bright Start school the flagship activity of this interaction was a series of class and inter-class debates about HIV-relevant topics that were chaired and adjudicated by the research assistant and educator and followed by a class discussion. At Valley Home school, where basic literacy was more of a challenge and learners had no access to a library, the research assistant would read English news articles with HIV-relevant content and class discussions were around new words that were learnt. The multiple 'positions' of these research assistants – learner-confidant, educators' assistant, researcher, past learner, community member – is critical for understanding the depth of talk about young people's sex acts in the group discussions.

4.3.4.2 Group discussions with school-community members. We had planned to facilitate a total of 28 group discussions – meeting seven groups twice in either school. At Valley Home, only one group discussion was conducted with the educators following an uninstructive first discussion and disinterest in participation by educators for the second group discussion. At Bright Start, neither of the two group discussions with 'role-models for youth' happened due to an inability to identify participants who lived in the neighbourhood and who were not already participants in other groups. As such, we conducted 25 group discussions between October 2009 and May 2011 – see Figure 13 – with a total of 226 participants, 58 of whom participated in both the initial and follow-up discussions. The groups of participants were girl learners, boy learners, educators, parents, out-of-school youth, role-models for youth, and school-community decision makers. We recruited categorically homogeneous participants for the groups because of strong cultural taboos

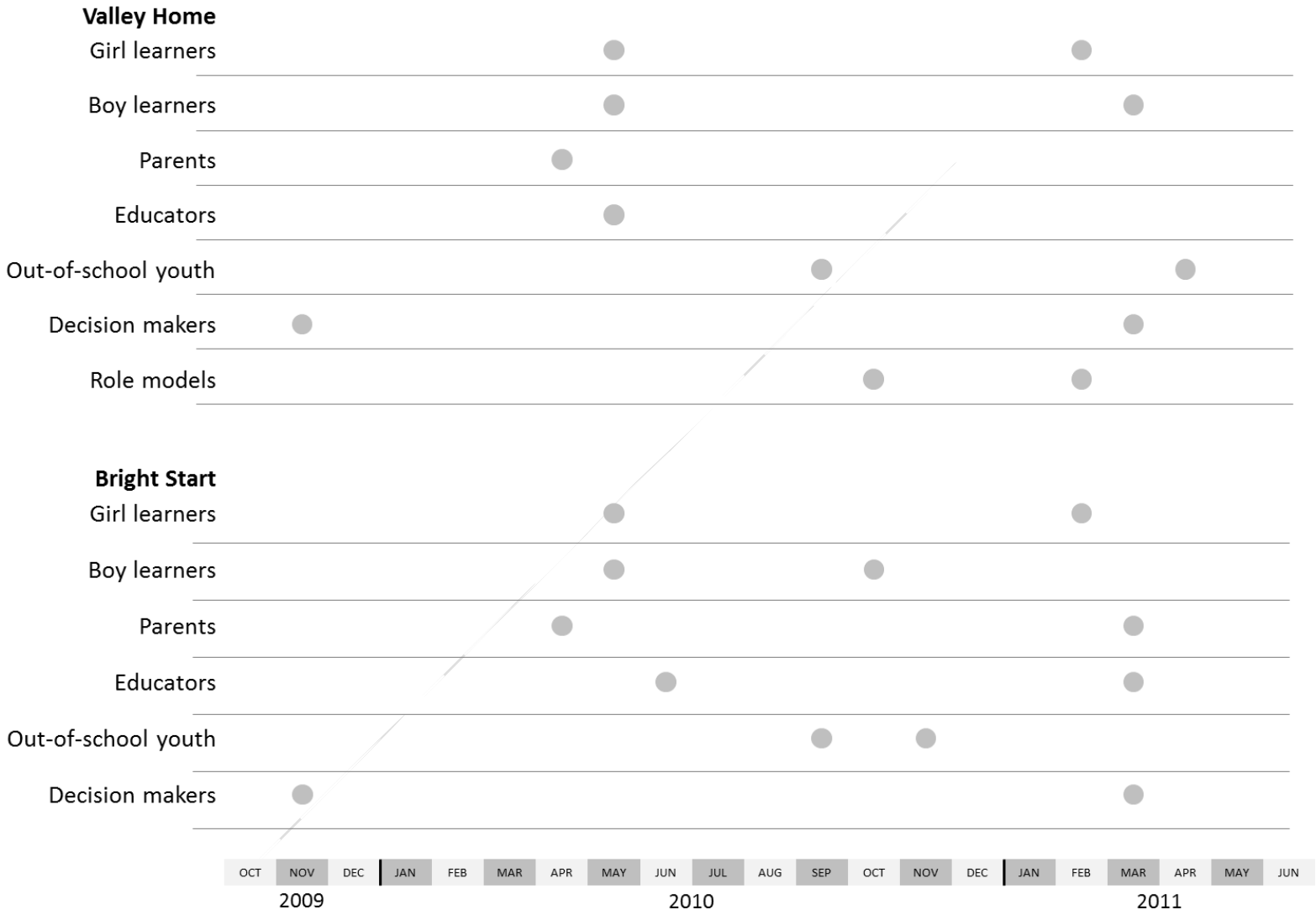


Figure 13. Timeline of group discussions in Valley Home and Bright Start by month

about discussing sex in mixed-gender and/or -age groups (Meyer-Weitz, Reddy, Weijts, van den Borne, & Kok, 1998; Moletsane, 2001; Mudhovozi, Ramarumo, & Sodi, 2012; Riesman, 1986; Tebele, Nel, & Michaelides, 2013). If these challenges were not avoided then conversations risked being very stilted and difficult to decrypt. It was also the preference of many potential participants not to participate in mixed groups and these wishes were respected. I repeatedly emphasized the participants shared identity as collaborators and equivalent status of all participants in each group discussion.

I intended that the discussions elicit the participants' perceptions, experiences, and assumptions in as much psychosocially contextualised detail as possible. I wanted to understand school-community members' views about how the school-community might prevent HIV, including their disagreements, hesitations, and compliances with social pressures. The data collection process was mirrored between groups of participants so that the data from each group is analytically comparable (Boeije, 2002; Flyvbjerg, 2016; Glaser, 1965; Rihoux & Lobe, 2009), with some flexibility – for example, between girl learners in either school, or between girl and boy learners in the same school.

We preferred group discussions over other forms of qualitative data collection. Firstly, methodologically group context is important in influencing how the participants experience the topic (Gaskell, 2000; Kitzinger, 1994, 1995; MacNaghten & Myers, 2007). Further, the group context imposes greater pressure on participants to negotiate social rhetoric (Billig, 1996; Zimmerman, 1998) than a private, individual conversation would. Group discussions were selected because it makes this 'dialogue with other' *immediate* to the participants and enables the analyst to get at the underlying dialogue in the loaded conversational interactions *between* participants (Antaki et al., 2003; Antaki & Widdicome, 1998; Wood & Kroger, 2000). Secondly, operationally and in keeping with the participatory action research philosophy (Borda, 2001; Heikkinen, Huttunen, Syrjälä, & Pesonen, 2012; Kidd & Kral,

2005; Koch & Kralik, 2006; McNiff, 2013) underpinning *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole*, the group discussions used participatory activities as a mechanism for prompting discussions, inclusivity of participation, and collaborative problem identification and solving. Thirdly, pragmatically, it suited the politico-cultural context to present the research as 'shared'. On the one hand school-community members were, perversely, 'ashamed' that HIV was such a challenge in their community (C. Campbell et al., 2013; C. Campbell, Nair, & Maimane, 2007; C. Campbell & Mzaidume, 2002; Meyer-Weitz, 2005) – like a collectivisation of internalised stigma (Airhihenbuwa et al., 2009; C. Campbell & Deacon, 2006; Kalichman et al., 2009; Nyblade, 2006; Sayles et al., 2008) – so groups offered a sense of solidarity. On the other hand, HIV was seen as such an insurmountable challenge (Barney & Buckingham, 2012; C. Campbell, Nair, Maimane, & Sibiya, 2008; Yeap et al., 2010) that individual action was futile with groups having more hope of success.

The overall flow of the group discussions was intended to mimic the process of change outlined in the communication for social change model (Figueroa, Kincaid, Rani, & Lewis, 2002). The model was selected because it provides a descriptive account of the role of external facilitators of the change process and also ascribes agency to the local actors in the change process that is consistent with an ideology of liberation. The model describes 15 steps in a change process. I adapted the first 10 of these steps for the group discussion process. The 11th step is described as beginning the implementation of change and is followed by the evaluated implementation of the actual intervention that was deemed beyond the scope of a demonstration project. The first group discussion was designed to cover the first five steps of the change process, and the second to cover steps 6 to 10. Each step was assigned a group of key thematic questions, an adapted participatory research activity, and a change facilitation outcome – see Figure 14. Therefore, each group discussion followed a consistent set and order of topic areas. The first group discussion was about discussing culturally appropriate

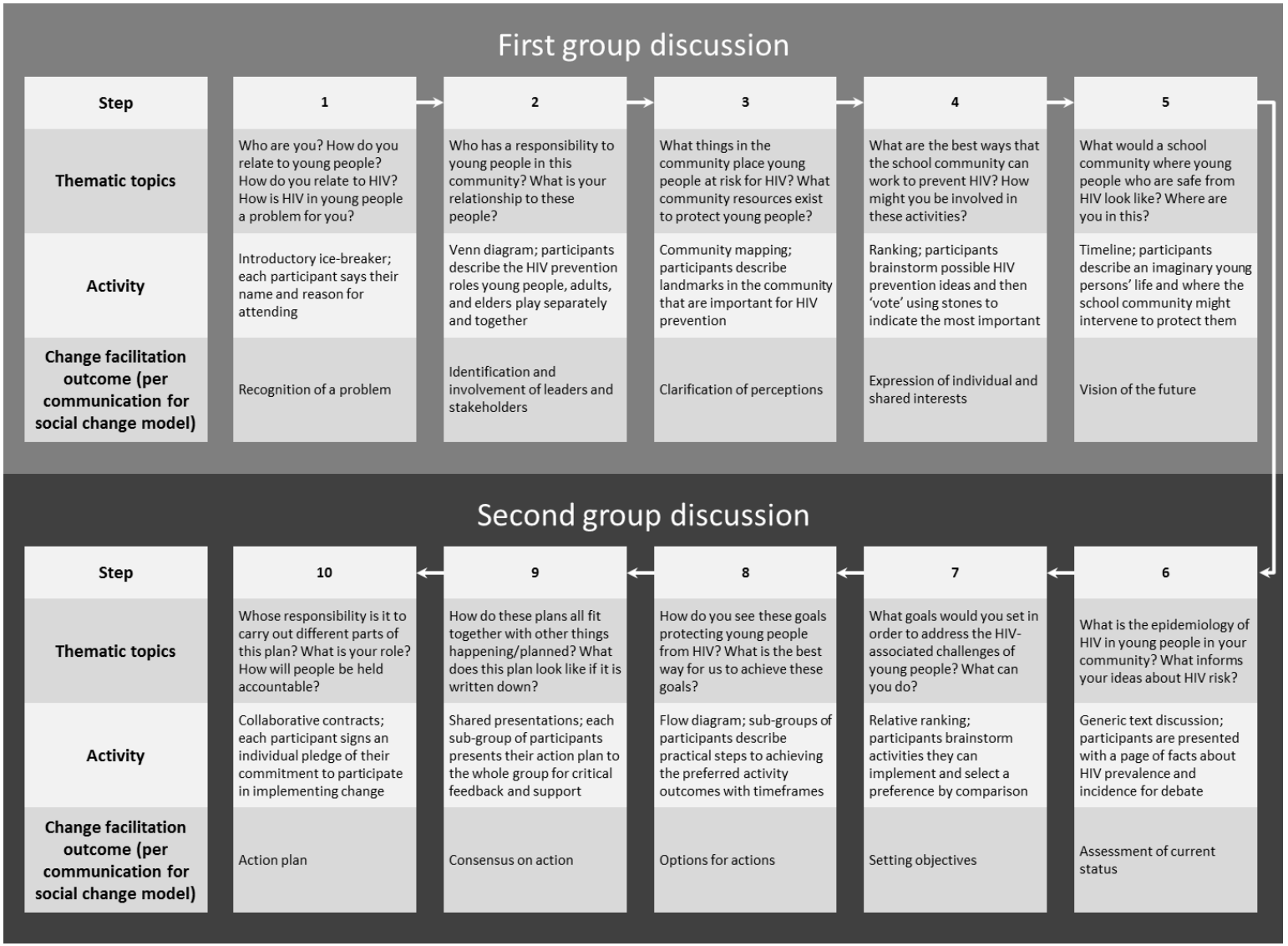


Figure 14. Adaptation of the 'Communication for Social Change' as a discussion group

HIV prevention interventions for young people, identifying key participants in developing a school community-level intervention, and engendering a spirit of partnership between the researchers and various members of the school-community. The second group discussion focussed on ways to prevent HIV by reaching a common understanding of HIV prevalence and incidence among young people in the school community, describing action plans for the group participants to address particular challenges, and explicating shared responsibility for implementing these plans.

As a result, the group discussions were narrowly prescriptive in imposing a logic of social responsibility and ownership of change into the participants' agency. Put baldly, the process of the group discussions funnelled participants toward taking responsibility for implementing an HIV prevention intervention. An implicit logic to the meta-narrative of both group discussions was of lamenting the dire need for change, praising the power of local understanding of what is required to change, assuming/imposing collaborative will, and providing a platform for public pledges. As an analytic field, the prescriptive agenda of the group discussions served to impose a moral imperative of doing good, together. This provides complexity to the difficult terrain of HIV and young people's sex, through which participants positioned their perspectives.

4.3.5 Data analysis. School-communities in South Africa are not commonly spaces of open, dialogical talk about young people's sex acts (A. D. Harrison, 2008; A. D. Harrison, Cleland, & Frohlich, 2008; H. Lambert & Wood, 2005; Lesch & Kruger, 2005; Morrell, 2003; Preston-Whyte, 2003). Where there is communication it is characterised by declarative monologue, encumbered by universalising moralism, and alluded to only indirectly via indefinite allegories (Cain, Schensul, & Mlobeli, 2011; MacPhail & Campbell, 2001; Varga, Shongwe, Edwards-Miller, & Makhanya, 1999). However, despite this lack of overt talk about young people's sex acts, and even in the context of deliberate suppression of such talk,

I argue that school-community members' talk about HIV prevention is richly informative for moving toward a model of 'the act'. Philosophically, it is precisely in the context of having to manage rhetorical challenges to existing languages that these languages are elucidated, invented, and re-invented. Put another way, when school-community members were asked to engage with the each other about HIV prevention in the school this creates the expectation that they also engage with the subject of young peoples' sex acts. Their discursive dance through, or away from, this dialogical mine-field revealed their assumptions about what young peoples' sex acts are.

With this perspective, I first articulate a critical perspective to talk about young people's sex acts in Hlabisa by locating them relative to a historical narrative about schools, education, health, and governance in the area. I then present an analysis of school-community members' talk in which I describe rhetorically jostling narratives by labelling them according inductive themes and providing worked examples of each. I managed all transcripts of group discussions in ATLAS.ti. Practically, I created these summary themes through iterative re-reading of transcripts, making analytical memos of my thoughts as I read, and re-drafting graphical representations of links between the narratives. Finally, I propose a summary of implications for 'the act' through the lens of the narratives.

4.4 Findings part one – a history of HIV-related education in Hlabisa.

4.4.1 Civil and traditional governance structures. Historically, Hlabisa had been peopled by Nguni-speakers (Huffman, 2004; R. Ross, 2008) and formed part of the emerging Zulu nation under King Shaka Zulu (Wright, 2006). With the annexation of Natal by the British colonial government (Christopher, 1971; Martin & Kline, 1996; Worden, 2012) there were limited settler and mission outposts in the area, however this part of Zululand was never settled by colonial immigrants (Ballard, 1979; Marks, 1967). Under the *apartheid* government almost all of the land area of the sub-district formed part of the KwaZulu

homeland areas (Egerö, 1991; Hull, 2012) except the 'whites-only' community of Riverview in Mtubatuba, St Lucia village, and the commercial forestry and farming land located east of the national road (Skelcher, 2003). In democratic South Africa, much of the sub-district has a system of dual governance. Municipal structures are democratically elected and responsible for the administration of local government services. The traditional feudal system of *Amakhosi* [chiefs] and *Izinduna* [headmen] under the rule of King Goodwill Zwelithini kaBhekuzulu is responsible for arbitration of matters of cultural importance – for example, allocation of land to build a homestead when a man reaches adulthood.

The cessation of the Anglo-Zulu war in 1879 led to a period of internecine struggle between factions of the royal house in Zululand that culminated in its annexation by the British crown in 1887 (Colenbrander, 1979; Guy, 1982; Knight, 2003). This began a tradition of governance by favouring particular elements within the cultural elite. The resultant revolutionary action against this has been a recurring theme in the history of the area (Atmore & Marks, 1974; R. L. Cope, 1995; de Haas & Zulu, 1994; J. Lambert, 1995; Wheelwright, 1925). There was on-going tension between Inkatha Freedom Party (IFP)-supporting Zulu-nationalists, seen as complicit with the *apartheid* government by benefitting as rulers of the KwaZulu homeland, and African National Congress (ANC)-supporting representatives of South African national liberation movement (N. Cope, 1990; Golan, 1991; Waetjen, 1999). Such conflicts were particularly violent in the run-up to the first democratic elections in 1994 where murders and political intimidation were prevalent across KwaZulu-Natal (Benini, Minnaar, & Pretorius, 1998; A. M. Johnston, 1996; A. M. Johnston & Johnson, 1997; Mottiar, 2004; Piper, 2002; Southall, 1994; R. Taylor, 2002).

During the period of data collection, the Mtubatuba municipality was ANC controlled, while the Hlabisa municipality was IFP controlled. There were two important dynamics to this political context that developed over the course of the data collection period. Firstly, the

Mtubatuba municipality was repeatedly under threat of being placed under administration by the provincial government. Secondly, in early 2011, a splinter-group within the IFP formally announced the formation of the National Freedom Party (NFP) with prominent citizens in the area occupying senior membership positions.

There were four offices of traditional authority in the Hlabisa health sub-district. In each of these traditional authority areas an *Inkosi* and their council hold public meetings at their offices and could be petitioned either directly by community members or via a system of *Izinduna*. *Izinduna* represent groupings of approximately 100 households in areas called *isigodi* identified by geography and kinship (Houston & Mbele, 2011). Beyond their mutual participation in the Zulu kingship hierarchy, the offices of traditional authority functioned largely independently of each other. Disputes between *Izinduna* or their constituencies over local cultural traditional practices and shifts in political party support were common and this could escalate into tension between *Amakhosi* (Beall, Mkhize, & Vawda, 2005).

This context played out in the everyday activities of people in Hlabisa. The implementation of an HIV prevention intervention in schools could not be considered outside of the implications of who could receive political credit for it or who was to blame for permitting such an intrusion from external actors. Similarly, young people's sex acts in Hlabisa were infused with cultural-political significance of Zulu kinship, gender politic, and identity positioning. As I attempted to uncover the assumptions that participants held about the nature of young people's sex acts, I used this historical context to ground my emerging understanding. As I encountered puzzling framings of how we should intervene to prevent HIV among young people, I always considered how the speakers' rhetorical context was in response to these broader dynamics. For example, when in a group discussion with school-community decision-makers, one of the participants suggested virginity testing as a means to prevent HIV. He was a representative of the local *Inkosi*. I understood his suggestion as not

just about brainstorming HIV prevention possibilities, but also about fulfilling his duty of representing a cultural tradition for which he was a custodian. Similarly, other participants in the group discussion were happy to welcome his idea in theory, and then slowly and carefully positioned other ideas as of greater priority by highlighting their more immediate and controllable HIV prevention benefits. His idea only needed to be listed and considered, it did not have to be selected as the group's way forward. In this way, the group were able to re-affirm the value of cultural tradition and values which is very important in the context. As I analysed the data, I was able to avoid a blunt assumption that this participant believed that young women's sex acts should be monitored by their bodies – which was probably true of his beliefs on some levels. In addition, I could interpret his statement as a response to an imperative imposed by his position as a traditional leader to always represent that 'traditional' in public spaces. This added layer of interpretation is possible only by considering the wider historical context and the moment in which I – a white man – came asking for collaboration toward solutions.

4.4.2 HIV education policy. The early 1990s in South Africa saw the dismantling of *apartheid* governance systems, rapid and sweeping social changes, and the implementation of a new constitution – adopted as Act 200 in 1993 with a later version adopted as Act 108 in May 1996 and amended in October of the same year (Republic of South Africa, 1996a). The education system has had a torrid history as an implement of the South African state (Christie & Collins, 1982; Kallaway, 2002). The revision of schooling systems and education curricula were a necessary and visible component of the political 'revolution' (Fiske & Ladd, 2004). Revision of the schooling system and the adoption of new curricula based on the values enshrined in the constitution were seen as a mechanism for engendering the continued social changes required to bring this vision to reality (Motala & Pampallis, 2002; Nkomo, 1990; Tikly, 2003).

There were broadly three phases to the revision of the schooling system and general curricula statements in South Africa between 1994 and 2010. The first phase between 1994 and 1997 was the dissolution of the racially-divided *Apartheid* education systems, the removal of offensive (racist or otherwise) material from curricula, the institution of nine provincial departments and one national department of education, and the introduction of continuous assessment. The zenith of this first phase was the promulgation of the South African Schools Act (Republic of South Africa, 1996b) in November 1996 and its commencement at the start of 1997. The second phase, between 1997 and mid-2000s, saw the introduction of "Curriculum 2005" (Chisholm et al., 2000) with a focus on outcomes based education (Jansen, 1998; Jansen & Christie, 1999). The third phase from mid-2000s onward saw the iterative critique and refinement toward resource allocation equity and external comparison of education quality and school outputs (Mouton, Louw, & Strydom, 2012). The South African Schools Act – and its 8 Education Laws Amendment Acts between 1997 and 2010 – aimed to empower schools and the communities they serviced to effect change. In practice, much authority to determine core school practices such as admission policy, fees, language policy, and operationalisation of curricula was vested in the local-level of school governance via SGBs (Bush & Heystek, 2003; Sayed, 1999, 2002).

Alongside these changes in the education macro-system, elements of the curricula dealing with learner health also evolved rapidly. Broadly, there are also three phases to this evolution: guidance, life skills, and life orientation. Within these phases, there has been perennial revision of curricula statements, their evaluation processes, the list of prescribed materials, and to versions of prescribed materials. Further, at any given moment, health-relevant curricula has faced differential implementation in schools based on historical differences, resource availability, educator sentiment, and local-level priorities in individual

school governance structures (Chisholm et al., 2000; Department of Education - Republic of South Africa, 2006, 2011; Jansen & Taylor, 2003; Vethe, 2011).

With governmental shifts in policy positions toward HIV (Butler, 2005; Connelly & Macleod, 2003; P S Jones & Stokke, 2005; Peris S Jones, 2005; Mbali, 2004; Schneider & Fassin, 2002), prevention knowledge and skills were increasingly acknowledged as an important outcome for learners in these curricula. However, HIV prevention-specific education curricula were always conceptualized within a wider health mandate (Department of Education - Republic of South Africa, 2011; Department of Education and Culture - KwaZulu-Natal, 2002; Govender & Edwards, 2009). The teaching of health and HIV-related education was a core policy aim and delivered across all subjects. For example, an English lesson on reading comprehension might use a short story about a person deciding to test for HIV. Health and HIV-related education was one of four key learning areas in the Life Orientation curricula; that is, "health promotion" in grades 4-9 (Department of Education - Republic of South Africa, 2003b, p. 9) and "personal well-being" in grades 10-12 (Department of Education - Republic of South Africa, 2003a, pp. 14–15).

In practice then, HIV prevention-specific education often slipped to being beyond the bounds of teaching responsibility. In many instances, implementation of HIV-relevant education was dependent on interactions with the Department of Health, NGO-supported initiatives or other local partnerships, or on the initiative of particular educators (Ahmed et al., 2009; Griessel-Roux, Ebersöhn, Smit, & Eloff, 2005; L. Kuhn et al., 1994; Mathews et al., 2006; Morrell, 2003; van Wyk & Lemmer, 2007; Visser, Schoeman, & Perold, 2004). The formative research I conducted prior to *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* showed that in the Hlabisa sub-district, a total of 71 educators were reported to have attended one of the two-day, three-day, or one-week training courses on the delivery of the newly instituted Life Orientation curricula. Principals were frequent substitute teachers for

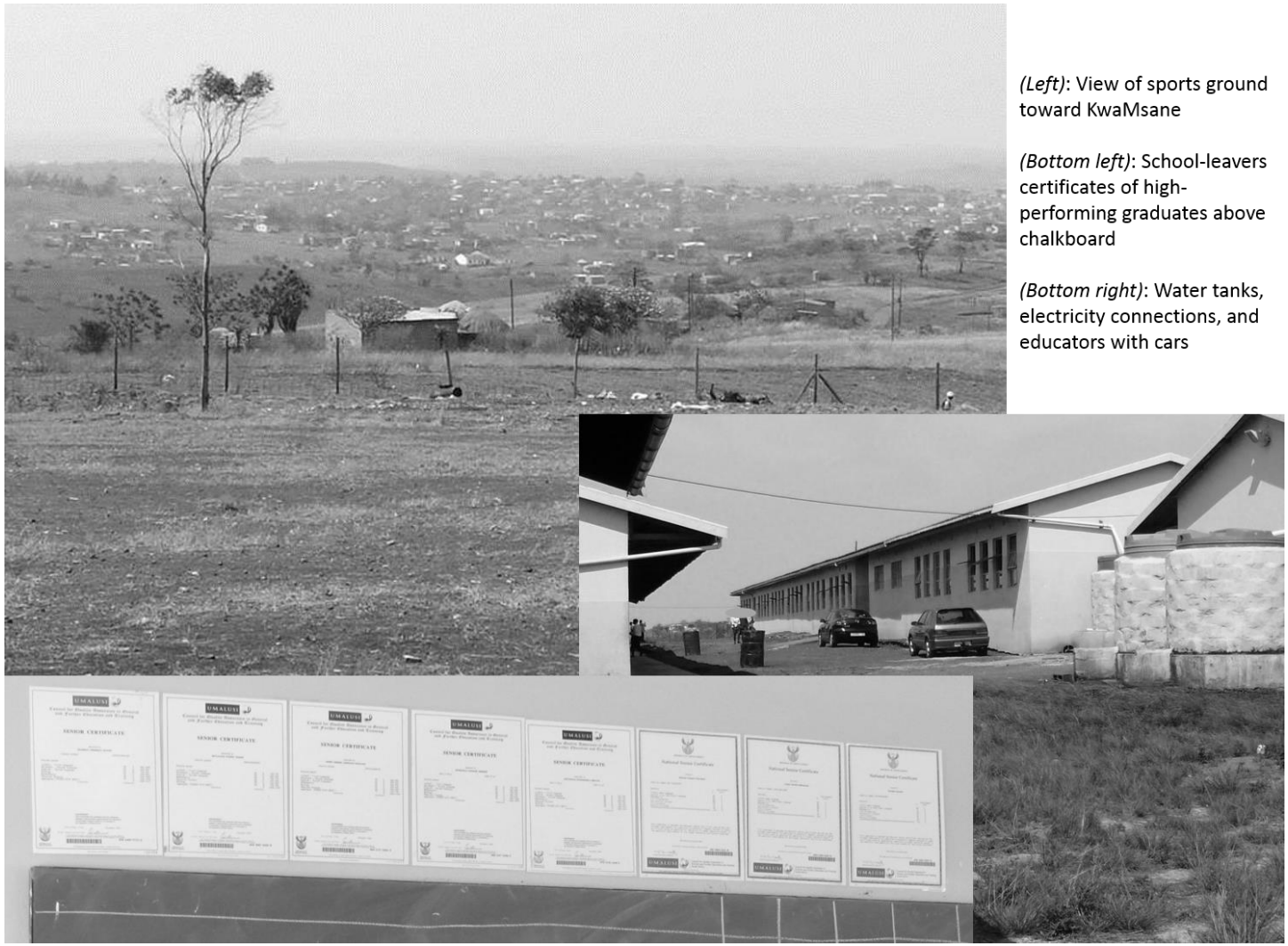
this subject. In most schools, HIV-related content was educator-driven with 28.6% of the schools reporting NGO support in the delivery of this content and one school reporting sporadic support from the local district hospital.

4.4.3 HIV epidemiology and young people in Hlabisa. The Hlabisa health sub-district had one of the highest HIV prevalences in a generalised epidemic in the world with 21.5% of adult residents aged 15-49-years-old living with HIV (Welz et al., 2007). There were large gender disparities in HIV prevalence among 15-19-year-old residents with 9.9% of women and 0.76% of men living with HIV (Welz et al., 2007). Similarly, there were large gender disparities in mean adjusted HIV incident cases per 100 person years of 4.7 and 2.2 in women and men respectively (Bärnighausen et al., 2008). In an HIV sero-prevalence survey among grade 8 and 9 learners conducted in 48 of the 52 secondary schools in 2010/2011, the HIV prevalence was 3.2% and 0.9% among girl and boy learners respectively and ranged between 1.5% and 5.1% among girl learners across the 6 education wards (Hoddinott, Olivier, Newell, & Imrie, 2012). HIV was both ever-present in public narratives about young people's sex acts, and yet could not be significantly influencing those sex acts else HIV incidence would have been much lower.

4.5 Findings part two – contrasting case descriptions of school-communities.

4.5.1 'Bright Start' school. Located on a hill on the periphery of the peri-urban KwaMsane approximately 15mins by car to Mtubatuba, Bright Start was brightly painted in white and blue – see Figure 15. A collection of several blocks of single-storey buildings, Bright Start was easily identified by local residents as it was just off the main transport route through the area that linked it to KwaMsane and Mtubatuba via the N2 national road. On one side of the school there was a large open field that slopes down the hill that was used for sport or cultural activities.

Prominent features nearby to Bright Start were a tavern and pool hall, a taxi stop, a

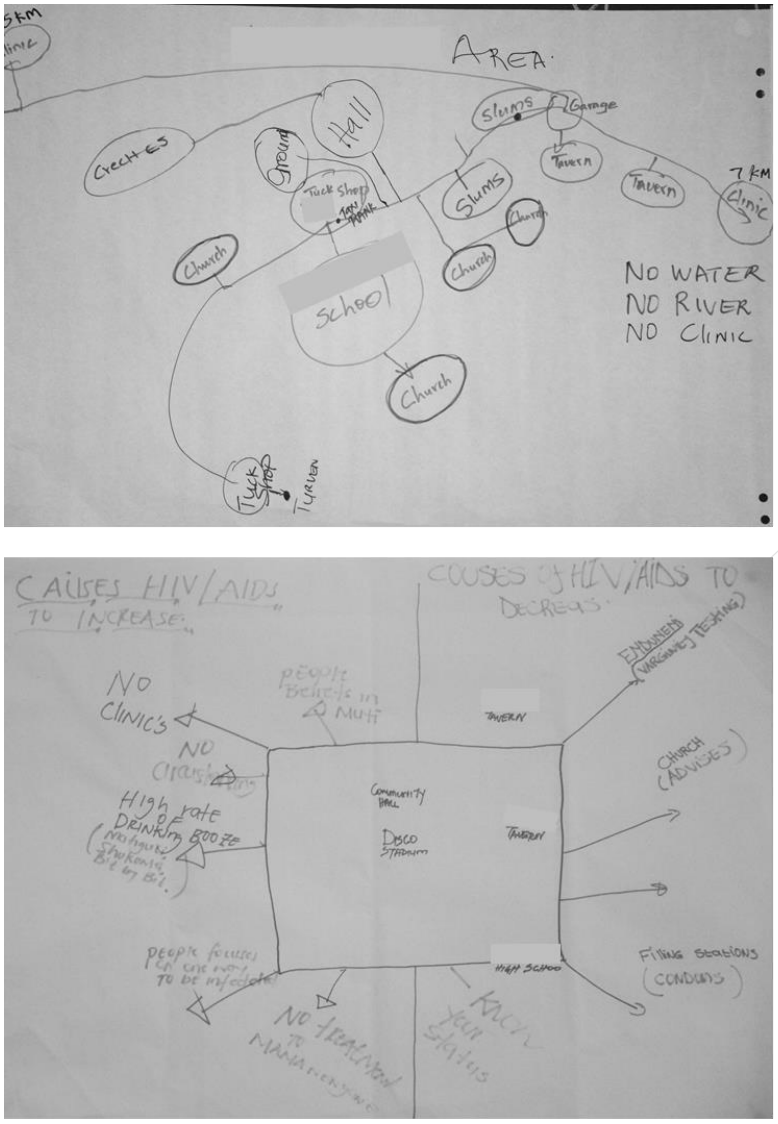


(Left): View of sports ground toward KwaMsane

(Bottom left): School-leavers certificates of high-performing graduates above chalkboard

(Bottom right): Water tanks, electricity connections, and educators with cars

Figure 15. An orientation to Bright Start's outlook



(Left): School-community decision-makers (school governing body, *Induna* representatives) highlight the proximity of slums and taverns and the distance to clinics for Bright Start school

(Bottom left): Out-of-school youth categorise features of the area around Bright Start into either increasing or decreasing HIV

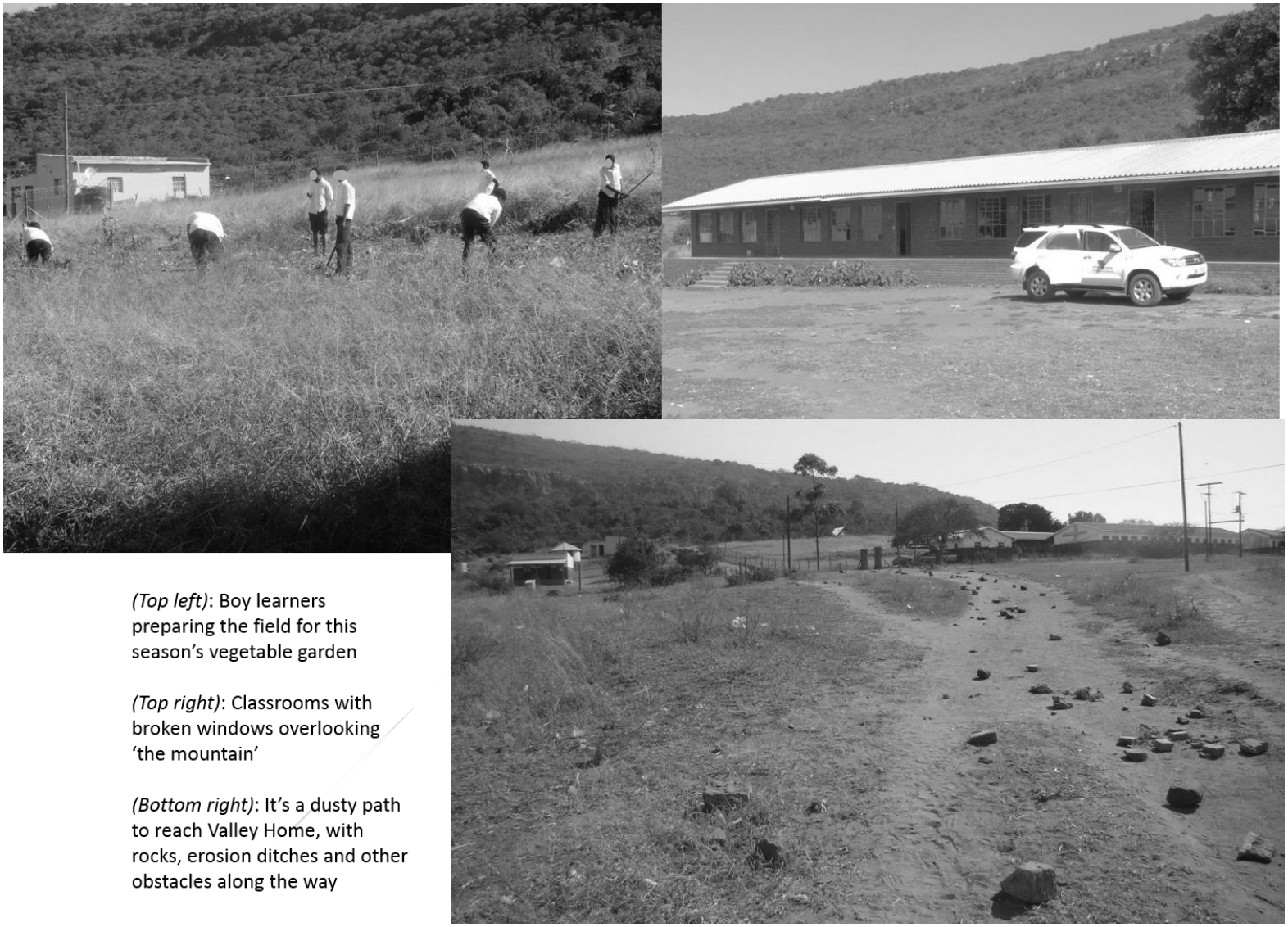
(Bottom right): Parents note key features of the area distinguishing between geographically proximal and distal features

Figure 16. Bright Start school-community members' representations of the school

small forested area of unworked land, two primary schools, the *Induna*'s meeting hall, and residential homesteads with plots – see Figure 16. Learners and educators were residents of either the immediately surrounding homesteads or of KwaMsane village. During the period of data collection, Bright Start had a school governing body that met once a month on Sundays and which included learner representation in its membership – although how much credence was given to these learners' opinions by the SGB was difficult to judge. The principal of Bright Start was savvy in his interactions with the researchers, and maintained a firm hand of control over both learner and educator discipline. Bright Start had participated in an educator exchange programme with a school in Scotland beginning in 2011.

Bright Start accommodated approximately 1300 learners in 24 classes and boasted a pass-rate of higher than 90% across all five grades. Bright Start had access to a rain-water catchment system, running water, and electricity, and runs a feeding scheme for learners coordinated by local mothers. In 2009, a donation of 20 desktop computers was made to the school to be used for a computer laboratory and as a reward for maintaining a 100% matric pass rate in the previous year, but the building itself had not yet been electrified or used by the end of 2011. Overall, Bright Start was a large, well-functioning school that was relatively well resourced given the rural context.

4.5.2 'Valley home' school. As the road wends its way past Valley Home it was all too easy to miss the dirt track leading to the school's gate. The school itself was obscured from the road by its position in a fold in the valley below the road, trees, and the ubiquitous dusty heat-haze kicked up by once-an-hour-or-so vehicle passage that hung sultrily over the road and its surrounds – see Figure 17. The green of the classroom paint was the same shade as most local vegetation and is contrasted by dusty horizontal white stripes. The buildings of Valley Home formed a 'U' shape, with four classrooms on both sides and an administrative building linking them on one end. At the open apex of the 'U' there were two further brick



(Top left): Boy learners preparing the field for this season's vegetable garden

(Top right): Classrooms with broken windows overlooking 'the mountain'

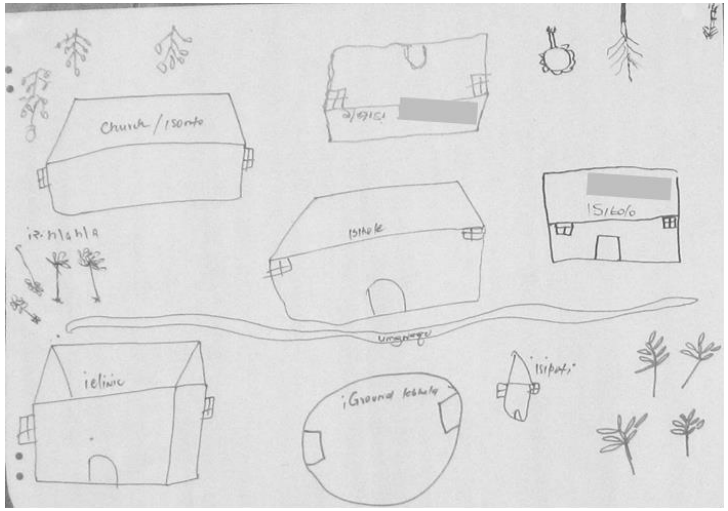
(Bottom right): It's a dusty path to reach Valley Home, with rocks, erosion ditches and other obstacles along the way

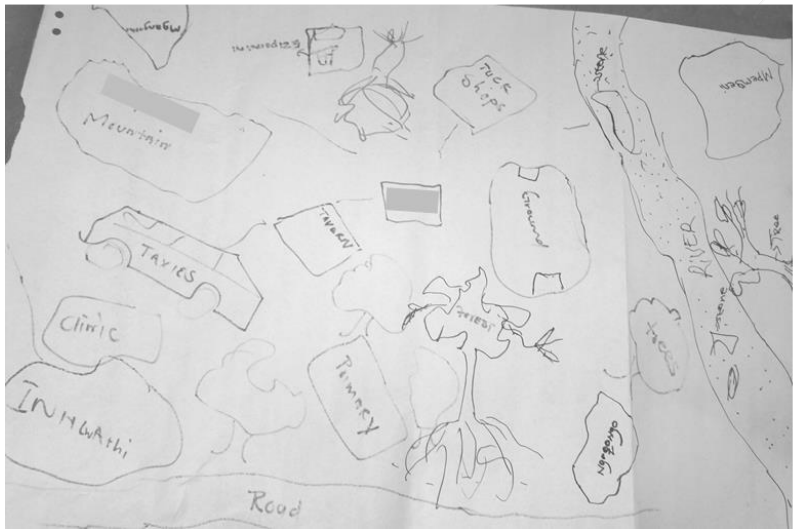
Figure 17. An orientation to Valley Home's outlook

and one prefabricated classrooms, all three of which were broken down, missing roofs or walls, and only used when weather permitted. Despite this camouflage, residents readily identified Valley Home the primary school directly adjacent to it as a main feature of the community. Uphill of the school buildings there were two large trees under which learners hid from the sun during break times, and a large vegetable garden that was tended by learners and contributed to Valley Home's learner feeding scheme. Directly outside the gate of Valley Home was a shop selling minor household groceries and frequented by learners to purchase sweets and crisps – also said to sell alcohol and condoms.

Homesteads in the area were typically more than 100m apart, with areas of bush in-between, used for harvesting of firewood, wild vegetables and hunting minor game including birds and insects. Almost all houses grew vegetables on their plots, and many kept small numbers of livestock – mainly goats and chickens. There were several churches in the area, though few had dedicated church buildings and those that did are indistinguishable from houses. The main features of the area were the river at the valley floor and the mountain, a forested, uninhabited area – see Figure 18. Learners were residents of the area, although some had to travel as far as 10km each day. Many of the educators were from Hlabisa town and commuted in by car every day – approximately 40mins drive on dirt roads in either direction. Educators at the neighbouring primary school were local residents and Valley Home's dependence on non-local educators was somewhat contentious. During the period of data collection, Valley Home's school governing body had a prominent member who was also member of the Inkosi's council, however meetings were infrequent. The principal of Valley Home was a very gracious host, appreciative of the study happening at the school, and keen on further upliftment opportunities.

Valley Home accommodated approximately 450 learners in 11 classes. The grade 12 pass-rate was approximately 50% each year and approximately 30% of learners were absent





(Top left): The key community buildings of the two schools, church, shop, clinic, sports field and homes are clearly presented by parents at Valley Home

(Top right): Out-of-school youth use the map to highlight the key challenges facing the school-community of Valley Home; namely, lack of resources, lack of knowledge, poverty, and lack of access to even a mobile (periodic) clinic

(Bottom): 'the mountain', 'the river', and 'the forests' dominate boy learners' telling of the geography of the school-community as places of HIV risk

Figure 18. Valley Home's school-community members' representation of the school

on any given day. Valley Home had access to a rain-water catchment system, intermittent electricity concentrated in the administrate buildings, and ran a feeding scheme for learners. In 2008, the school had participated in a three-year HIV prevention and schooling promotion programme – including things like keeping the school grounds clean – implemented by a local NGO. The NGO functioned as the charitable outreach of an organisation that also owned a local private game reserve and a soccer team seeking promotion to the national first division. The programme involved a set of educational materials for educators to supplement the Life Orientation curriculum, a week-long educator training workshop, and a series of events at the school where learners were engaged and promotional materials – for example, t-shirts with the NGOs branding and a health-positive message were distributed. In the second and third years of the programme the NGO shifted to more of a mentorship role for the trained educators than direct involvement. This NGO had been actively delivering this programme in a number of schools in the sub-district, as well as elsewhere in the province and other southern African countries. Overall, Valley Home was a small, poorly-functioning school far off the beaten track and in serious need of material and human resources.

4.5.3 Contrasts in contexts makes for different sex acts. I present the contrast between Valley Home and Bright Start to emphasize that even in a culturally homogenous, linguistically monochrome, rural area, there are still very important differences between the school-communities with direct implications for 'the act'. Generating commonality in conceptions of young people's sex acts across these two school-communities would have required reducing the complexity of thinking about 'the act' relative to its unique local context. A grossly over-simplified example was that in Bright Start young people were assumed to be on a life trajectory of further study or formal-sector employment. In contrast, in Valley Home young people were much more likely to continue their lives as part of their extended families subsistence farming collectives. Young people's sex acts have different

implications for these two imagined futures. At Bright Start, getting pregnant would be a diversion from the expected life course, a 'failed' young women would have to stay home and raise the baby instead of heading for the city to build a career. At Valley Home, getting pregnant would mean one more baby in the household, another mouth for the young women to prepare food for from meagre family subsistence, but that is anyway what young women were expected to do. More broadly, 'the act' cannot ever be divorced from historical context and narrative through which it is made intelligible.

4.6 Findings part three – rhetorical contexts to young people's sex acts.

I identified two broad rhetorics relative to which school-community members positioned their talk about young people's sex acts. The overall frame for the discussion groups was to collaboratively identify intervention components for HIV prevention in their school – a frame that was emphasized during their recruitment and re-emphasized multiple times in each discussion group. This both gave participants an excuse to speak about young people's sex acts and forced them to reference young people's sex acts as problematic in terms of HIV incidence. Participants used the two rhetorics to balance between the researchers' injunction to talk about young people's sex acts with excusing their difficulty in articulating these thoughts openly. As such, the two rhetorics served as complementary processes for participants to politely acknowledge the imperative brought by the researchers but also create space for them to guard their perspectives whenever they felt uncomfortable. In the sub-sections below, I present verbatim extracts from discussions with emphasis added in italics and notes in square brackets as examples to illustrate my interpretation of how the rhetorics are used.

4.6.1 The world of young people's sex acts is dangerous. Participants re-framed the researchers' imperative to intervene for HIV prevention to more broadly include a moral position of helping young people escape negative experiences in their lives. The participants

positioned the world in which young people live as dangerous. Further, that young people's sex acts are the outcome of this dangerous world. Implicitly then, this rhetoric enabled participants to position their talk about young people's sex acts as well-meaning because it originates from a general sympathy for the plight of young people. Moreover, the rhetoric sidesteps any judgement of people who acquire HIV because this is an outcome of the dangerous world, not individual choice. For example, in the discussion with girl learners at Bright Start a participant presented a map she had drawn of the school-community and places creating HIV risk. Her narrative positions HIV as an outcome of a dangerous world against which she and her peers must be constantly vigilant:

Participant 1: They don't give much information about HIV and AIDS because they take you as a child, and don't expect you to want to know anything about HIV and AIDS. But HIV/AIDS affects you, your brothers, your sisters, your uncle and your friends are able to get it right [*the world is dangerous and young people are not given the protection of knowledge because they are just children]. Then you go to taxi rank, here is the taxi rank [indicates on map]. If it's break time and our school learners go outside, and a taxi driver will call you, whistling [participants laugh]. The taxi driver goes, 'hey hey babes, hey sweetie' and you will go to the taxi driver because the taxi driver has money, right [*and we all need money]! The next thing you will *get* HIV and AIDS because the taxi driver comes to you and he also has another girl, another girl and then it happens. … Then a taxi driver *gives* you HIV/AIDS. The taxi driver also, who *took* our sisters, aunties [*repetition of agentive verbs on the taxi driver of *get*, *give* and *took* positions the young women as passive recipients of sex/HIV]. That's how HIV/AIDS spreads. And also um, at school, the teachers, our teachers. As we are, we will talk

the truth, I'm not gonna lie [*allusion about the vulnerability of girl learners to the sexual advances of educators positions the young women as living a world were nowhere is safe – not even in the care of their teachers].

Researcher: Yes?

Participant 1: At school we have teachers, okay, you know teachers. I'm sorry guys, I just have to be honest [participants laugh]. They say, they come to you and say, 'hey come here and let me show you where I live'. And you are gonna come to him because we know that teachers have money and teacher has got a car, you know cars and the teacher has got a big house, that's how we get attracted. And you know, sometimes it happens that the teacher has HIV/AIDS and then we die, [brief pause] so, please. [Just] Because he's so handsome, he's so cute and you so wanna give him your number, fall in love with the boy. [But] it's for the first time that you are actually seeing this guy and you are already dating the boy? S*hame* girls [laughter].

Me: Um, this is something that I have to ask you ladies, you are young women, some of you are younger than others but it's *you* that's doing this [being attracted by taxi drivers and educators with money] right?

All: Yes!

When I prompt them, the participants acknowledge that having sex that places them at risk of acquiring HIV is *their* act, but they position it as one of succumbing to worldly pressures – in this instance taxi drivers and educators with money. As such the outcome of acquiring HIV is a consequence of the inherent danger in their worlds and no individual should be blamed for it. The glib phrasing of "*sometimes it happens* that the teacher has HIV/AIDS" reinforces the inherently uncontrollable chanciness of being a young person in this world. Following this with "and then we die, [brief pause] so please" is both appallingly

flippant and heartrendingly simplistic in the implicit injunction to herself and her peers to just try a little harder to resist.

4.6.2 Talking about young people's sex is awkward. Despite a ubiquitous willingness to discuss HIV prevention options for the school-community, many participants were guarded as they spoke about young people and sex. Participants couched their reticence in terms of a general sense of social injunction about being too explicit. Further, the participants positioned themselves as struggling against this injunction, the imposing silence of others that stifled their attempts at speaking. For example, a participant in the first group discussion with role models for young people at Happy Valley – an educator at the local primary school – was at pains to point out that she was willing to speak, but others were not willing to listen. She adopts this position at the very start of the discussion by integrating into her personal introduction narrative:

Participant 2: I am XX. … I teach LO [life orientation]. When I look at things you find that a child, in most children's homes there is no role that parents play, for instance about sex education. There is not much they [parents] do.

You find that a child grows up and doesn't know anything about these things [*referencing but not saying 'sex']. They meet other children here and they involve themselves in these things [*again, referencing, but not saying 'sex'] while they haven't been taught at home.

You find that even when you teach them they get shocked because it [sex] is something that they are not used to talking about. So, when you talk to them about it [*sex], they look at it [*sex] as a shame because their parents would never allow them to talk about these things.

You find that most of the time, parents do not like the fact that we teach them [*about sex] because they think that we teach the children bad stuff.

> You find that a child grows up and they do not know about these things [*about sex].
>
> You find a child doing grade 7 getting pregnant and getting HIV/AIDS because of these reasons. …
>
> Perhaps we could also get some help because if the parent does not want me to educate their child about these things [*sex], it is really not easy to but if parents are also educated it is easier for me too because then we would perhaps be of assistance to each other.

The participant never uses the word 'sex', but instead refers to 'these things' and 'it' – her careful avoidance emphasizing the unspeakableness of sex in this context. She repeatedly frames her points as "You find that", positioning her observations as natural facts of the world. This is in contrast to an alternative phrasing like 'I have seen that' in which she would be more personally responsible for the claim she makes. Throughout the rest of the group discussion, this participant was able to sidestep talking about her views about young people's sex acts by hinting at the possibility of others' disapproval about having such a discussion. This rhetoric held strength even when my colleague pointed out that parents and school-community decision makers had instead said that *educators* were reluctant to speak openly about young people and sex.

The social awkwardness of young people and sex acts was a refuge for participants who were uncertain of standpoints of fellow participants in the group discussions. It served as a psychological comfort to participants when the discussions became too pointed – talking about young people and sex is always difficult so it is okay to feel shy and not be too detailed. As a rhetorical context to my analysis, this reinforced the murkiness in understanding participants' ontological assumptions about young people's sex acts.

Explicating these assumptions from their talk was as much about what they left unsaid as what was verbalised.

4.7 Findings part four – ontological assumptions about young people's sex acts.

I identified three ontological assumptions about young people's sex acts in participants' talk about HIV prevention interventions in their school-communities. These assumptions were un-uttered in their ubiquity. The discussions did not address participants' thoughts about young people's sex acts directly. Instead, the discussions were about how to prevent HIV and young people's sex acts were taken for granted as the underlying problem through which to address HIV. During recruitment of participants, we made every effort to explain the school-community as a collective of different tiers of stakeholders using an adapted version of the eco-systemic model (Bronfenbrenner, 1979, 1994) – see Figure 19. In light of this, addressing young people's sex acts meant engaging the personal, interpersonal, and social contexts in which young people's sex acts happen. My explication of participants' assumptions is inductive. I argue that these are the assumptions necessary for participants' narratives to be s coherent. The prominence of each assumption varied according to conversational relevance. However, I argue that all are equivalently foundational to participants' narratives. They represent the everyday ontological assumptions about young people's sex acts precisely because they are not subject to critical interrogation. In the sub-sections below, I again present verbatim extracts from discussions with emphasis added in italics and notes in square brackets as examples to illustrate how the assumptions are necessary to the intelligibility of participants' talk.

4.7.1 Assumption 1 – an implacable bio-social inevitability. Young people will not remain young people forever. As young people get older, they transition socially into adults. Relationships in which sex was encouraged or at least not frowned upon too sternly were courting and marriage. These were by definition adult activities. Once people begin to pursue

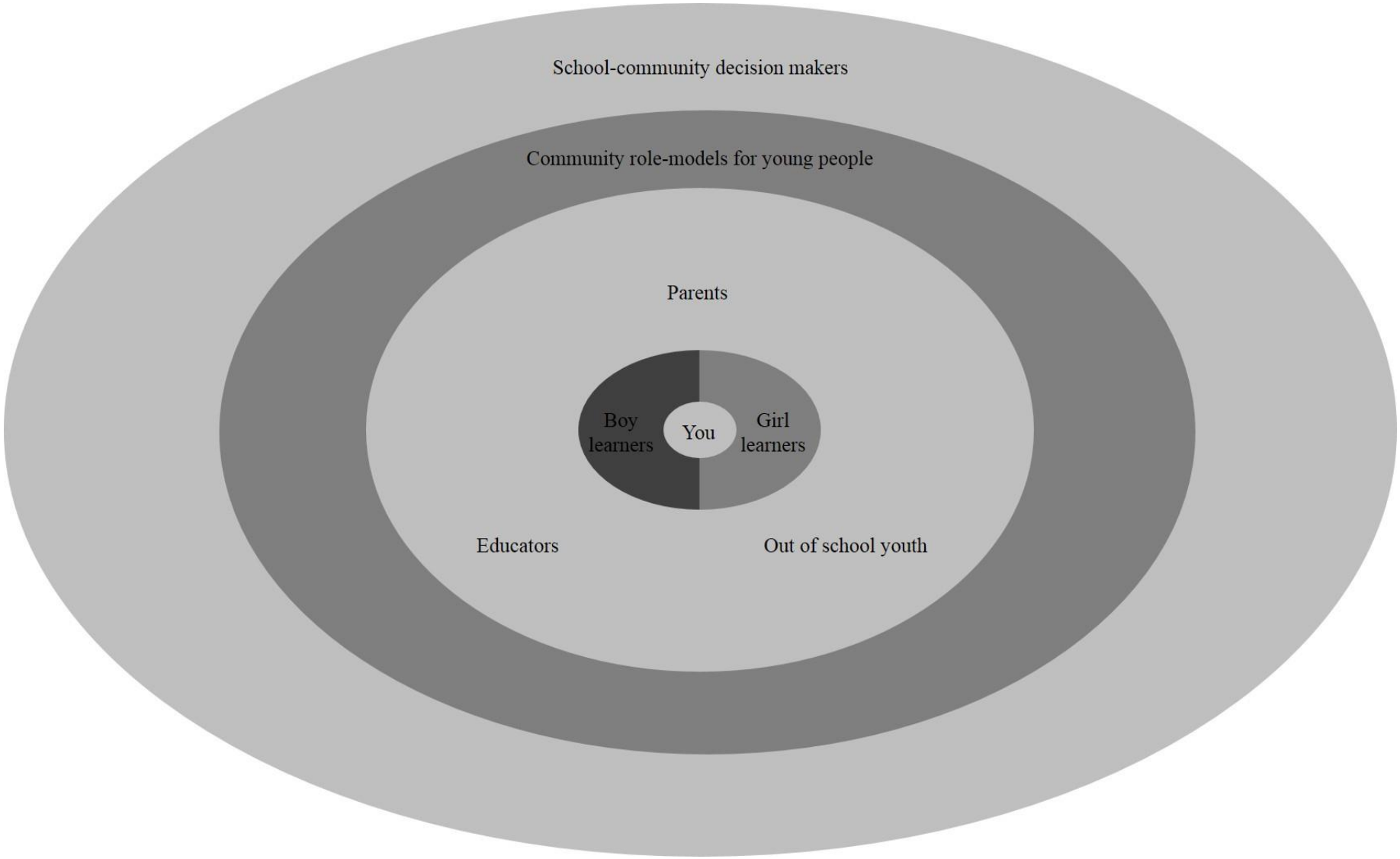


Figure 19. School-community ecosystem of mutually supportive group

these social relationships publicly, they would then be making a social claim at adult status, regardless of chronological age. As such, young people's sex acts were by definition positioned as only *pretence* at adulthood because they could not be conceptualised as part of courting/marriage – which were exclusively adult activities. Some transitionary phase, usually in late adolescence, was accepted as a normative shift from childish innocence and toward adult status. This liminal time was positioned as risky to both the young person and society. Young people's sex acts were an imminent danger caused by their transition into adulthood. The change was inherently risky because young people lacked the experience to navigate challenges and because the consequence of mis-management could be lifelong – like a novice driver's first experience behind the steering wheel. Implicitly then, all young people's sex acts required strict management/guidance to avoid calamity, and this included delaying the threat for as long as possible. For example, in a discussion with educators at Valley Home, the participants were describing the life trajectories of young people in which they could be safe from HIV. The participant presented a narrative in which a child is shepherded into adulthood through progressively specific education:

Participant 3: Okay, from zero months, that's a first born, a new born that is. So, it must eat breast milk so it's breast feeding only …

Okay, er 12 months that's where they are 1 year old, let's say you now watch TV with them so that you can see whether your child can hear, yah.

Okay from 1 to 4 years we taught the about talking to strangers or if strangers kidnap them …

From 9 to 11 years, children know better, they often see that they are now grown up a bit and you [*as a parent] can see that they have grown up enough to understand everything you tell them. So, that's where you teach

> them about HIV/AIDS, you start with the basics and tell them what HIV is, what is AIDS, how do you get infected with HIV/AIDS. …
>
> From 14 years is at the stage where you must tell him or her about condom use because they are already involving themselves in sexual activities or if they are not yet involved, they are talking about it [*immediate defensiveness about suggesting talking about condom use to a 14 year old]. … 14 to 18 years could be a better stage to talk about sexual activities. … So, at the age of 14 to 21, that's where you say, that's where he or she may decide how they want to live their life after I have taught them about everything.

In addition to the developmental inevitability of young people's sex acts, participants also described the inevitability of young people pursuing sex for pleasure and social power. Further, that young people's youth gave them more energy than adults and that young people experience this youthful vitality as a force that must be expended. Participants often suggested vigorous sporting or labour activities as alternative pathways for young people to rid themselves of undesirable sex energy. Young men's virility was positioned as especially implacable. For example, in a discussion with out of school youth from Bright Start one participant had suggested promoting sex with only one partner as a way to reduce HIV incidence. This suggestion was met with much derision from other participants in the discussion. Their conversation demonstrates the implicit assumption that young people's sex acts are the outcome of an inevitable bio-social imperative. While this might be resisted, few young people were considered to have the wherewithal to withstand this drive for any significant period. Further, in the boisterous discussion between a group of young men, those who showed success resisting the drive were positioned as effeminate because their drive must be lacking in power:

Participant 4: Now it's better to have one person, you must have sex with only one person so that we can fight this thing.

Participant 5: But my brother, can men live with just one person?

Participant 4: They can.

Participant 5: I mean my brother, [even] for a married person, it's not easy to have sex with only their wife.

Participant 4: Are we fighting with you/are you taking this personally?

Participant 6: No, can you have sex with one person? [*implying to the speaker/participant 4 is setting unrealistic expectations]

Participant 5: Can you [participant 4]? When they say that a person who has just given birth, they need to wait for 6 months. Do you think there is a man who can wait for 6 months without having sex?

Participant 6: Have you ever got married and waited for that 6 months?

Participant 5: Listen guys, I know this. You see the 6 months they wait for, in that 6 months, the man goes to someone else, I tell you. You see, at that time, they go and buy [purchase sex from sex workers], I swear. When he no longer gets any [from his wife], he goes and buys.

Participant 4: Remember, they are waiting for the 6 months with their wife?

Participant 5: But then, they would have gone to buy sex. … They would have not waited for their wife. … But then that's not easy because you also do not have just one partner. Do you [participant 4] have one partner [participants laugh]? It's not easy to have just one partner.

Participant 4: No, it's easy man.

Participant 5: Okay, may those who have just one partner here raise their hands. You must raise it like this [demonstrating]

Participant 7: No, you are being out of order [treating us unfairly] my brother.

Participant 5: Oh, all of us do not have just one partner?

Group: No!

Participant 4: I do not have one, I do not have even a single one.

Participant 5: Awe [derisive exclamation] [group laughs]

This conversation demonstrates the harsh peer pressure that young men experience in positioning themselves contrary to the hegemonic narrative of young people's sex acts as a bio-social imperative. In it, participant 5 repeatedly uses jibes at participant 4 to drive home his points. To the extent that participant 7 eventually intervenes and calls the group to order. In the uneasy context of a group meeting to discuss HIV prevention these participants, here and elsewhere in the discussion, used exaggerated examples like six months of post-pregnancy abstinence to reinforce the inevitability of HIV risk exposure. The language used by participants in narratives like this was universalising of the majority of young men's experience premised on being youthful and youth-filled. In consequence, for these young men, young people's sex acts occupy a strangely tensionless position of being problematic because of associated risk, but unproblematized because they are inevitable regardless of consequences.

4.7.2 Assumption 2 – approached obliquely through allusion. Even though young people's sex acts are assumed to be inevitable, they are still not to be spoken about directly. In part, this is explained by cultural taboos around speaking about sex between adults and children. Traditionally, culturally sanctioned designees of *amaqhikiza* – usually maternal aunts – would have mentored young women about reproductive health, including sex. Similarly, young men would undergo staged processes of initiation into manhood with the help of *amansizwa* – usually uncles – that included transferring of moral and behavioural codes with respect to sex. However, these customs are now rarely practiced in Hlabisa. In

part, much of the silences around sex in the group discussions was understandable in terms of my positioning as an obvious outsider, a white man not fluent in Zulu language or culture. However, I believe that sex acts in themselves are mythicized as complex, multi-dimensional events that can only be approached obliquely to retain a proper perspective. For example, in a discussion with boy learners between the ages of 15 and 18 at Happy Valley they described an informal ritual by which young men approach young women about sex. The language was evocative of a hidden dance in which the rules are unspoken but indelible:

Participant 8: We start here at Happy Valley which is our school. We have scholars who after school will go home at …

When they get home, most of the time we do our laundry in the river, this is where scholars from this school do their laundry. Some guys will ask the girls to wash their shirts for them, and if the girl agrees he immediately thinks that she likes him.

Once she is done washing his shirt they will leave together and plan to meet in the afternoon, after the boy's [soccer] practice.

Later in the evening the girl will go to the guy's home. There they will they will have sex.

Every day, when they leave school in the afternoon they will walk home together and if they see a bush, they will go in it and have sex.

The participant presents a natural progression from interest sparked, indicated, consummated, and entrenched. However, at no point in the narrative would this be made explicit between the parties in this relationship. Similarly, it would only be described in the most informal sense when talking with friends and never acknowledged at all to adults. In our discussions, two 'acts' – 'having sex' and 'speaking about having sex' – always operated on completely separate registers. Contrary to my – in retrospect naïve – expectations, none of the

participants were shy about describing sex as a natural and proper part of life. Rather, speaking about sex seemed to provoke much more anxiety for the participants, especially when asked to articulate the parameters of the social relationship between partners. I was asking them to articulate the unspoken, and in many ways unspeakable in the sense that words can only fail to capture the multiplicity of 'the sex act'. At the same time, throughout my 24 months of field interactions, this unspeakableness was on a continuum from crass profanity and toward a silent poetry of euphemism, allusion, and meaningful glances. Progressing toward the subtle end of this continuum was positioned as a sign of maturity. For example, later in the discussion with the same group of boy learners at Happy Valley, another participant's narrative was far blunter, demonstrating his naiveté to his peers:

Participant 9: Here is … where we herd our livestock. When we're herding our cows we see girls, and I might like one of them but they are refusing to date me. I will tell my friend about this and he might suggest that I rape the girl [surprised laughter from participants].

Researcher: Do you force yourselves on girls?

Participant 9: Well she is refusing to date me [awkward extended pause, no laughter].

Re-watching the video footage of this interaction, Participant 9 showed obvious body language cues of posturing, puffing out his chest and closely watching his audience's reaction to his story. I do not believe participant 9 was speaking from experience or stating an intention. Rather, I believe that he was trying to position himself as ultra-masculine in front of his peers. In doing so, he transgressed the hidden languages around sex and instead demonstrated his lack of experience. The reactions of other participants was dismissive of his story, and immediately shifted the narrative to the dangers that young people generally experience when left to perform manual chores unsupervised by adults. Older participants in this group used this moment as an opportunity to suggest better communication between men

and women as a means of HIV prevention. In part this steered the conversation back toward its stated aims, but it was also an implicit injunction against the type of attitude participant 9 had stated. This interaction is one example from the data set of how there was carefulness in talk about 'the sex act' and layers of sanctification that should not be breached. As such, young people's sex acts were assumed to be both a threat of transgressing this sanctity through inexperience, but also novices' first steps in initiation toward a higher level of significance in 'the sex act'.

4.7.3 Assumption 3 – morally significant. Beyond the personal, interpersonal, and social significance of young people's sex acts, they were also always assumed to be acts of morality. Sometimes this morality was articulated through the language of cultural heritage. In every way, young people's sex acts were positioned relative to a wider, highly contested morality discourse. Young people could not 'do sex' without also doing an interpretation of this morality discourse. Were they rebellious, complicit, distanced, or some other adverb? In doing an interpretation of the morality discourse, young people's sex acts inescapably occupied a position. Their sex acts were assumed to be open to judgement by all others on these grounds. Further, young people were aware of this positioning as actively as hearing the cacophony of their parents, friends, educators, and spirituo-cultural leaders as they act. In doing 'their act' young people were a doing their 'self'. This self was an embodiment not only of their individual identity, but also their family and ethnic heritage. For example, in a discussion with school-community decision makers at Bright Start, participants discussed the role of cultural values in HIV prevention. I prompted them to expound on their logic:

> Participant 10: The culture of good behaviour and *self*-respect [*emphasis added], a woman respects themselves and a man respects themselves, they do not act *carelessly*, that is the culture that must be brought back.

Participant 11: Such as keeping one's virginity, if she knows that she is keeping her virginity, she is afraid of doing things that will lead to the loss of her virginity because she knows that at that time, her virginity will be checked. If we could go back to that culture, it means the rate of infection would be reduced.

Me: Okay, if I could ask, when you say that women should keep their virginity, how do they do that, do we compel them or do they go and get tested, how?

Participant 11: Well, if, you do not even need to compel them, they just know that if there is virginity testing on a certain day, she is also getting tested. In that way, it makes the child to be scared of things that will make her lose her virginity.

Participant 10: This means we should encourage virginity test in other words.

Me: I think that was well explained another question would be, what do we do to those who have already had sex?

[Participants 11 and 12 answer at the same time, Participant 11 proceeds]

Participant 11: Sorry, even those who are already 'damaged', in our church there are often youth conferences and then those who are damaged are asked to stay behind and the boys who have damaged someone. A young person who is still okay is then asked to go outside, then there are talks with those who are damaged and they are told, 'as you are already damaged, stop now, don't continue with that person, you must look towards the one that will marry you, do not despair and act carelessly because you might end up getting a disease when you in fact had not gotten it initially', that also helps them.

Participant 12: I was going to say the same thing, that even in church, good behaviour is encouraged, not that they really have to go to the reed dance. In our church we would tell them that, you must be an *intombi* [*virgin girl] if you are a girl, an *insizwa* if you are a boy [*virgin boy], till marriage not having sex

> without marriage, you are able to tell them that. When they get to that stage, they are wiser and they know sex, they had kept themselves well. Not the relationships of dating today and having sex tomorrow.

In this example, young people's sex acts assume a meta-physical significance in that their souls are "damaged". Although the participants were quick to point out that this is not irreparable and that young people may still be healed back, this was contingent on the young person changing their behaviour and disavowing further sex acts. Irrevocably, 'the act' was assumed to be more than an event, but rather to include the significance of that event across multiple layers of complexly intersecting worlds.

4.8 Discussion.

My aim in this chapter was to explicate assumptions about young people's sex acts in the context of school-based HIV prevention. I have presented a historical context to sex education in Hlabisa and described two school-communities as case narratives. I then described two rhetorical contexts in which talk about young people's sex acts happens. Finally, I explicated three ontological assumptions about young people's sex acts in the talk of school-community members about HIV prevention interventions.

4.8.1 Limitations. I have presented my interpretation of assumptions made about young people's sex acts and my narrative about the historical context to these assumptions. I cannot claim that my interpretation is the only one. Rather, I undertook this analysis to learn about the nature of 'the act', not to document other people's perspectives. Aside from my narrow research aim and the weak ambition at transferability from these findings, there are three processual limitations to this analysis:

4.8.1.1 Being outsiders limits richness of understanding. As far as possible, we immersed ourselves into the participant communities (Adler, Adler, & Rochford, 1986; A. P. Cohen, 1978; Lincoln & Guba, 1981). We engaged local gatekeepers, utilised the research

assistants' local social networks, fostered relationships with the participant communities over a languid time-period, and presented appropriate reassurances of permissions and due process. Overall, both school communities were welcoming, accommodating to our request for school time and space, and obliging to our many requests for clarification, support, and help. Similarly, the group discussion participants readily offered their time, were generous and considerate with their opinions, and participated in the activities without complaint. However, I was never sufficiently linguistically or culturally fluent to understand participants' subtleties. Further, participants often interpreted my positionality as a research expert as evaluating their opinions and way of life did not want to appear silly in front of us (de Laine, 2000; Karnieli-Miller, Strier, & Pessach, 2008; Pain & Francis, 2003). The differences between official culture and everyday practices (Kondra & Hurst, 2008) in South Africa have been cogently illustrated in the case of racism post-1994 (Dixon, Durrheim, & Tredoux, 2007; Durrheim & Dixon, 2001, 2005; Durrheim, Mtose, & Brown, 2011). A similar tension between 'what we say we believe' and 'what we actually do' is true of discrimination or prejudice related to class, gender, age and other social categories. This is exacerbated in the rural, traditionalist context of Hlabisa where culture-historical norms and contemporary, rapidly evolving cultural norms are often considered to be at odds. The consequence of this is that participants were likely to present sanitized versions of their views, or to remain silent. This is further complicated by the research assistants dual roles as researchers but also insider graduates of the school, locals to the area, and supporting the delivery of life orientation. In our weekly debriefing meetings, we were critical of how the research assistants and I were positioned to inform our interpretation of the data. In the group discussions, we made multiple efforts to reassure participants and facilitate open communication. In addition, I addressed this challenge analytically by maintaining a healthy suspicion of the data (Sullivan, 2012) and – as presented above – interpreting it with reflexive

reference to the local context (Mauthner & Doucet, 2003; Priest, Roberts, & Woods, 2002; van den Berg, 2008).

4.8.1.2 Secondary analysis of data not explicitly about young people's sex acts. Generally, the data were representative of everyday speak in which core assumptions are never explicitly stated, but rather suffuse the background to discussions. As such, the data served the aim and objectives well. However, there were additional complications specific to the organisation and facilitation of the group discussions. Firstly, there was limited ability to trace individuals' narratives of 'the act' between the two group discussions as most participants were present for only one of the two group discussions. Even if they were present at both group discussions, the majority of their co-participants were different so the dynamics of individuals' narratives relative to the groups differed. This inhibited the analytic potential to triangulate (Breitmayer, Ayres, & Knafl, 1993; Flick, 2004) and understand changes over time. Secondly, it was clear from the data that some participants were only present out of either idle curiosity or a sense of obliged politeness to the research team. This was regardless of the efforts of the study team to encourage buy-in to the transformative agenda of HIV prevention in the school-community. The nonchalance about, disengagement with, or lack of immediacy of HIV prevention in the school-community was nonetheless instructive in that it illustrated the diversity and complexity of competing life-imperatives for school-community members for whom HIV is just one of many priorities (Hoddinott et al., 2014).

4.8.1.3 Are these assumptions in Hlabisa any different to anywhere else? As outlined above, Hlabisa has a history and context. So too does every place if we care to scratch below the most superficial surface. However, there is a very real risk that my description of the rhetorics and assumptions of the participants in *Umthombo Wentsha: Ukuhlomisa Umphakathi Wesikole* be misunderstood and reified as exceptional. In contrast, I firmly believe that for the most part the rhetorics and assumptions about 'the act' described

here will resonate strongly across many school-community contexts in sub-Saharan Africa and the rest of the world. The design of this analysis was *not* comparative. As such, no attempt should be made to consider differences between the rhetorics and assumptions in this place and moment of history to others. Rather, the design was exploratory for me to consider the ontology of 'the act' on a conceptual register and in which the description presented here is a detailed case. By analogy, this process has been like placing a leaf under a microscope to understand cell structure – generally, *not* this leaf's cell structure specifically. We should resist all temptation now to compare how this leaf is different to say flowers but rather consider what we can learn about cell structure.

4.9 Conclusions.

I suggest three ontological rules of thumb for moving toward an alternative conceptualisation of 'the act' for school-based HIV prevention interventions. I have generated these rules inductively by iteratively reflecting on the findings presented above. I suggest that these rules form the premise for beginning an articulation of a conceptualisation of 'the act'. These are proposed as rules of thumb for later exploration, not as laws of the ultimate nature of 'the act'. They are my speculative intuitions from which I hope to start moving toward an alternative conceptual model of 'the act'. They are *not* the final outcome of this journey and are not yet definitive of 'the act' itself.

Firstly, it is possible to consider every instance of 'the act' from multiple perspectives. Every instance of 'the act' could be characterised as containing significance across multiple registers. For example, a couple of young people engaging in 'the act' of sex are enjoying physical pleasure, making a claim at adult identity, and re-constructing cultural values all at the same time by doing one thing. However, I suggest instead disaggregating 'the act' such that we conceptualise each instance only according to one register of significance. This means ignoring the overlapping contemporaneity of physical arrangements of atoms in space.

Rather, we consider ‘the act’ only in terms of one register of significance. In the above example, we would consider ‘the act’ enjoying physical pleasure discretely from ‘the act’ of making a claim of adult identity and that of re-constructing cultural values. In addition to this separation of ‘the act’ by register, we would also be required to explicate the relationship of multiple instances of ‘the act’ across registers. For example, to make explicit the relationships between the young persons’ sex acts as pleasure seeking, identity claiming, and re-constructing cultural values. Is what relates these three acts only a co-occurrence of potential significance to the act that is later imposed onto it? Or is there intent by the young people that their act have any or all of these meanings while doing ‘the act’? This rule of thumb serves to avoid conceptual confusion through blurriness across registers and instead requires clarification of the relationships between registers. I further propose that we preserve at least three lenses through which to articulate every instance of ‘the act’: how it comes to be, how it is experienced, and how it forms part of a rhetorically contested self-narrative. In other words, what creates ‘the act’, how the person experiences it as it happens, and how it is reported are linked but *separate* components of ‘the act’. I suggest that these components require different types of cognitive processing systems and that they are often incongruent. Critically, I suggest that in moving toward a conceptual model of ‘the act’ for behaviour change interventions it is *only* the first of these components that is relevant. In other words, we change ‘the act’ by changing how it happens, not how it is experienced nor how we make sense of it rhetorically.

Secondly, in considering how ‘the act’ comes to be, it is inseparable from a historical context in which it is significant. Participants’ assumptions about young people’s sex acts in Valley Home and Bright Start are only intelligible to the wider histories of politics, education, and culture in Hlabisa. As ‘the act’ happens it acquires significance by being positioned relative to a version of this historical context. Part of ‘the act’ is ignoring some

potential components of the historical context and highlighting others. For example, do we create two young people's sex act in terms of their family history of parents who were pregnant young, or a cultural history of unmarried sex being taboo? In either instance, we are creating different 'acts' by highlighting one or other aspect of historical context. Further, that each instantiation of a historical context is unique to 'the act' as it happens. That historical context is open to subsequent rhetorical contestation – for example, because we might later consider their family history as shameful within a wider cultural history of taboo. However, this does not change 'the act' as it happened. Rather, the contestation is a new instance of 'the act' that has being responsive to the previous instance of 'the act' as part of its historical context. For example, imagining that the young couple engage in 'the act' of sex twice. In the first instance they are wrapped up in the intoxicating novelty of their first sex experience. Between this and the second instance they attend a church service where the pastor invites damaged (*sic*) young people to be forgiven by the congregation. In the second instance, the young couple are now excited by transgressing a taboo of which they have had a recent reminder. Therefore these two instances of 'the sex act' are different by virtue of their historical context, but linked through a narrative in which the second responds to injunctions against the first. In this way, each instance of 'the act' is unique but also related to each other instance of 'the act'.

Thirdly, clearly much of the experience and significance of 'the act' is implicit. Therefore, as I move toward a conceptual model of 'the act' I suggest prioritising mechanisms for representing what is *not* spoken as much as what is spoken. Further, that explicating the implicit is a critical step in understanding how the act comes to be and not only how the act is reported. The narratives we construct about 'the act' are necessarily filtered through multiple layers of rhetorical jostling. For example, as above, there is contestation between which histories achieve primacy in locating 'the act'. I suggest that this

jostling obscures how ‘the act’ came to be – even from ourselves – because it is invisible in the final product of ‘the act’. This is like eating a meal at a restaurant, but never giving a thought to the chaos of the kitchen that produced it. I suggest considering the young people’s sex acts not only in terms of the end product, but also the complex systems of potential significance behind that product. As we design interventions to change ‘the act’ it is critical that we address only how the current instance of ‘the act’ came to be, and how the future, changed instances of ‘the act’ will come to be. This means actively ignoring conventional tropes used to locate ‘the act’ in self-narratives – including ‘intention’. Self-narratives are only how we make sense of ‘the act’, they are not how ‘the act’ comes to be. Often, the origin points of ‘the act’ will be outside of our usual narrative descriptions of ‘the act’ and rather in the implicit assumptions that made ‘the act’ possible. For example, even if the young man in our couple says that he engaged in ‘the sex act’ to demonstrate his masculinity to his peers, we must be sceptical of this claim. Instead, our pathway for understanding how ‘the act’ came to be is to explicate the assumptions that made it possible. For example, what were the relationships of power between young people and adults in this community that having sex subverts? And, how did his urge to have sex satisfy a need for validation through intimacy? And, what arrangement of labour meant that he had unsupervised time to spend with his partner, perhaps after she washed clothes at the river? And so on. None of these elements are part of the self-narrative he might produce. Nonetheless, I suggest that it is the analysts’ responsibility to explicate them and then impose an interpretation through synthesis of our understanding of the underlying mechanisms.

I believe that the application of these three ontological rules of thumb will lead us out of repeating the errors of cognitive behaviour change theory. Further, that they offer the justification to prioritise what might otherwise appear to be distal influences on ‘the act’ and therefore offer new avenues for intervention design. Importantly, these rules allow the logic

of the intervention designs not to have to conform to convincing the targets of the intervention to make different choices. The rules enable explanation of *how* the intervention will work by changing the significance of 'the act' relative to its historical contexts. For example, instead of being trapped in a logic of trying to convince 'rebels' to lay down their arms, we may reframe the context such that they might be 'freedom fighters' who might anyway prefer a non-military solution to conflict. Or, instead of trying to convince teens not to have risky sex, we might reframe the challenge in terms of parents' shame at their inability to communicate appropriately with their children by highlighting this historical context. Broadly, I suggest these rules of thumb as a starting point for re-conceptualising 'the act' for intervention design premised on changing context and not individual choice.

Chapter 5 – A symphonic model of 'the act' for behaviour change intervention

5.1 Introduction.

Chapters 1-4 are a multi-pronged attempt to describe principles for an alternative conceptual model of 'the act'. In the language I propose in this dissertation, chapters 1-4 are the historical context by which my act of presenting a conceptual model of 'the act' acquires significance. I propose an alternative conceptual model of 'the act' to overcome flaws I perceive in the predictive ability of cognitive behaviour change theory. I propose that an ontological investigation to propose new conceptual models requires critical interrogation of the research's philosophical assumptions and resultant reporting norms. I argue that HIV prevention interventions in sub-Saharan African schools have failed to significantly reduce HIV incidence because they have lacked a clear understanding of 'the act' of young people's sex. I believe that lay assumptions about the nature of young people's sex acts in Hlabisa demonstrate distinctions between the origins, experiences, and narratives about 'the act'. In this chapter, I present a worked example of how this conceptual model of 'the act' contrasts in practice to cognitive behaviour change theory. I offer this as a practical response to my philosophical and prosaic frustrations.

However, I am mistrustful of attempting to present a neat, final conceptual model of 'the act' because this is necessarily contradictory to a core tenet of 'the act' – indefiniteness. Rather, I present a proposition into existing discourses, and with the awareness of causing ripples into future discourses. In a high fantasy novel that allegorises academia, Pratchett (2008, p. 266) writes:

> Lay person 1: 'Er, a drawer about a hundred yards long has just slid out of a box about fourteen inches square,' said Moist, in case he was the only one to notice.

Academic: ‘Yes. That’s what happens,’ said Ponder, as the drawer slid back about halfway.

Lay person 1: So drawers opened … out of drawers. Of course, Moist thought, in eleven-dimensional space that was the wrong thing to think.

Lay person 2: ‘It’s a sliding puzzle,’ said Adora Belle, ‘but with lots more directions to slide.’

Academic: That is a very graphic analogy which aids in understanding wonderfully while being, strictly speaking, wrong in every possible way,’ said Ponder.

I sincerely hope to approximate Adora Belle’s achievement in the conceptual model of ‘the act’ that I propose in this chapter. I hope to ignite the readers’ critical interrogation of normative thinking about ‘the act’ in behaviour change interventions. What assumptions are we making that inhibit our ability to understand behaviour? I aim to propose a conceptual model of ‘the act’ in the same tradition as Thomson’s plum pudding model of ‘the atom’ (Hon & Goldstein, 2013) and Freud’s tripartite model of ‘the psyche’ (Freud, 1974). These models have been greatly changed in subsequent theorising but remain seminal in the progression of thinking from previous conceptualisations. My overall goal is grandiosely similar but with the subject of human behaviour through the notion of ‘the act’. My aim for this chapter is to make a timid step toward a conceptual model of ‘the act’. My objectives to attempt this are to:

a) summarize my reflections on lessons for a model for ‘the act’ from chapters 1-4,
b) formulate a list of principles for a symphonic model of ‘the act’ for behaviour change intervention design,
c) contrast the symphonic model of ‘the act’ with cognitive behaviour change theory premised on intentional decision making, and

d) present a worked example of how the symphonic model can be applied in the context of school-based HIV prevention in sub-Saharan Africa.

5.2 Method.

5.2.1 Design. A theory-generative, critical discussion with incrementally developed graphic examples to illustrate an abducted synthesis of ideas in a conceptual model.

5.2.2 Abductive process. This analysis continues some thinking that I had done in an MSocSc in Psychology. In that dissertation, I had attempted to use Bakhtinian dialogism (Bakhtin, 1984, 1985, 1987, 1990, 1994; Clark & Holquist, 1984; Holquist, 1990; Morson & Emerson, 1990) to inform a conceptual model of 'the utterance' as a unit of social science analysis. I began the analytic process of my PhD dissertation by noting thoughts as I read literature, reflected on experiences working with HIV prevention interventions, and otherwise ruminating on the nature of 'the act' as I went about my daily life. I attempted to collate and synthesize these ideas on multiple occasions spread across seven years registered as a PhD student. Between times I would forget insights, and then rediscover previous notes, an analytic memo, or a passage in the literature. The iteration of this process presented in this chapter is as best a synthesis of disparate thinking as I am able to collate from that process. Like the conceptual model of 'the act' that I present dictates, my act of coalescing streams of thoughts into a coherent moment is ephemeral. The most recent part of the analytic process was re-drafting this dissertation from start to finish in one unit. The formulaic structure imposed by a research report of this type enabled me to discard unnecessary embellishments to the presentation of my conceptual model of 'the act'.

5.2.3 Trustworthiness. These are my thoughts. I have no guarantee that another researcher would have the same interpretation. Hardly even that I would have the same if I were to magically repeat the process. Nonetheless, I argue that the findings are trustworthy. Firstly, I have been at pains to explicate both my assumptions and research process such they

might be subjected to the critical gaze of fellow researchers. Even to the extent of expressing my emotional experience of thinking through 'the act'. Importantly, I have used active first person to enable readers to identify my rhetorical positioning – and thereby interrogate it. Secondly, my conceptual model of 'the act' is the fruit of many conversations with participants, colleagues, and academic mentors. While many have not left these conversations convinced of my conceptual model of 'the act', I have incrementally clarified my thoughts by engaging their objections. I hope that your reading has a similar effect. Thirdly, I only propose my conceptual model of 'the act' as a possibility, not a proof. This is not because I am a humble researcher, nor is it because I am not in myself convinced of the veracity of my conceptual model of 'the act'. Rather, I do so to ensure congruence between registers in the research philosophy of theory-generative research. This facilitates appropriate transferability of my conceptual model and trustworthiness within those parameters.

5.3 Findings part one – summary of my reflections for a model of 'the act'.

In this dissertation, I have considered a conceptual model of 'the act' from four angles. First, I have thought about 'the act' as a response to shortcomings in the conceptualisation of behaviour in three prominent cognitive behaviour change theories. Then, I have thought about the research philosophical premises of conceptually modelling 'the act' as an exercise in theory generative research. Next, I have thought about the case of school-based HIV prevention using behaviour change interventions in Africa. In this, I tried to understand the assumptions that have inhibited critical re-imagining of 'the act' so that I might establish alternative assumptions. Lastly, I have thought about the implicit conception of young people's sex acts held by school-community members in Hlabisa. I did this to identify ideas necessary in reconsidering 'the act' to effect change in a practical context. In this chapter, I present my symphonic model of 'the act' as responsive to these deliberations. I begin by summarizing the conclusions from my thinking thus far.

5.3.1 Four steps away from cognitive behaviour change theory. In chapter 1, I outlined seven philosophical challenges for conceptualising 'the act' for behaviour change theory. The challenges I listed were (a) avoiding tautology in the search for parsimony, (b) problematizing the problematic not the normative, (c) incorporating time-plasticity of cognitive processing, (d) not conflating description with injunction, (e) integrating that behaviour change triggers resistance, (f) incorporating insufficient but necessary variables, and (g) accommodating but still engaging context constraint. My symphonic model of 'the act' must be responsive to each of these challenges or risk the same critique I metered out. Addressing the philosophical challenges requires both conceptual precision and applied examples. The challenges define seven historical contexts from which my symphonic model of 'the act' must make a new narrative. They are the starting points of difference.

Stepping toward my symphonic model of 'the act' requires abandoning judgement based on *a priori* 'reasonableness' of the behavioural explanation. Reasonableness is an imposition of order onto our narratives of self in the world. This does *not* mean that 'the act' is premised on being reasonable. Rather, we may after the fact impose a reason for 'the act' as part of a subsequent act of explaining it. Suspending reasonableness as the criteria for judging the face value validity of 'the act' enables escape from the unnecessary assumption that behaviour is intentional. Having suggested a step away from reasonableness as the criteria for evaluating a conceptual model of 'the act', I am required to suggest alternative criteria. How would we know whether or not our conception of an act is whole/complete?

A next step away from cognitive behaviour change theory and toward my symphonic model of 'the act' is to shift the position and role of the cognitive processing. In cognitive behaviour change theory, the cognitive processing and behaviour are connected in a linear and series circuits. Cognitions about behavioural options precede selection of a behaviour and then an enactment of intentions is formed based on this selection. This is true only in logic of

how a person should *deliberate about* their behaviour. It is not true of how a person *does* their behaviour. Instead, I suggest that cognitive processing and behaviour are connected in non-linear and parallel circuits. Certainly, all behaviours are an outcome of interactions between the sensory-motor, memory, and nervous systems. However, the emotional and self-consciousness brain systems that create an 'I-narrative' to narrate behaviour are only an occasional passengers on this journey, not drivers. Doing 'the act' need not be explained in order to be done, rather it is explained because we seek explanations.

A final step away from cognitive behaviour change theory and toward my symphonic model of 'the act' must be to suspend a fascination with isolating the individual, ultimate cause of 'the act'. Rather, every instance of 'the act' must be indefinite and somewhat random. We need not understand what the individual contribution of the peanut butter versus the jam is to the overall flavour of a good peanut butter and jam sandwich. Similarly, 'the act' is a consequence of many necessary but insufficient elements. The mechanism of my symphonic model of 'the act' is *not* to establish which divided element of context makes which marginal contribution to the outcome behaviour. These contributions are always overlapping, complex, and individually too small to matter programmatically. Rather, I suggest instead understanding the overall context of the behaviour by explicating the detail, nuance, and complexity of 'the act' in entirety. Cognitive behaviour change theory starts with a set list of ingredients – norms, beliefs, *et cetera* – and tries to build behaviour up from these. My symphonic model of 'the act' inverts this by articulating the flavour a multi-ingredient stew and then working out where the tastes come from.

5.3.2 Two steps toward theory generation for 'the act'. In chapter 1, I considered the philosophy of science that would substantiate the labour and measures of quality for positing an alternative model of 'the act'. Doing so made it evident that stepping toward the symphonic model of 'the act' requires a painstaking and detailed explication of the

assumptions, processes, and logics underpinning my thinking. This requires stating and repeating both the claims and the context of ideas in which those claims exist. Further, using multiple examples to circle toward a conceptualization of 'the act'. This must be in opposition to more conventional organization of scientific thinking – incrementally refining thinking by defining and then testing claims. Rather, it attempts to facilitate a moment of inspired synthesis between ideas. Much of this imperative is reflected in both the overall organization and the writing style of this dissertation. In it I invite the reader to think about a conceptual model of 'the act' across four different chapters. It is also an injunction for how I present my symphonic model of 'the act' in this chapter – with multiple proposed ideas explicated in detail and with applied examples.

Reflecting on the research philosophy of theory generation also reiterates that the proposal of a new conceptual model requires interaction with an audience – in this instance you. Proposing a conceptual model is a conversation. This is impossible to achieve satisfactorily in the dry monologue of a PhD dissertation. Nonetheless, I have attempted to represent you in my narrative – by being responsive to what I imagine your reactions to be and articulating these in the text. More broadly, this reflection is a reminder that my symphonic model of 'the act' is only one utterance into many. I have tried to represent examples of these contexts by applying my symphonic model of 'the act' in the problematic space of school based HIV prevention. However, the reminder remains that I am not declaring my symphonic model of 'the act' as fact, but rather only asking, what if it were? This tentativeness is not humility on my part. It is necessary to acknowledge the many limits to my proposal and to caution against implementing my symphonic model of 'the act' without a great deal further thinking. Like any instance of 'the act' it is essential to acknowledge what my symphonic model of 'the act' *is* such that it is misunderstood – and for my conception is only a blurred one.

5.3.3 Three steps around pitfalls in using 'the act' for interventions. In chapter 3, I attempted to understand how so many eminent scientists could repeatedly implement evaluations of school-based HIV prevention interventions with so little evidence of effect. On reflection, I believe that the most common erroneous assumption was that behaviour is a product of intention. Intentions exist. Young people can report on their intentions to have sex or not. We typically explain our behaviour as the outcome of one or other intention. However, this does *not* mean that intentions actually cause these behaviours. *All* of the 22 evaluations of school-based HIV prevention interventions implemented in Africa and discussed in chapter 3 measured some effect of the intervention on young people's reported intentions. *None* of these evaluations measured any equivalent effect on the supposed outcome of these intentions – that is, on behaviours. The pathway(s) between intentions and behaviours simply cannot be linearly causal. In positing my symphonic model of 'the act', I must reposition the role of intention altogether, setting it aside to a parallel process and instead problematising the rhetoric of intention in an 'I-narrative' justifying behaviour.

As I suggest stepping toward my symphonic model of 'the act' I must really be suggesting making imaginative leaps into uncertainty. In this dissertation, I have argued that the consummation of meaning for 'the act' is necessarily creative between people, not derivative of a set of logical precepts. We have to agree to this meaning, not conclude it through rational deliberation. This assertion exposes our culpability for the meaning ascribed to 'the act' in new ways – we cannot escape our role in creating 'the act'. Reflecting on the narrative traps I identified in chapter 3, it is clear that existing conceptualizations of 'the act' are comforting to an everyday worldview where our behaviour is controllable through our decision-making. In the specific example of chapter 3, this assumption about 'the act' by consensus challenges the emphasis on client/patient decision-making. The comfort offered by this implicit assertion of the primacy of 'choice' is neither neutral nor dismissible out-of-

hand. It serves an important societal purpose to hold each other and ourselves to account. The positing of my symphonic model of 'the act' must be discomforting to this and suspend the psychological safety afforded by convention. Chapter 3 demonstrates that to show that the world might be round I might actually have to sail off 'the edge'.

Part of the discomfort in positing my symphonic model of 'the act' is that it requires suspending our implicit assumptions of what behaviour *should* be and instead engaging only on with what behaviour *is*. Moreover, what we *say* the behaviour is has no bearing except as a further act of '*describing* the behaviour'. Implicit in my logic here is a fear that perhaps some behaviours are *not* sufficiently malleable to ever be an effective point of intervention. Accepting that behaviour is *not* an effective point of intervention would undermine noble efforts to improve people's experiences of the world. It would also imply taking ownership of a long history of incorrectly assigning accountability for people's behaviour onto them. My reflections on trying to understand the history of school-based HIV prevention through behaviour change intervention in Africa are that we have strong vested interests in believing that our ontological assumptions about 'the act' are accurate. My symphonic model of 'the act' must necessarily be threatening because it must strip away not only what we assume but also what we *want to* assume about behaviour.

5.3.4 Three steps nearer to applying my symphonic model of 'the act'. In chapter 4, I considered 'the act' as a point of intervention in the context of school-based HIV prevention in Hlabisa. Members of the school-community talked about young people and sex, it was clear that each sex act had multiple layers of significance. These registers included the gratification of biological urges, consummation of the relationship between partners in the sex act, rebellion against parents, perpetuation of cultural expectations of masculine identity and so on. Conventional conceptualizations of 'the act' would consider this as one act but with multiple potential layers. Reflecting on the discussion with participants, I believe that an

alternative is to consider each layer of ‘the act’ as discrete. The participants’ tone of voice, metaphorical frame, and other defining characteristics of ‘the act’ shifted in parallel to these shifts in registers of significance. It is easy to conceive of ‘the act’ of two young people having sex as different if they are hiding in the bush on the way back from the river from ‘the same act’ of sex on the public sport’s field in front of other learners. Or between young people of equivalent age having sex within a marriage or not. Or in Africa or outside. This reflection highlights that perhaps the defining parameters of ‘the act’ are not the biological mechanics involved, but rather their social significance. In this way, ‘the act’ of young people having sex to satisfy biological urges is fundamentally different to ‘the same’ act in the context of rebelling against their parents. Further, as a point of intervention, these two discrete instances of ‘the act’ require different conceptualisations and processes of change.

Extending this logic further, the contexts in which ‘the act’ happens becomes part of the register and not merely a ground on which to see the figure of ‘the act’. The Mona Lisa’s smile is only intelligible in terms of the gaze of her eyes, the moment of painting, the history of Leonardo da Vinci’s work to that point and so on. These contexts are *material* like the taxi rank where girl learners are propositioned, *historical* like Hlabisa’s proud history of traditional governance, and *subjective* like the many layers of identity positioning of the people in ‘the act’. My reflection on spending 24 months working toward an HIV prevention intervention with school-communities in Hlabisa is that there was no way to conceptualise young people’s sex acts divorced from such contexts. If ‘the act’ is only in contexts, then my symphonic model of ‘the act’ must not include context as a peripheral variable to be held equal and dismissed. Rather, my symphonic model of ‘the act’ must conceptualise ‘the act’ through contexts.

Finally, neither the specification of the register of significance nor the inclusion of appropriate contexts in ‘the act’ are possible without explication. This includes what ‘the act’

is, what 'the act' is *not*, and how 'the act' *comes to be*. Reflecting on the richness of allusion, things left unspoken but assumed, avoided altogether, and said outright, in participants talk about young people's sex acts it is evident how any conceptualisation of even one instance of 'the act' is only ever partial. As I propose my symphonic model of 'the act' I realise that I will never be able to fully capture all the harmonies, overtones, and reverberations to 'the act'. Nonetheless, I believe that it is worthwhile to try as I propose my symphonic model of 'the act', not least because it diverts previous attempts at understanding behaviour by slicing apart individual notes. Further, as a proposition of a divergent and deliberately 'other' conceptualisation it is imperative that my thinking is visible to others to interrogate. Can two young people who are 17-years-old and both school learners in Hlabisa ever have their sex act be conceived as healthy and positive? What if their reason for having sex was simply for biological gratification? What if it was done in an attempt to anger their parents who had forbade it? What if it was without wearing a condom but while holding unopened condoms in their hands? If any of these instances of 'the act' are indeed ever to be conceived of as healthy and positive, then they would require a thorough explanation. I suggest that my act of presenting my symphonic model of 'the act' requires similarly detailed explication.

5.4 Findings part two – five principles for a symphonic model of 'the act'.

In order to organise my thinking about an alternative model of 'the act', I have now formulated various rule of thumb parameters – some by labelling my habits and some as deliberate departures from what I perceive to be normative. These are the product of deliberate thinking about the work presented in chapters 1-4. Using the language of thematic analysis (Attride-Stirling, 2001; Braun & Clarke, 2006) where ideas are incrementally refined through grouping, labelling, and checking with the data, the reflections above are like basic codes, and what I am outlining now are organising themes. I have found that seven of these principles hold conceptual integrity throughout my efforts to move toward an alternative

conceptual model of 'the act'. Each principle draws on a variety of often disparate ideas and theoretical traditions. Further, the principles are often in tension with each other. Applying the principles to articulating a particular instance of 'the act' is always a creative, propositional process in which we synthesize the principles as best suits that instance.

5.4.1 Principle 1 – intention *follows* doing 'the act'. I draw a distinction between doing 'the act' and thinking about 'the act'. This does not mean that I consider cognitive processes or cognitive processing as separate from 'the act'. Rather, the distinction is between processes involved in doing 'the act', and processes involved in making sense of 'the act'. The latter is the location of the significance of 'the act' in coherent, social self-narrative (Bamberg, 2011; Hammack, 2008). The ability to determine the significance of 'the act' is a uniquely human linguistic capacity. Interpreting 'the act' relative to my intentionality and others' is definitive of humanity. So much so that we routinely over-interpret the significance of 'the act', especially under stressful conditions. Like our affinity for facial recognition leads us to imagine faces in the shapes of clouds or smears of butter on toast (Grayling, 2011; Langer, Marcus, Roth, & Hall, 1975; Voss, Federmeier, & Paller, 2012), so too our affinity for narrativity (Carrithers, 1991) imposes significance onto every instance of 'the act'. Human life is *all* about the rhetorical contestation of positionality in narratives (Billig, 1996; Billig et al., 1988; Harré, 1979, 1993; Harré & van Langenhove, 1999). For example, the glance of a date at his wrist watch might mean that I'm boring him, or that he is eager for us to move on to the next step in the evening, or *et cetera*. This is the register on which we experience our self-awareness. Cognitive processing of these narratives is unconscious, but we are also able to consciously imagine, create, deconstruct, and consider such narratives (Dimaggio, Lysaker, Carcione, Nicolo, & Semerari, 2008; Silvia & Phillips, 2011).

Learning to interpret ‘the act’ through its implications for rhetorical positionality is foundational to child development. This begins through the interpretation of sensory input like proprioception, through the child-caregiver bond, and the early development of language (Brookes & Meltzoff, 2015; Hermans, 2001; Meltzoff, 1999). Children progress stepwise through increasingly sophisticated interpretations of ‘the act’ in which their own and others’ intentionality become more prominent. A key step in this process is the realisation that others have different experiences of the world through their senses and therefore different assumptions. For example, the Sally doll tests demonstrate a developmental moment when children can correctly identify that ‘Sally’ will think that her toy was where she left it and not where her friend had hidden it while Sally was out the room (Baron-Cohen, Leslie, & Frith, 1985; Rubio-Fernández, 2013). Beyond acknowledging differences in perspectives, humans then also ascribe different intentions to people with these perspectives. In early childhood, this can often lead to erroneous ascription of intention to inanimate or imaginary subjects – for example, a child saying that their doll loves them. In adulthood, we also make such erroneous ascription of intention to non-intentional objectives especially in the context of imagined persecution – for example, my favourite football team loses because ‘the universe’ does not *want* me to be happy. Intentionality is fundamental to our experience of the human social world.

However, this does *not* mean that ‘the act’ is intentional. In contrast, I argue that the ascription of a narrative of intentionality happens *after* ‘the act’. The cognitive processes for creating a narrative of intentionality are distinct from the cognitive processes for doing ‘the act’ (Apperly, Riggs, Simpson, Chiavarino, & Samson, 2006; Fitch, 2008; Hauser, Chomsky, & Fitch, 2002; Malle & Knobe, 1997; Wiese, Wykowska, Zwickel, & Mu, 2012). Further, even though our experiences of ‘the act’ are intelligible only after ascription of intention, intention is only a secondary process *after* ‘the act’ itself. This model allows for animals to

do their lives and experience them, but without a self-narrative in which this life takes on meta-significance (Allen & Hauser, 1991). To reiterate, I am arguing that the doing of 'the act' is chronologically primary, and our narrated experience of it is secondary only in terms of understanding 'the act'. I am *not* diminishing the significance of that experience. Rather, I am arguing that we cannot use *post-hoc* intentionality narratives to predict 'the act'. In cognitive behaviour change theory, 'the act' is positioned as an intentional choice between options. I argue that rather 'the act' is done, and then the choice is between ways in which to ascribe significance to it – relative to rhetorical positioning in the social world. For example, 'the act' of a date glancing at his wrist watch creates a moment in which we must ascribe his intention relative to the narrative of how well we believe the date to be going. This is a completely different conception from that of him conceptualising options of ordering dessert, making a phone call, or glancing at his wrist watch and then *selecting* the latter.

One caveat to the principle that intention follows doing 'the act' is that some instances of 'the act' *are* cognitive deliberative processes. Humans certainly have the ability to deliberate over a set of options and make a choice about them based on what we imagine the implications will be. In this instance, this is 'the act' *of* deliberation. However, only a small proportion of all instances of 'the act' that we do follow this form of deliberation. Most instances of 'the act' are subconscious, often informed by non-deliberative heuristics (Rand et al., 2014; Stromland, Tjotta, & Torsvik, 2016; Strough, Karns, & Schlosnagle, 2011). This does *not* mean that we are unconsciously following the same deliberative choice-making logic as we *do* 'the act'. That would a contradiction in terms because deliberation is by definition a cognitive process of which we are consciously aware. Further, it does *not* mean that deliberative instances of 'the act' should be aggrandised as 'truer' or more significant versions of human life. Rather, the logic of deliberative processes is just one tool through which we make sense of the world. Health behaviour can be reduced to a deliberative choice,

but that does not mean that it should be. Indeed, all evidence is to the contrary – that the vast majority of health related instances of 'the act' are non-deliberative. For example oncologists who smoke, counsellors who fight with their spouses, or South African nurses who have sex without condoms. Rather, 'the act' need not be logical in a grand overarching sense, but rather only plausibly rational relative to its context.

5.4.2 Principle 2 – synthesis of possibility, not deriving eventuality. Each instance of 'the act' exists on a unique register. Within this register, all components of 'the act' are of equal significance. For example, an emotional experience is of the same order of significance to 'the act' as a logical deduction about the implications of 'the act' and the smells associated with 'the act'. For example, 'the act' of saying goodbye could include the physical gestures of hugs, the emotional experience of sadness, calculations of when we might see each other again, and so on. This instance of 'the act' only exists in the entirety of these components together. Similarly, components of 'the act' are all immediately proximate, with a memory from 20 years ago as important to 'the act' as the sensory inputs of the moment immediately preceding it in time. Our experiences are not a disparate collection of sensory inputs, memories, and outputs of cognitive processing, but rather a synthesized, embodied, and unitary whole. This is because each instance of 'the act' is also a singular, indivisible whole. Each component is significant only in terms of the whole and all other components. Metaphorically, 'the act' is like a cake in that it includes all the ingredients used to prepare it, the oven, and the baker's skills and so on.

Each instance of 'the act' is also therefore unique in history and non-reproducible. The second wave of a hand in greeting is never the same as the first precisely because it follows after the first. Each instance of 'the act' has a marginally different place in historical context. But because historical context is part of 'the act', each instance of 'the act' is therefore qualitatively different from every other. In everyday life, we assign categories to types of

behaviour. For example, ‘cooking a meal’. We do not explicate the specificities of each instance of cooking each meal. However, this ascription of similarity between instances of ‘the act’ also hides other ways in which this act might be significant. For example, ‘the act’ of cooking a specific meal might have more in common with other instances of showing care for a loved one. In this way, every day categories for instances of ‘the act’ can obscure alterative meanings. The everyday conventions hinder the possibility of change by offering ready-made explanations. For example, if young people’s sex acts are always categorised into ‘HIV problematic behaviour’ and never acknowledged as instances of vulnerability, identity exploration, love, or other possible framings, then we are trapped into how we might change these acts. As a principle for my symphonic model of ‘the act’, I argue that clear articulation of the momentary uniqueness of each instance of ‘the act’ is liberating for change. It reinforces that future instances of ‘the act’ can never be the same and this makes change an inevitability not a problem.

Given that intention follows doing ‘the act’, doing ‘the act’ is a creative not derivative process. We generate an instance of ‘the act’ into the world when we do it. We then ascribe an intentionality narrative to ‘the act’ – positioning it as the outcome of a history of choice in contexts. However, at the instant of doing ‘the act’ it creates a synthesis of possibilities with the potential for multiple intentional narratives to be ascribed. As such, ‘the act’ is always only predictable in so far as it is consistent with the intentionality narrative that we have ascribed to it. For example, we might come to know our spouse so well that we can predict how they will react to our actions. However, they always retain the potential to surprise and perform ‘out of character’. This is because our intentionality narrative of ‘their character’ is ascribed by us to make sense of their acts. This narrative is not an approximation of an underlying natural rule of the universe that will determine future instances ‘the act’. Rather,

intentionality narratives are only ever explanatory after the fact. We can never be certain of a prediction of 'the act' because it is always yet to be created.

To be human is to be called to do multiple instances of 'the act' in series (Billig, 1996; Billig et al., 1988; Shotter, 2014). No instance of 'the act' is neutral, including apparent inaction. For example, abstaining in a vote or biting one's tongue in a discussion are instances of 'the act' defined by refraining from other potential instances of 'the act'. At every given moment, we create an instance of 'the act'. There is always a swirling multitude of potential instances of 'the act' that we might create in every instance (Bakhtin, 1990, 1994; Wertsch, 1998). We do not articulate and then select between these possibilities. Rather, the instance of 'the act' that we create is the synthesis of possibilities that maximises internal coherence for our narrative of 'the act'. For example, the concurrent contexts of hunger and availability of food creates an instance of 'the act' of eating, but the added context of being on a first date creates this instance of 'the act' as also moderating identity as not gluttonous. The potential contexts to every instance of 'the act' are multitudinous.

Two general categories of contexts relevant to 'the act' are the anticipated coherence with a self-identity narrative and intelligibility in relation to implicit social norms. Every instance of 'the act' that we create poses a challenge to our self-narrative. Instances of 'the act' can only be divorced from a self-narrative by ascribing it as either a reflex or a psychological break interrupting control over our creative capacities. Similarly, creating an instance of 'the act' that is contrary to social norms requires extensive rhetorical engagement with those norms in the ascription of an intentionality narrative to 'the act'. For example, laughing at a funeral might be ascribed as an attempt to not be overcome by the sombreness of loss. While the contexts in which 'the act' is created are multitudinous, the available syntheses of these contexts to create a coherent instance of 'the act' are narrowly circumscribed by how they relate to self and social norms.

The human experience of accounting for ‘the acts’ we create by ascribing intentionality narratives is like giving ourselves an excuse for ‘the act’ that we create (Bakhtin, 1994; Morson & Emerson, 1990). Ascribing intentionality narratives is difficult work requiring cognitive effort. In order to limit this effort, we develop parameters within which to manage our capacity for creating instances of ‘the act’ such that they are most readily amenable to having an intentionality narrative ascribed to them. Building a strong identity self-narrative as the primary context to which every instance of ‘the act’ that we create is responsive is far easier than creating a new self-narrative to explain every instance of ‘the act’. For example, if I am a simple man with simple pleasures, then it is easy for me to understand my urges toward satisfying these pleasures. The parameters I have assumed for my ‘self’ serve as heuristics to manage limited cognitive resources. They also mean that creating instances of ‘the act’ outside of the expected and habitual are extremely difficult. The simplest instance of ‘the act’ to create is a reiteration of one that has been created previously. As such, over time series of ‘the acts’ that have created establishes patterns of conformity. Creating new instances of ‘the act’ that are divergent from this conformity is threatening and avoided in the intentionality ascription process. For example, if we are unsure of a friend’s meaning, then we guess at it by referencing the types of things that they might be expected to say because they have done so in the past. Any intervention to enable the creation of new instances of ‘the act’ must engage the natural resistance to change – by offering an intentionality narrative in which the new instance of ‘the act’ is consistent with existing patterns. For example, instead of asking young people to *stop* having sex without condoms, the intervention can ask that young people *continue to* look after their bodies – as they do by pursuing physical activities. Here, the new instance of ‘the act’ of sex with a condom is positioned as a continuation of healthy living rather than the much more effortful task of creating an instance of ‘the act’ outside of their routine identities.

5.4.3 Principle 3 – predictability in chaos. Individual instances of 'the act' are unpredictable because of the creativity necessary for synthesis of their possibilities. However, *series* of instances of 'the act' are predictable in terms of stable patterns of narrative intentionality ascribed to them. These patterns impose order on an otherwise chaotic world. In creating 'the act', we conform to syntheses that are intelligible in terms of dominant narratives about the self and the world (Bodenhausen, 1990; Macrae, Hewstone, & Griffiths, 1993; Macrae, Milne, & Bodenhausen, 1994). These narratives about a series of instances of 'the act' follow-on from each other. Series of instances of 'the act' are self-reproducing by generating a frame of reference to which all subsequent instances of 'the act' must answer. Creating an instance of 'the act' that is divergent from this frame of reference requires active mobilisation of other possible frames relative to which 'the act' may be synthesised. For example, once 'the act' of having sex excludes using a condom, the partners in this act are likely to continue to have sex without condoms because that is the pattern of their 'sex act'. Diverging from this would require mobilising an alternative framing in which they now create sex as different from previous instances *because of some reason*, perhaps having acquired new knowledge.

Bakhtin (Bakhtin, 1984, 1990, 1994; Clark & Holquist, 1984; Holquist, 1990; Morson & Emerson, 1990) refers to the inherent tension between centrifugal and centripetal forces in language. The former represents chaotic, generative demand to speak a new and unique word and the latter the demands of conformity to speak a word that is recognisable. Similarly, 'the act' is creatively generative and unique, but must be synthesized relative to existing narrative tropes in order to be recognisable. Human intentionality is a fundamental trope to which all instances of 'the act' are held answerable. We are habit forming animals and reproduce similar instances of 'the act' consistently over time. We require the familiarity of patterns of 'the act' as a defence mechanism to maintain the illusion of control relative to the vagaries of

an uncaring world. Over time, the creative synthesis of instances of 'the act' are recognisable as attempts to enact established roles (Harré, 1979; Harré & van Langenhove, 1999). The roles represent patterns of intentionality ascription that require less justification because frequency creates the illusion of necessity. Further, creating new patterns of intentionality ascription requires effort that is avoided to preserve limited cognitive resources. For example, the routine of eating dinner at 19:00 perpetuates itself when household members frame 19:00 *as* dinner time. The thought of eating at 18:00 would require reimaging the entire evening schedule. The recurrent performance of roles creates a personal repertoire that protects the cohesion of our self-identity. The fundamental relationship between self-identity and recurrent patterns of intentionality ascription means even pathological personal repertoires are resistant to change (Chapman, Gratz, & Brown, 2006; Rachman, 2002; Walters, 1996).

In the context of the chaotic specificity of individual instances of 'the act', small particularities in an instance of 'the act' have wide implications. In chaos theory, otherwise small events trigger chains of cause and effect eventualities that lead to large consequences. For example, the flap of a butterfly's wing disturbs the air just enough to trigger a small-scale but self-reproductive changes in air pressure that in turn lead to an electrical storm on the other side of the world. Similarly, minor variabilities in the distribution of pauses, tone, and other characteristics of speech are seminal to the meaning of utterances. I argue that each instance of 'the act' is similarly portentous for the direction of the pattern of intentionality ascriptions. For example, creating 'the act' of seeking out an HIV test relative to emotions of anxiety and shame is wholly different to creating 'the act' of seeking out an HIV test relative to a routine annual health screening process. Importantly, it is the dynamism between ontologically chaotic instances of 'the act' and pressures to create coherent and consistent intentionality narratives about 'the act' in series that determines the likelihood of divergence. Every instance of 'the act' holds the potential for multiple intentionality ascriptions, but these

are largely ignored in the contexts of limited cognitive energy for innovation and power positions that reproduce the status quo. The point of intervention should therefore be the source of *possibilities* for producing different future instances of 'the act', not the actors' intentions. By interrogating 'the act' now we can reveal – and then challenge – the forces that have led to the perpetuation of problematic intentionality ascriptions.

5.4.4 Principle 4 – time is a necessary narrative imposition. In the creation of an instance of 'the act', when historical components happened, and when future implications will happen is not relevant to being part of 'the act' *now*. A memory from 20 years prior is equivalent to one from 10 seconds ago in the present tense instance of 'the act'. Some components of 'the act' are once-off, others are labels we ascribe to 'trends' or 'outcomes'. For example, a young man's act of sex with a particular partner is as much a consequence of their extended courting as a memory of his first attempt at wooing a different young woman and the disdain he perceived at his advance. In my symphonic model of 'the act', time is not a property of 'the act' itself – since the act is only ever *now*. Each subsequent instance of 'the act' is also then only in its own *now* but with preceding instances of 'the act' as part of its historical context.

However, time is a necessary part of the intentionality narrative attached to explain 'the act'. The patterns imposed by narratives organise sequences of 'acts' in order through time. For example, an intentionality narrative which locates 'the act' of hearing about sexually transmitted HIV risk prior to 'the act' of having sex imposes an implicit sanction on the sex act. Conversely, if the intentionality narrative locates 'the act' of having sex as prior to 'the act' of hearing about sexually transmitted HIV risk, then this suggests some sympathy or irony. Time is used in intentionality narratives to impose order onto rhetorical positions. In my symphonic model of 'the act' I therefore draw distinction between 'time' as the context to the present tense of 'the act', and 'Time' as an intentionality narrative to ascribe

accountability – similar to the distinction between ‘truths’ and ‘Truth’ (Antonio, 1991; L. J. Miller, 2000).

5.4.5 Principle 5 – consummation of ‘the act’ is always dialogically interpersonal.

Finally, ‘the act’ is never the outcome of only individual cognitive processing. Rather, it is only proposed in the social world where it must be consummated through dialogue (Bamberg & Zielke, 2007; Chaudhary, 2008; Hermans & Dimaggio, 2004; Hermans & Hermans-Jansen, 1995; Hermans, Kempen, & Van Loon, 1992; Valsiner, 2007). This ‘dialogic’ property does not refer to verbal presentation of ‘the act’. Rather, it is the mutual responsiveness of instances of ‘the act’ to each other. Further, the social world in which ‘the act’ is consummated does not require multiple people to be present in the creation of an instance of ‘the act’. Every instance of ‘the act’ is social because it is socially significant. As above, there is predictability to the chaos of individual instances of ‘the act’ because of imposed patterns. These patterns are created through dialogue in which every instance of ‘the act’ is both in response to and evocative of a response by another instance of ‘the act’. In dialogic theory, this is referred to as the answerability and addressivity of speech acts (Bakhtin, 1984, 1985, 1987, 1990, 1994; Clark & Holquist, 1984; Holquist, 1990; Morson & Emerson, 1990). In this way, every instance of ‘the act’ is in answer to the unique moment-of-being/context for which it is uttered. Similarly, every instance of ‘the act’ is made into the world that must respond to its existence in future instances of ‘the act’ – it is part of the historical context of every future instance of ‘the act’. For example, a young woman making ‘the act of suggesting’ condom use to her partner is doing so in the historical context of never having done so before, but having heard rumours about what might happen if she did, and in light of a cousin’s recommendation to, *et cetera*. Similarly, once she makes ‘the act of suggesting’ she and her partner will forever know that she had done so, and sex between them with or without a condom will always be relative to her prior suggestion. Answerability

and addressivity are the links between instances of ‘the act’ which tie them together across intentionality narratives.

The ascription of intention to ‘the act’ is a general narrative imposition to consolidate how instances of ‘the act’ are linked by answerability and addressivity – inescapable in everyday life. Intention is a narrative ascription where ‘the act’ is framed as ‘in order to’ achieve an answering or addressive outcome. This is an essential heuristic for keeping order across the multiple potential links between instances of ‘the act’. For example, once ‘the act’ of sex without a condom is ascribed within a narrative of intent to seek out risk, then this instance of ‘the act’ is no longer problematic. For example, we no longer have to engage with how it might also have been in response to a socio-economic system that places condoms ‘freely available’ at health facilities over two-hours walk from the users’ houses. Intentionality ascriptions are ubiquitous. As outlined above, ascribing intentionality is a distinct cognitive process to doing ‘the act’. Given that ‘the act’ must be consummated in dialogue, we are all accountable for the intentionality ascribed to an instance of ‘the act’ – not only ‘the actor’.

5.5 Findings part three – contrasting the cognitive choice and symphonic models.

In this sub-section I present a series of graphic illustrations to contrast a normative model of ‘the act’ premised on cognitive choice with my symphonic model. In presenting these graphic illustrations I hope to show how the points of intervention are dramatically different. The normative model I present is necessarily an oversimplification of a long and rich tradition of cognitive behaviour change scholarship and my symphonic model is embryonic. The graphic illustrations I present are *not* the final word on either model. I deliberately highlight points of difference in order to demonstrate my symphonic models’ innovations. Choice is a fundamental component of my symphonic model as much as it is in

the normative model I caricature here. However, in my symphonic model it is *not* 'the act' that is chosen, but rather the narrative ascription of its significance that is chosen.

5.5.1 A normative model of 'the act' premised on cognitive choice. The starting premise for the normative model of 'the act' is that the person makes a selection between two or more options. In Figure 20, I illustrate this by presenting a dotted line between options 'A' and 'B' selecting between which is 'the act'. In this way, 'the act' is the outcome of the agency of 'the actor'. Further, 'the actor' is responsible for their choice between the options. And even further, are held accountable for the outcome of their choice. For example, as a young couple are walking home from the river they have the opportunity to select nipping into the bushes for a quick tryst or continuing on home to further chores. When they select 'the act' of having sex, they can be chastised for 'their' naughtiness. If one of them acquire HIV through this interaction, then they might be blamed for this outcome of 'their choice'. It is a very slippery slope between assuming that 'the act' is an outcome of selection by agentive actors to assigning blame for outcomes of choice to those actors. Typically, this harsh line between choice and accountability is softened by offering the actors context dependent mitigations for their selection. For example, they were driven by an overwhelming biological or social urge, or they had too little information to understand the consequence of their choice, or they were only following the normative example of their peers, *et cetera*. While these mitigations appear to absolve the actors of the outcome of 'the act', this is illusory. Fundamentally, mitigations to excuse are only necessary at all because of the primary assumption that 'the act' is making a selection. We can only make a wrong choice when we are assumed to be making a choice in the first place – understandable or not, forgivable or not.

The next element of the normative model of 'the act' is a clear distinction between influences on the selection from the present, past, and future – see Figure 21. Influences

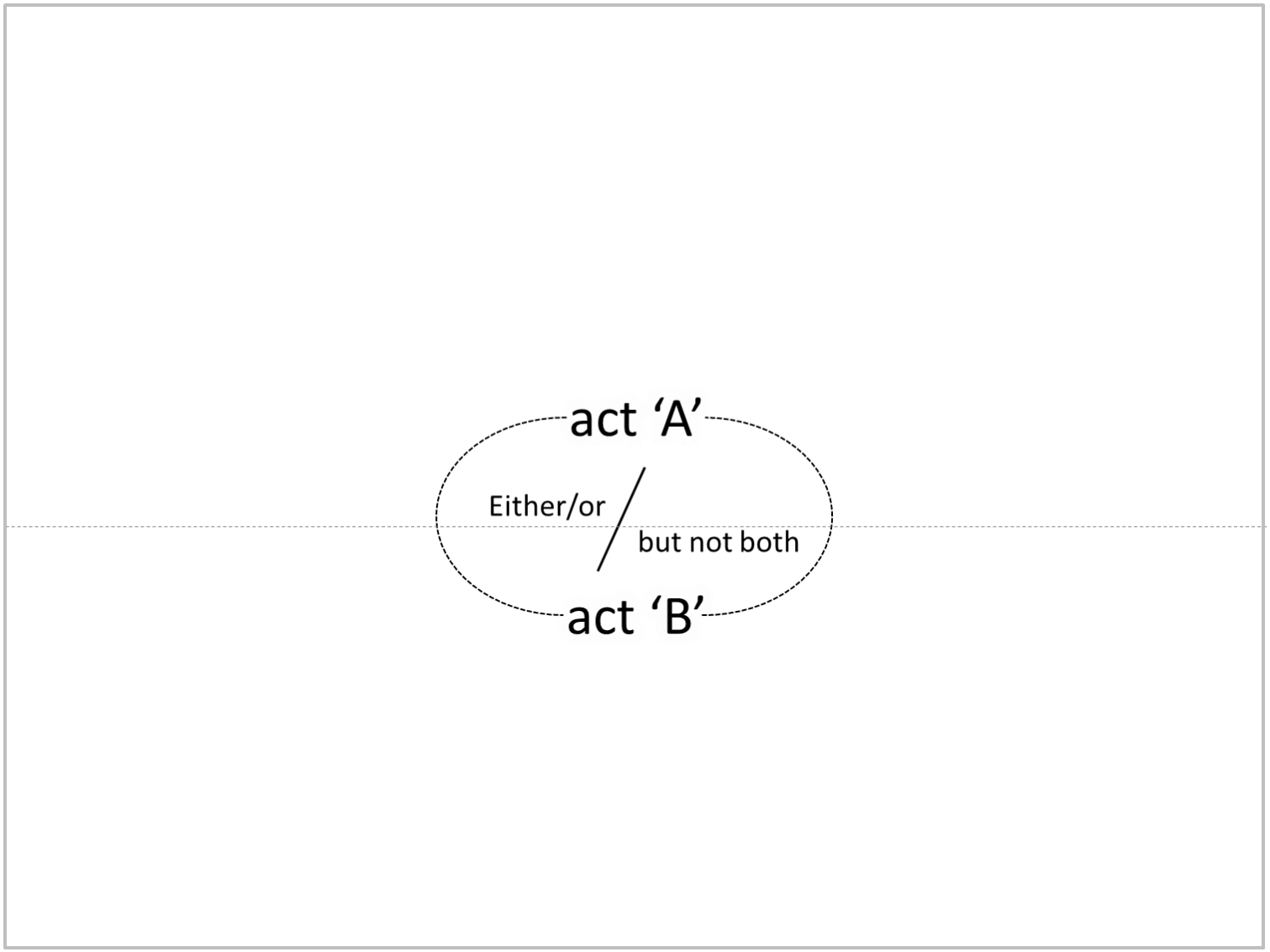


Figure 20. Model N, component 1 - choice between options

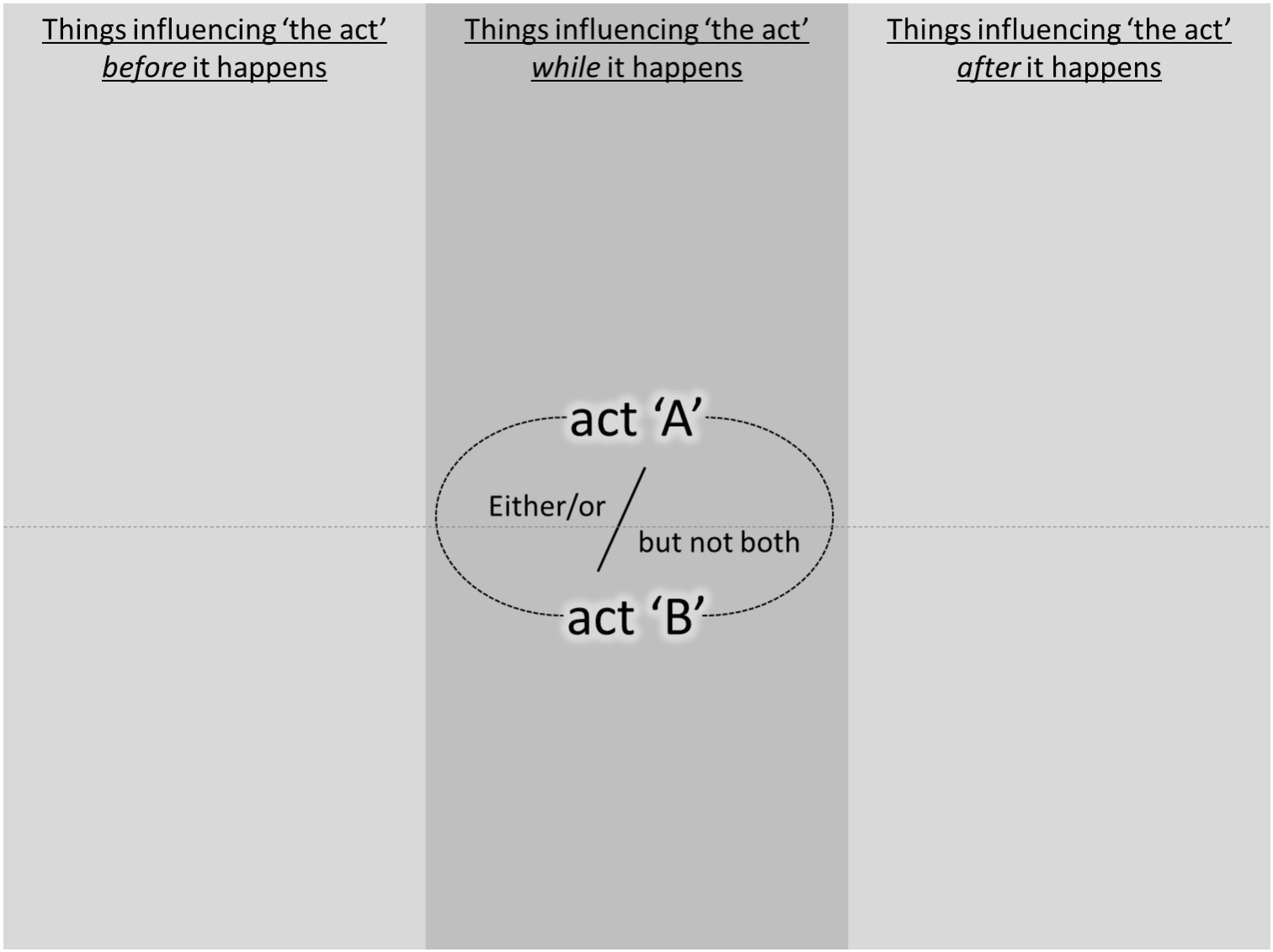


Figure 21. Model N, component 2 - present, past, and future influences

on the selection in the present are typically the circumstantial interference between the perfect congruence between intentions and 'the act' as outcome of those intentions. For example, the couple's intention was to use a condom when they had sex, but in the heat of the moment they forget. Here, their sexual desire was a present-tense influence on 'the act' of selecting to use a condom that came between their intention and the outcome of that intention and therefore distorted the realisation of that intention – in this instance resulting in failure to wear a condom.

Influences on the selection from the past are typically more stable influences of 'the actor' and the circumstance in which they are selecting 'the act'. For example, men are widely purported to have greater sexual ardour than women (*sic*). That 'the actor' is a man and that he is living in a society aggrandizing men's virility means his selection between having sex or not is much more likely to be to have sex than if her were a woman. These influences from the past on selection of 'the act' are typically assumed to influence the likelihood of selections rather than impose between the realizations of an intention in 'the act' as present tense influences would. These are the trends of personality, character, propensities and other historical patterns. In the normative model of 'the act', the past dictates the underlying risks of intentions being formed in the first place. In statistical socio-behvioural science, associations between individual or circumstantial characteristics and selections are taken as evidence for this influence of the past on choice-making. For example, a statistically significant positive correlation between age and ever having been pregnant among grade 12 girl school learners is used to explain that being old for their grade makes young women more likely to choose sex. This example is clearly an erroneous over-extrapolation of association to cause. Nonetheless, it represents a familiar logic. Further, even if an experimentally designed trial could demonstrate causality between these two variables, the normative model of 'the act' still over-simplifies how past influences selection.

Influences on the selection from the future are typically aspirational. In this, 'the actor' is assumed to have intentional outcomes that their selection of 'the act' is aiming toward. For example, young people want to have long healthy lives, therefore they make selections of 'the act' that will secure them this future – like not having sex and eating all their vegetables. Like influences from the past, influences from the future on selection of 'the act' are typically assumed to influence the likelihood of selections rather than impose between an intention in 'the act' as present tense influences would. These are the continuation of trends in personality, character, propensities and other established patterns. For example, once 'the actor' has established her self-identity narrative of being a 'good girl', then she will select 'the act' that best conforms to the sustainability of that self-identity narrative in the future. In the normative model of 'the act', the future modifies the underlying risks of intentions being formed with respect to the expected overall intentionality of 'the actor'. In psychology and economics, the outcome of selections are sometimes used as proxies for the underlying intent of 'the actor'. For example, people who buy lotto tickets or do not annually test for HIV are characterised as 'risk takers'.

The final component of the normative model of 'the act' is that the present, past, and future influences of each option interact as a push and pull to determine which of the options 'the actor' will select. In Figure 22, I illustrate these influences on options 'A' and 'B' as a things making the selection of either option as more justified in terms of 'the act's' history, easier to do in the present, and better in terms of 'the act's' anticipated outcomes. Selecting between options 'A' and 'B' means weighing up the relative influence of these push/pull factors and choosing that option which has the best overall equation outcome.

This serves perfectly as an explanatory model *after* a selection has been made. However, it fails as a predictive model because the relative influences on either option are determined by the selection. For example, once a young person has selected 'the act' of

delaying sexual debut we can attribute this to any number of present, past, or future influences relative to any number of alternative choices. However, we cannot first qualify the influences and then calculate the selection between options as an outcome. This problem is definitional. Selection of 'the act' must be volitional – 'the actor' is given a set of circumstances in which they retain the freedom of will to choose. The normative model of 'the act' is really an explanatory model of 'the actor'. I suggest that the normative model of 'the act' that I have presented here is consistent with the assumptions made in cognitive behaviour change theory reviewed in chapter 2. In Figure 23, I illustrate the similarities between three assumptions of the normative model of 'the act' – selection between options, influences of past, present and future, and the push/pull equation – as those of cognitive behaviour change theory. All of the HBM, PMT, and TPB describe a set of contextual influences, focus on how those influences operationalise into cognitive processes, and present behaviour as the outcome of these cognitive processing equations. Such a normative model of 'the act' is also implicit in the logics of school-based HIV prevention interventions described in chapter 3 and the talk of school-community members described in chapter 4.

5.5.2 A symphonic model of 'the act' premised on change. The starting premise for the symphonic model of 'the act' is that the historical frame in which 'the act' happens is definitive of what 'the act' is. In this way, 'the act' is the outcome of a synthesis of context elements as imposed by the interpretation of 'the action'. Further, 'the action' determines the parameters and significance of 'the act'. For example, when a young couple have sex in the bushes on the way home from the river, the significance of their 'act' is determined by the narrative statement it makes into a historical context. This might be consummation of love, teenage rebellion, or repetition of traditional step in courtship, or any other narrative imposed by the historical context onto their act. Importantly, the significance of 'the action' is not set by some property of the intention of the young couple, nor by some tangible property of the

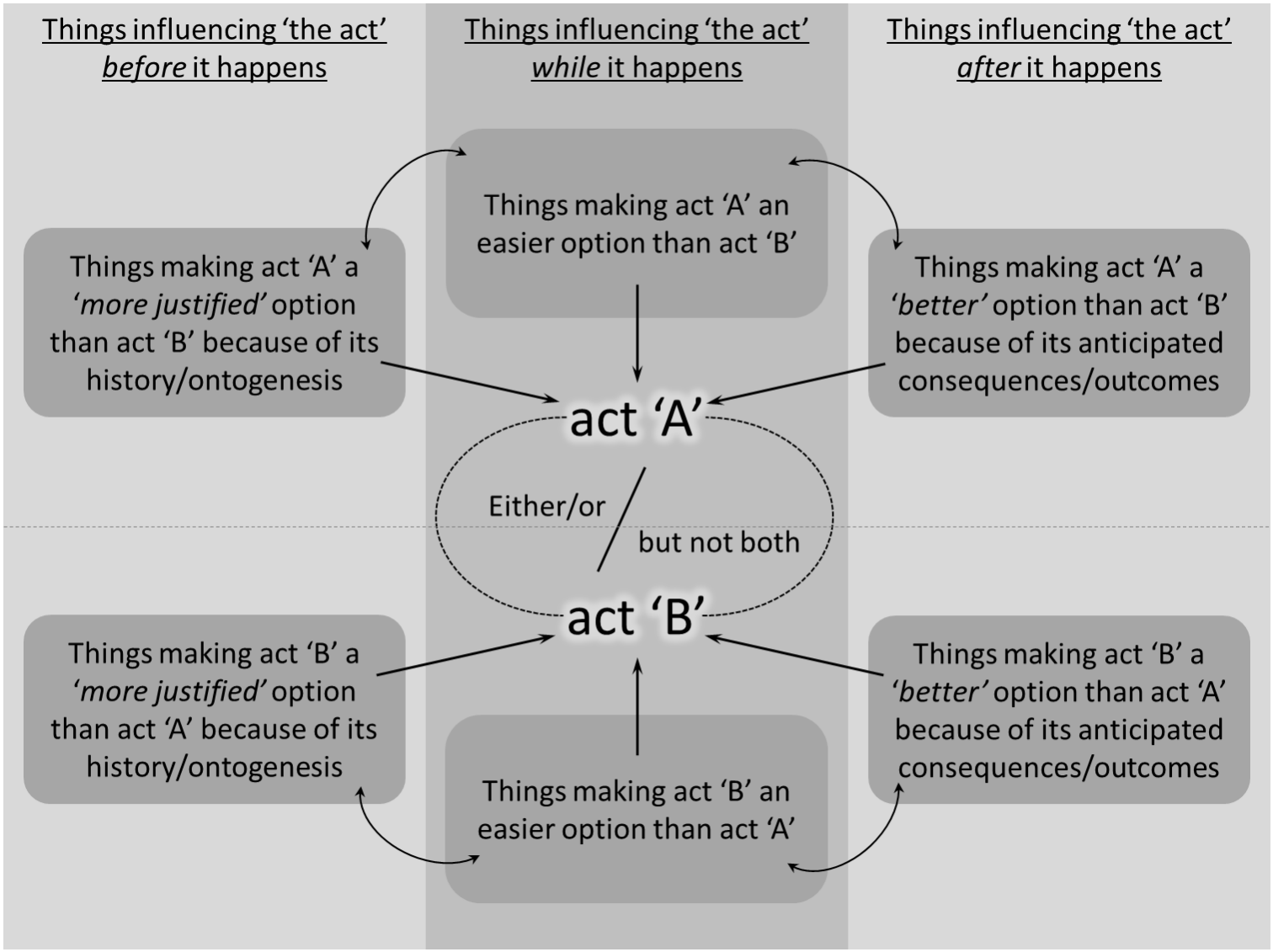


Figure 22. Model N, component 3 - interactions to explain the choice outcome

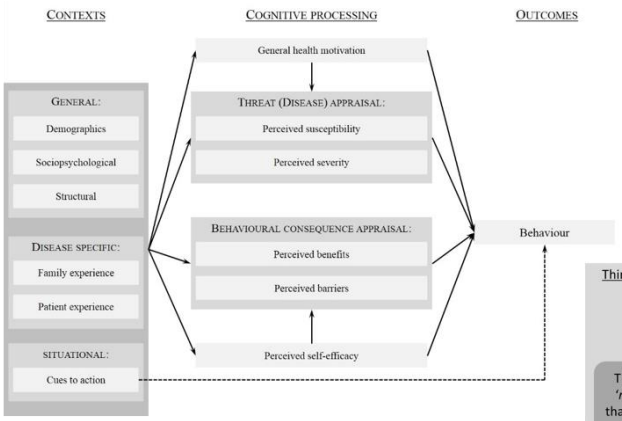


Figure 1. Health Belief Model

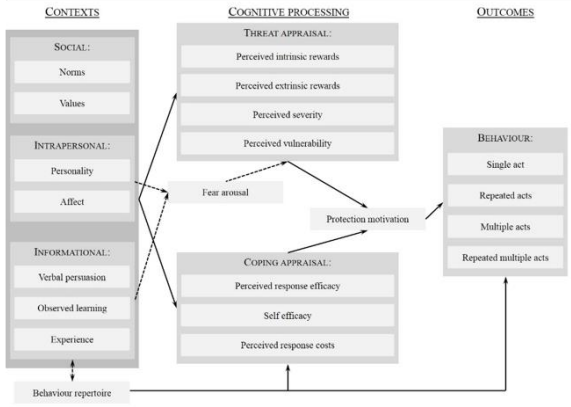


Figure 2. Protection Motivation Theory

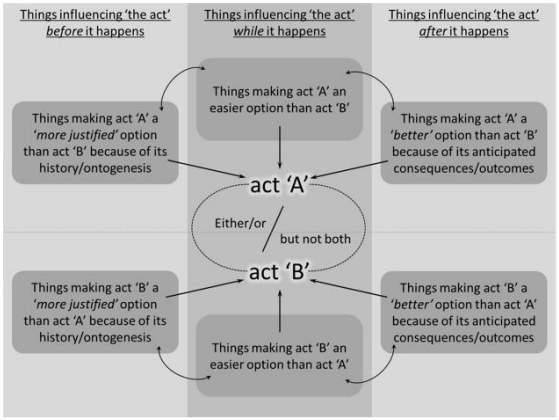


Figure 22. Normative Model of 'the act'

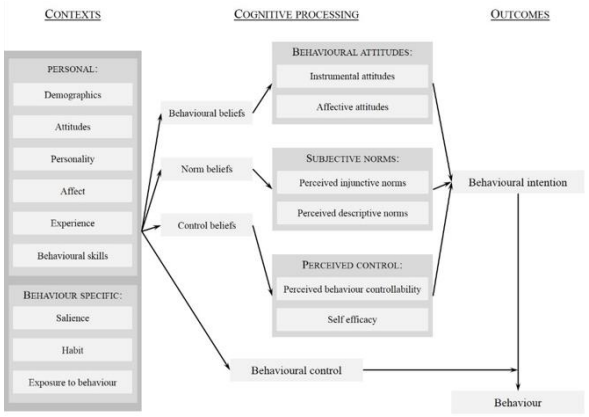


Figure 3. Theory of Planned Behaviour

Figure 4. General Model of Cognitive Behaviour Change

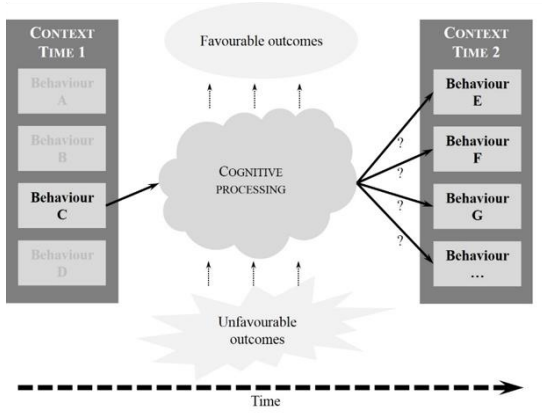


Figure 23. Normative model of 'the act' and behaviour change theories

objective world in which ‘the act’ happened. Rather, the significance of ‘the act’ can change depending on the narrative framing imposed to render it intelligible in historical context. The imposition of the frame through which ‘the act’ is assigned significance is socially contested. By way of analogy, imposing a narrative frame for the historical context of ‘the act’ is like determining the zoom and lens filters through which ‘the act’ is observed. This imposition is (a) not in the control of ‘the actors’ but rather socially contested, and (b) subject to change as this instance of ‘the act’ can be reframed in subsequent instances of interpretation.

The first component of the symphonic model of ‘the act’ is the angle of the gaze through which ‘the act’ is placed in historical context. In Figure 24, I illustrate the narrative framing within which ‘the act’ is seen like the field of vision for an eye. The lines of this field of vision necessarily include some potential components of ‘the act’ and exclude others. In Figure 24, I show the field of vision as changeable as the narrative perspective sweeps from left to right across the page. Another illustration could be to show the narrative gaze originating from a different position, for example from the top left of the page not the bottom right. The narrative gaze is the shared framing through which we render ‘the act’ intelligible. The symphonic model of ‘the act’ is *not* about assigning responsibility for the doing of ‘the act’, but rather explicating the shared accountability for an interpretation of ‘the act’ in a historical context. In this way, the symphonic model of ‘the act’ is about the creation of ‘the act’ as a socially meaningful unit.

The next element of the symphonic model of ‘the act’ is the identification of potential markers of narrative significance that could form part of the ‘the act’ as interpreted. These markers are what we use to assign significance to ‘the act’. They operate on a variety of registers of significance, including emotional, traditional, aspirational, intentional, assumptions, and so on. In Figure 25, I illustrate these like potential points of references – white dots – in the expanse of potential meanings within the narrative gaze. There are

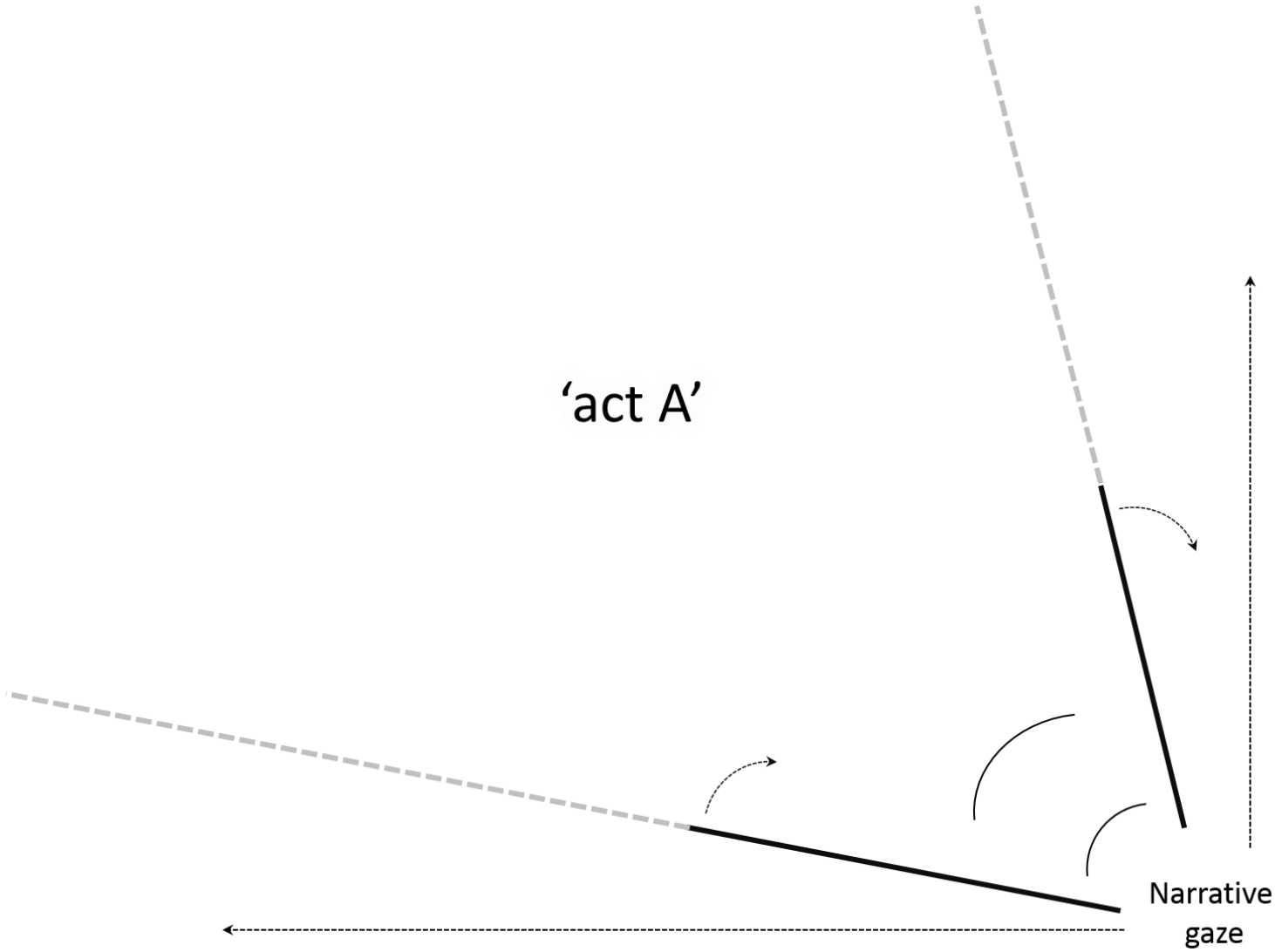


Figure 24. Model S, component 1 - imposing a frame of historical context

limitless possibilities for how 'the act' might come to be cast as significant, as many as stars in a clear evening sky. For example, just on the register of emotions, as a young woman proposes condom use to her partner for the first time she is all of anxious, excited, hopeful, adamant, *et cetera*. What combination of these emotional experiences are imposed as a historical context for her suggesting condom use in order to render it intelligible in a narrative of 'the act'? Between these potential meanings is a way to render 'act A' intelligible.

The final component of the symphonic model of 'the act' is selection of those rhetorical markers of significance that we will use to impose shape onto the 'the act' in historical context. In Figure 26, I illustrate this by highlighting 11 of the potential points of significance and linking these together. Charting the arrangement of these links gives 'act A' its form. If I had highlighted any other of the potential points of significance instead of or in addition to those in Figure 26, then the shape of 'act A' would be fundamentally different – and not 'act A' at all. The ascription of which potential points of significance are and are not part of 'the act' is how it is consummated as meaningful. For example, 'the act' of throwing out a partners' ratty old stuffed bear is fundamentally different whether the sentimental significance of that toy as your first gift to her is part of 'the act' or not. By way of analogy, the potential markers of significance for 'the act' are all the notes available to a musician with which to create music around a theme, and the selection of a particular set of notes creates the harmonies, overtones, and music of 'the act' as a symphony of meaning creation. The links between markers of significance create 'the act' in multi-dimensional space.

This instance of 'the act as consummated in historical context' is now complete. Further 'reinterpretation' of 'the act' means the creation of a new instance of 'the act', by defining a point of gaze, articulating the potential markers of significance for 'the new act', and then imposing a selection of markers of significance for that act. The previous instance of 'the act' is now one of the many potential markers of significance for this subsequent act. In

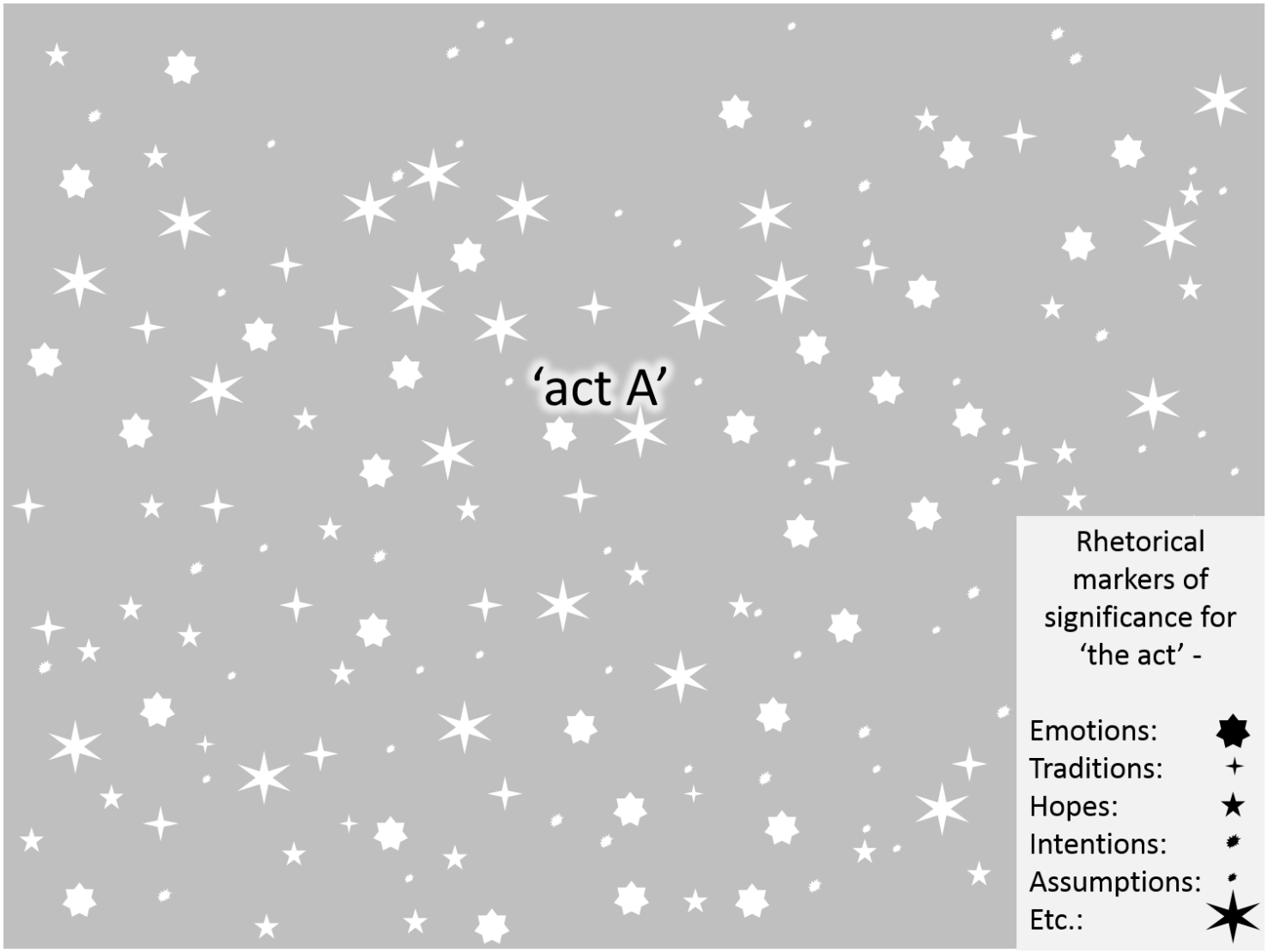


Figure 25. Model S, component 2 - plethora of potential markers of significance

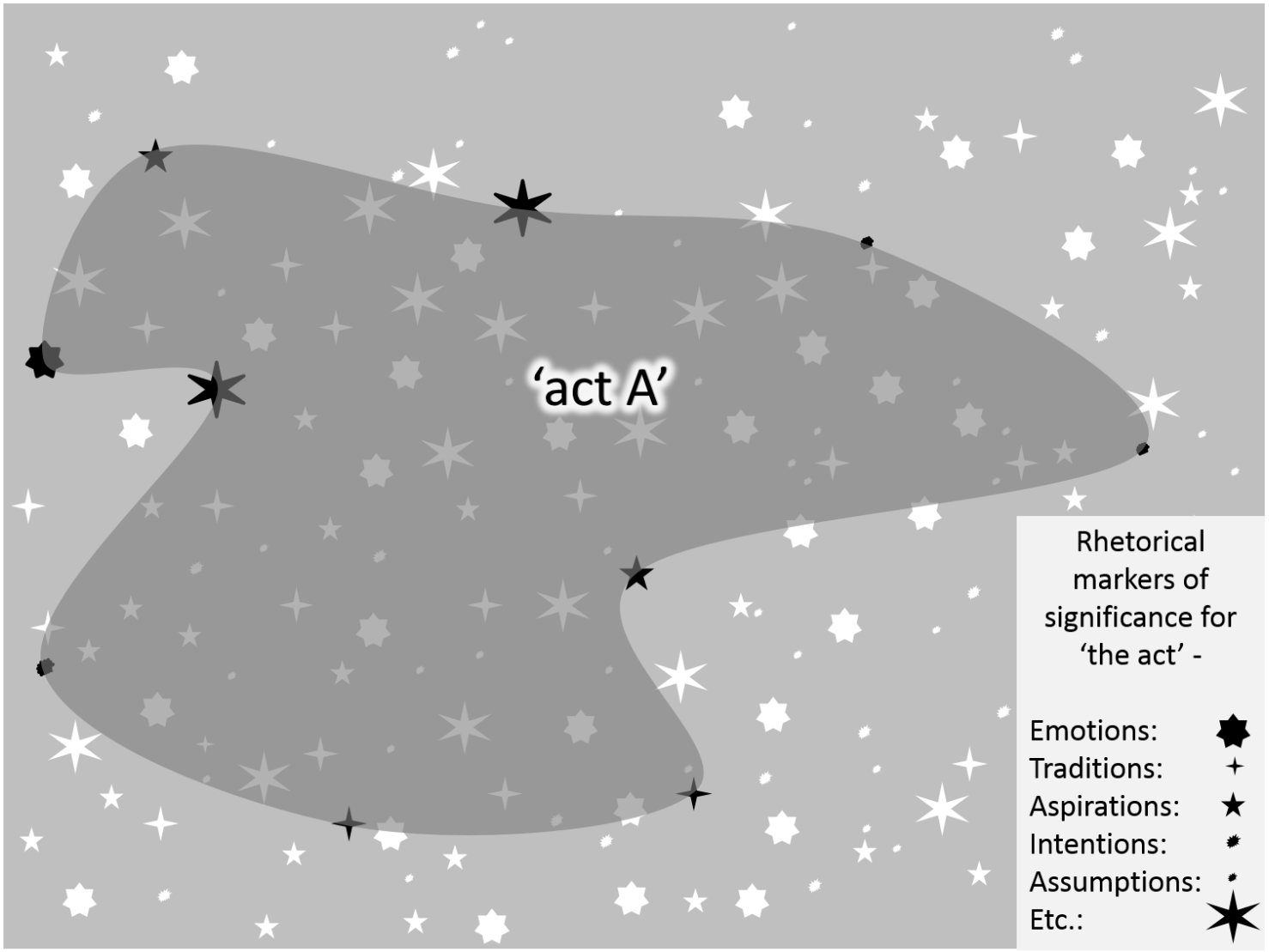


Figure 26. Model S, component 3 - imposing a shape on 'the act' by selecting significance

Figure 27, I illustrate this linkage between instances of ‘the act’ by presenting ‘act A’ as presented in Figure 26 as one of the points of reference for rendering ‘act B’ intelligible. In this way, each instance of ‘the act’ is unique, but at the same time every instance of ‘the act’ is answerable to other instances of ‘the act’. For example, in the moment of her suggestion of condom use her partner’s facial expression was puzzlement and his first words were “but I thought you trust me”. This instance of ‘the act’ was created into a historical context in which – among many other markers of significance – there is a social understanding that condoms are only used in non-monogamous relationships. In order for the couple to create an instance of ‘the act’ where suggesting condom use is not threatening to their relationship of trust, they must acknowledge the influence of this social understanding into the shaping of ‘the act of her first suggestion of condom use’. They must then create a new instance of ‘the act’ that is a deliberate reinterpretation of suggesting condom use, perhaps by creating an instance of ‘the act of discussing the implications of condom use for trust’. In this new instance of ‘the act’, her suggestion of condom use is a marker of significance by being an example to which they can refer in creating the new instance of ‘the act of discussing condom use’. In this way, every instance of ‘the act’ is linked.

I suggest that the symphonic model of ‘the act’ that I have presented here is consistent with the principles for an alternative model of ‘the act’ outlined above. I suggest that my act of ‘proposing the symphonic model in this PhD’ can be considered through the lens of my symphonic model – see Figure 28 in which the chapters are arranged as points of

significance. Further, that such a symphonic model of ‘the act’ is of ‘the act’ as it is and not how it should be. I could have included other chapters to give shape to our understanding of ‘the act’ but was limited by the context of a PhD dissertation. I expect that future research will take up this challenge and refine the symphonic model of ‘the act’ with ever greater nuance. Through the infinite malleability of creating new instances of ‘the act’, I hope that

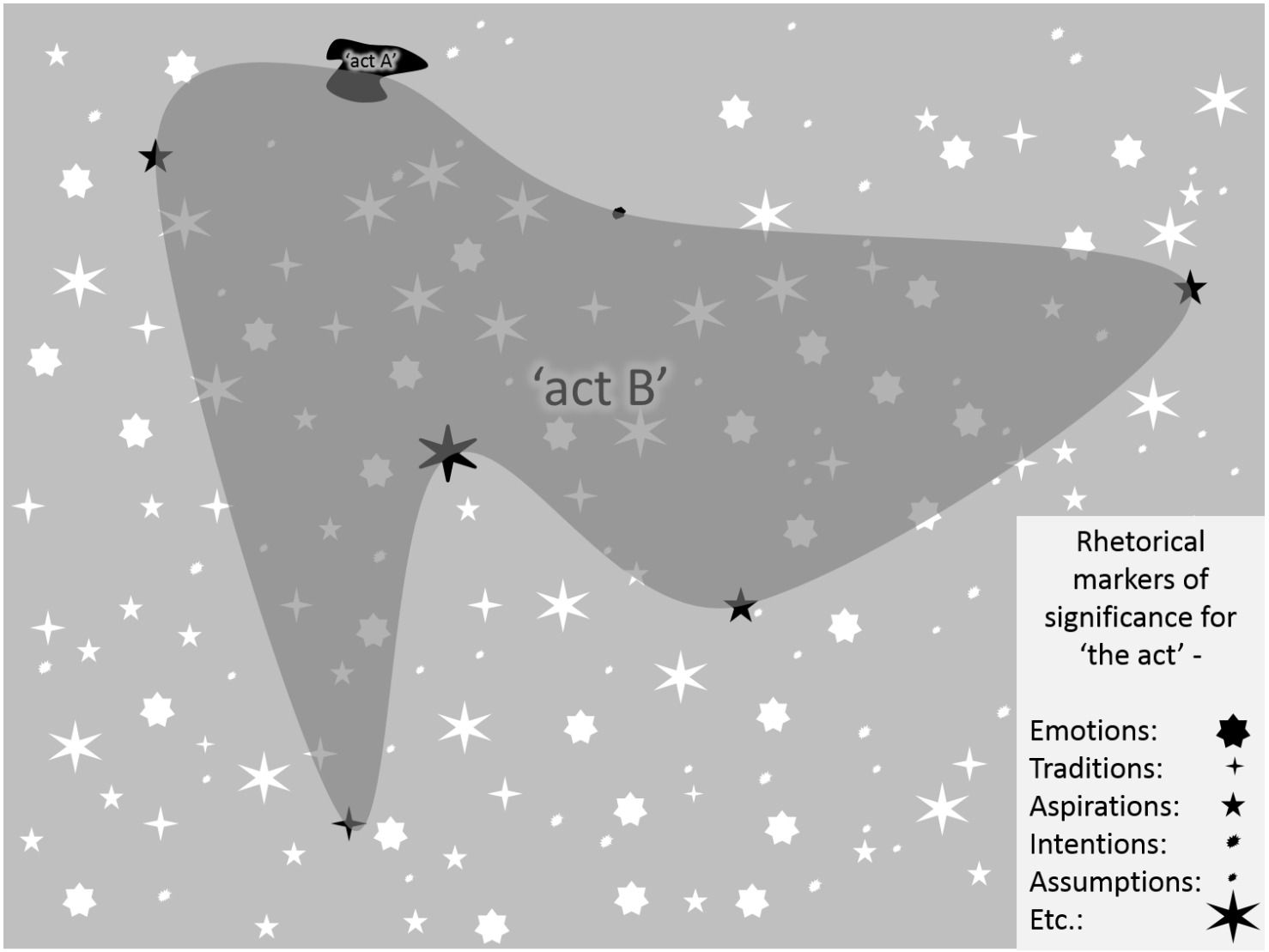


Figure 27. Model S - 'act A' as a marker of significance for 'act B'

the symphonic model is useful for intervention design.

5.6 Findings part four – a tentative example of principles to practice.

Imagine a school-community called Bright Valley. HIV incidence among young people is high, poverty is high, and there is limited sense of shared identity as school-community members. Nonetheless, there is governmental funding to design and implement an HIV prevention intervention with the school-community. This funding is limited, so the intervention must produce the greatest impact not only in the short term, but also sustained over the long term. Using a normative model of 'the act' would mean identifying young people's selection of options for their sex behaviours as the core problem to resolve – how much sex they have, with whom, and in what ways. Using a normative model of 'the act' we would then identify the present, past, and future tense influences on young people's selections of options for 'the act' and try to manipulate these influences. For example, if a history of gender discrimination influences young women's experiences of power in 'the act of selecting to use a condom or not', then we would suggest mitigating this influence by building young women's assertiveness. The cost efficiencies of an intervention that will have long-term effects because beneficiaries continued to behave differently are obvious. This is intuitively logical, but interventions premised on this logic have systematically failed.

As described above, the normative model of 'the act' always locates the moment of significance as a selection between options. In contrast, the symphonic model of 'the act' locates the moment of significance for intervention design as the consummation of the social significance of 'the act'. In this way, the point of intervention is not trying to change the selection that the young person makes about their sex act, but rather it is in how the school-community – including intervention implementers – conceive of the challenge. A reconceiving of the challenges enables the creation of a new instance of 'the act'. An instance of 'the act' where the associated HIV risk is lower.

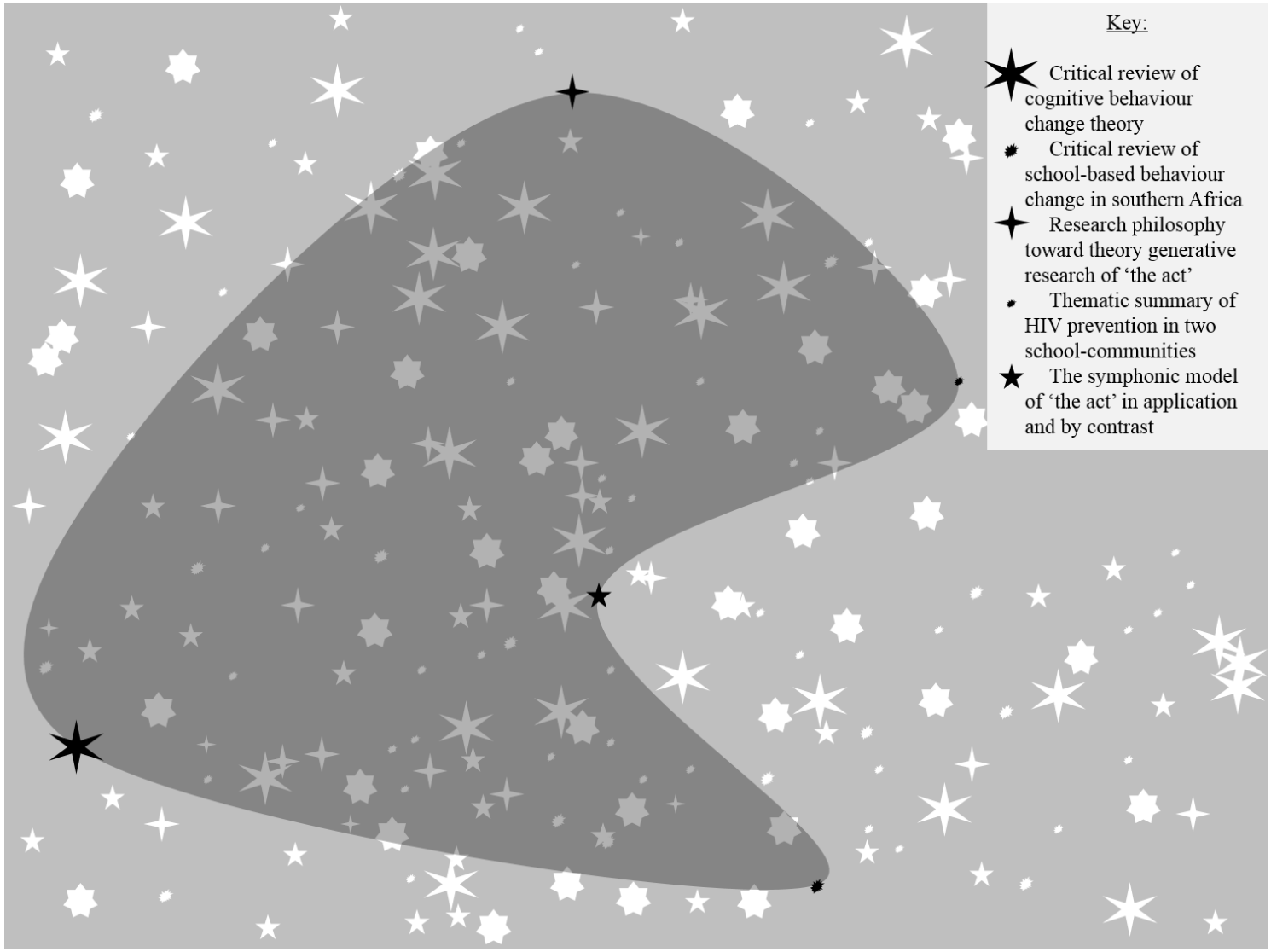


Figure 28. Dissertation through Model S

By delineating the social significance of this instance of 'the act', we open up the opportunity for new instances of 'the act' that are responsive both to the historical context but also a shared ambition to reduce HIV incidence. For example, we might acknowledge that in prior narratives about young people's sex acts we have constructed them as universally problematic. However, we can now acknowledge that our interest in young people's sex acts is only as problems within the limits of HIV risk. Young people's sex acts are not the problem, but rather that young people's sex acts place them at risk for HIV acquisition is the problem. This focus actively states that other reasons why young people's sex acts might be problematic – for example morally – are not part of the intervention. Then we can also clarify the circumstances in which only *some* of young people's sex acts are risky and focus our intervention on those. The source of HIV acquisition risk is not *that* young people are having sex. Rather, it is that contexts for their sex are HIV risky. This focusses our intervention design on HIV as the problem rather than the distraction of assigning accountability to young people's choices. In the symphonic model of 'the act', intervention is a process of creating a new instance of 'the act'. In the sub-sections below, I offer a worked example of the process for implementing an intervention premised on the symphonic model of 'the act' to prevent HIV at Bright Valley. I have not completed the academic labour of clarifying how my symphonic *conceptual* model of 'the act' translates into a process of intervention operationalisation. The focus of this PhD is to move toward a conceptual model only. I present this worked example *not* as the next step in intervention design, but rather as a means of further considering the implications of a symphonic conceptual model of 'the act'. To achieve this, I will draw on a variety of well-established processes for change – notably stages of change model (Prochaska & DiClemente, 2005; Prochaska et al., 2008), situated cognition (Suchman, 1985), and narrative psychotherapy (Payne, 2000). The point illustrated

here is how the symphonic model of ‘the act’ supports a shift away from ‘the actors’ intentions and toward the social processes of meaning making as where we should intervene.

5.6.1 Applying the symphonic model step 1 – defining ‘the act’. The first step in using my symphonic model of ‘the act’ for intervention design is reaching consensus among people with a stake in ‘the act’ about a frame of historical context for it. That is, agreeing on a direction of gaze and parameters within which to consider ‘the act’. Making this explicit both establishes a common frame of reference and highlights the malleability of ‘the act’ for future re-consideration from a different perspective. For Bright Valley school-community, this includes clarifying who is and who is not part of young people’s HIV risk reduction. This would most likely include young people as the intended beneficiaries of the intervention, but would also include residents in their mid- to late-20s who are partners in the highest risk of transmission sexual encounters, and parents, and teachers, and so on. This group have the responsibility for creating a new instance of ‘the act’ in which there is less HIV risk associated for young people. This group imposes the intentionality narrative through which ‘the act’ is consummated as socially significant. Once membership of this group is established, then the specific stake of each member, the relationships between members, and the processes for collaborating must be explicated. This process of explication will require multiple iterations, allowing for clarification, reversals, and consensus through dialogue.

Once consensus is established on what their stake in ‘the problem’ is, then the problem itself must be explicated. This includes stating out loud how and why the problem had been framed previously and where there are potential points of difference for this. For example, this requires the members of the school-community to acknowledge that framing young people’s sex acts as the reason for high HIV incidence served as a measure of control, as a way to avoid culpability in ensuring young people could learn about sex from adults, as a way to negotiate resources from NGOs, *et cetera*. The process of acknowledging these stakes

is difficult. It makes members vulnerable by having their complicity in the *status quo* exposed. This step is not a once-off, simple acknowledgement. Rather, its value is in detailing how 'the act' was problematic such that it can be created differently. In practice, achieving this step at Bright Valley school might include many facilitated discussions between members of the school-community over an extended time period. Importantly, this is *not* community sensitization prior to the intervention implementation. Rather, this is step one *of* the intervention and should therefore be accorded all of the resource investment traditionally equated with intervention components like developing new sex education curricula materials.

5.6.2 Applying the symphonic model step 2 – exploring components. Once 'the act' as a problem has been articulated by stakeholders, the next step is to explore the multitudinous potential markers of significance for this act. In the graphic presented in Figure 25, this is like charting each of the little white stars that could be part of framing 'the act'. At Bright Valley, this means not just presenting the epidemiological context to HIV risk, but also a social history to young people's sex acts as problematic. Important to this step is acknowledging that each stakeholder has multiple unique frames of significance to contribute and that each of these are equally significant to the intervention –to re-define the problem. To begin this process, a facilitator might prompt: "please think about young people in your community and HIV risk. Write down all the words or stories that come to mind". Once these had been listed by participants, they would then be sorted into categories to facilitate a discussion about which of these potential markers of significance are priorities for the HIV prevention agenda in the school-community. A mother's experience of her childhood where she was repeatedly beaten by her father for perceived coyness, a young person's desire to experience intimacy, and a nurse's feelings of being overwhelmed by her patient load are all potential frames for young people's sex acts as 'the problem'. The facilitator would then assist the stakeholders in categorising these types of potential markers of significance into a

framing such as “things you have experienced *versus* things you have heard about *versus* things you fear happening [imagine]” and also into categories of “issues I have with young people’s sex *versus* issues relevant to the HIV riskiness of young people’s sex”. For example, the stakeholders might agree that the mother’s experience of abuse is her experience and an issue she has with young people’s sex but that it is not directly relevant to the HIV riskiness of young people’s sex.

Regardless of the outcome of the categorization process, it enables stakeholders to be much more specific about both *what* and *why* they have framed ‘the act’ for intervention in a particular way. The explication of implicit narratives, overtones, undertones, un-shared assumptions, biases *et cetera* means that the point of intervention is far clearer and shared. It also negates the potential stumbling block of change implementation where stakeholders escape accountability by adding conditions to ‘the act’. For example, a father who was part of this dialogue will be much less able to frame his talk to his son about HIV risk as about only non-violence toward women. Instead he would be empowered to position HIV risk relative to sexual norms broadly but focus his talk in terms of the real drivers of HIV risk – through whatever lens stakeholders come to frame the point of intervention. This step in the process of intervention is about exploring the possibilities, *not* about determining any one marker of significance as more or less relevant/accurate. In practice, this process requires further facilitated discussions and ‘brainstorming’ between stakeholders. Again, over an extended time period and with significant resource investment.

5.6.3 Applying the symphonic model step 3 – imposing a narrative. Once saturation point is reached in the exploration of potential markers of significance for the intervention as ‘the act of preventing HIV among young people’, the stakeholders must ascribe a narrative to it. This means selecting which potential markers of significance they are going to include in their act, and which they are going to exclude. The narrative we impose on our ‘act of

intervening' must be that this is a shared and *intentional* act. We are making 'the act of intervening' as a deliberative collective. We are imposing 'the act of intervening' as a shared choice to create a new context where young people's sex acts are associated with less HIV risk. In this way, we are mobilizing the rhetorical force of intentionality to hold ourselves to account for the outcome of young people's HIV risk. From this premise, the normal operating pressures of society of holding in-group members to account to a shared outcome can be relied upon to translate the resolution into everyday processes. For example, when mothers walk home together after church, their children's HIV riskiness becomes a potential point of conversation – in addition to politics and crops and gossip. Conversations in which a soon to be first-time grandmother is giggled at and gently rebuked because her daughter has 'fallen' pregnant before marriage can now become platforms for sharing tips about how to talk about safe sex with their children and supporting the pregnant young women. HIV would no longer be the metaphorical rod to discipline the sexually errant, but rather positioned as a health outcome to be managed separately from moral judgement about sex.

This is very different from the normative model of 'the act' that leaves accountability for HIV risk on young people's sex acts. For example, when we impose a narrative that the Bright Valley school-community are going to *try to* reduce HIV incidence by doing X, Y, and Z, we are imposing both agency on the school-community to make this attempt, but also responsibility for achieving it. For example, we might agree to reduce the riskiness of each young person's sex act by ensuring condoms are available in classrooms. To achieve that outcome, we will have explored – in step 2 – how doing this would cause various types of discomfort, but – in step 3 – we are nonetheless making the commitment to try because we believe doing so will reduce HIV incidence. In practice, completing this step requires the formulation of detailed action plans that stipulate the problem to be addressed, the things that will be done, and who is responsible for implementing those things. Further, this plan must be

ratified by all the stakeholders because *every* stakeholder has an equal responsibility for this 'act of intervention'. Even if that role is passive like a father agreeing to hold his tongue if he sees his daughter with condoms – it is all part of 'the act of intervening'.

5.6.4 Applying the symphonic model step 4 – doing the act. As I have stressed throughout this dissertation, my symphonic model of 'the act' is *not* about cognitive deliberation. Rather, it is 'the act' as it is *done*. The implementation of 'the act as planned' – in step 3 – to 'the act as done' is not equivalent. Rather, 'the act as planned' is again only one of many potential markers of significance for 'the act as done'. The doing of 'the act of intervention' is a misnomer. In reality, 'the act of intervention' is a narrative summary linking many individual instances of 'acts of intervention'. For example, each time a learner takes a condom from a classroom-based dispenser, each time a nurse sees a young person as a patient presenting with a sexually transmitted infection, each time a young man and women walk home from the river, *et cetera*, are instances of 'the act as done' with 'the act as planned' as a marker of significance – like act 'B' to act 'A' in Figure 27. Imposing a narrative of Bright Valley school-community intervening together to prevent HIV infection among young people facilitates each of these instances of 'the act as done' to be answerable to the overall shared aim of HIV prevention. For example, when the learner takes a condom from the classroom-based dispenser, we frame her doing so as part of our collective ambition of HIV prevention. Her friends might still tease her as being 'easy', but now only ironically so, mocking conservative social norms, and to which she has the ready-made come back of being 'HIV-responsible' and teasing her friends back. Similarly, we must frame the nurse's treatment of the sexually transmitted infection as an instance of care in the context of unacceptable epidemic sexually transmitted infections and not as an opportunity to chastise. And the young couple walking home from the river as budding and beautiful young love in which HIV risk is low, not illicit and naughty divergence from social norms.

The effect of each instance of ‘the act’ is marginal, incremental, and complex, but the overall effect is organised and systematic. In practice, achieving the impact of this imposed narrative of ‘the act of intervention’ requires ongoing re-creation ‘the act as done’ as an instance of ‘the act of intervention’. For the intervention stakeholders, this means actively working to frame everyday instances of ‘the act’ in terms of this narrative. Like someone living with alcoholism reframing each of their daily activities in terms of staying sober. Further, as a collective narrative, using ‘the act of intervention’ to guide the framing of instances of ‘the act’ requires regular routine engagement with all stakeholders to clarify progress and reaffirm the intentionality narrative.

5.6.5 Applying the symphonic model step 5 – starting again. Lastly, every instance of ‘the act’ has finite energy. Similarly, narrative framings within which to conceive of ‘the act’ diffuse over time as new instances of ‘the act’ stretch its relevance. New stakeholders emerge, new or previously dismissed markers of potential significance become salient, and time moves on inexorably changing each instance of ‘the act as done’ from novel, to routine, to mundane, to *passé*. For example, a new cohort of learners and parents enter the school-community each year. These processes are a natural part of the life and some are responsive to ‘the act as planned’. For example, because within the shared narrative of HIV prevention educators and learners now talk openly about sex more frequently, more anxieties and opportunities come to light. There is therefore an inevitable requirement to reconsider the problem and refresh how it will be addressed. At Bright Valley school hopefully this will be because HIV risk reduces among most young people and the new focus for prevention might be especially vulnerable sub-groups. Or a new prevention technology becomes available. Or HIV becomes resistant to treatment. Or some other change in the historical context for ‘the act of intervening’. At this point, sustainable change is only possible by returning to step 1 and re-creating a narrative for intervention. The trigger for returning to step 1 is that fewer

instances of ‘the act’ are using the narrative of ‘the act as intervention’ in their framing. On return to step 1, the entire history of instances of ‘the act as intervening’ are part of the historical context of markers of significance for the new narrative – ideally a stronger point of departure than at the very beginning. And so on.

5.6.6 How the stakeholders’ steps 1-5 translate to ‘private’ behaviour. The links between each individual and ‘private’ instance of ‘the act’ and steps 1-5 by a community of stakeholders are not direct. Instead, following the processes of the symphonic model as outlined above sets the scene in which individual instances of ‘the act’ can be done differently – that is: change. This changing of scene means that behaviour cannot be considered as the linear outcome of an equation. Rather, it is the manipulation of likelihoods by changing the numbers on the die and weighting one side or the other. Each individual instance of ‘the act’ must still follow social and cognitive processes for to happen. For example, a young couple might still ‘plan’ – a socio-cognitive process – to use a condom, form intentions to do so, and then do so. However, using the symphonic model, we can manipulate what ‘using a condom’ means and therefore the likelihood of it being done under the circumstances we believe to be relevant.

The symphonic model of ‘the act’ influences the likelihood of specific instances of ‘the act’ in three ways. Firstly, by disaggregating the multiple socio-cultural implications of ‘the act’ and thereby enabling framing of the significance that instance of ‘the act’ in specific terms. For example, ‘the act of young people’s sex as problematic for HIV incidence’ is distinct from ‘the act of young people’s sex as a moral problem’. This allows suspension of complexities of either and instead focus on the doing of only one. Secondly, the community of stakeholders’ consensus lays the platform for making changes to the material context in which ‘the act’ is done. For example, once ‘the act of young people’s sex as problematic for HIV incidence’ is accepted as the primary narrative, then doing things like making condoms

available in school classrooms, welcoming young people to sexually transmitted infections clinics, and having discussions about sex and culture all become materially legitimate. Thirdly, the formalization of a shared intentionality narrative changes the psychosocial context in which 'the act' is done. For example, the young woman suggesting condom use to her partner now does so with confidence of knowing that she has the support of her community to help her to prevent HIV. As individuals privately consider, make sense of, and do instances of 'the act', they do so in a new psychosocial dialogic context and therefore 'the acts that they do' are fundamentally changed.

5.7 Conclusions.

My aim in this chapter was to make a step toward a conceptual model of 'the act'. I have summarized my reflections for a model of 'the act' from chapters 1-4, described a list of five principles for an alternative model of 'the act', contrasted a normative model of 'the act' premised on cognitive choice with my symphonic model of the act, and provided a worked example of using my symphonic model of the act to design and implement an HIV prevention intervention. In the diction of my symphonic model of 'the act', I have articulated a direction of gaze, clarified some of the potential markers of significance to an alternative model of 'the act', and suggested an intentionality narrative through which to interpret my 'act of proposing the symphonic model'.

Through this process, I laid the conceptual foundations to show that the symphonic model of the act is a viable avenue for further research. This should include further theory-generative critical development and practical demonstrations of its application in a variety of real-world health contexts. Future development should also include the expansion of the conceptual model into a theoretical framework – integrated with existing theories of behaviour and psychology. Regardless of its ultimate veracity, the symphonic model is a step away from the existing that should help clarify behaviour theory for health.

5.7.1 Limitations. The positing of my symphonic model of ‘the act’ is *not* a proof. The trustworthiness of the claims I make with it rely solely on me having explicated my thinking process such that these are subject to your critical interrogation.

Conclusion of dissertation and final thoughts

I started work on this PhD dissertation as a naïve 27-year-old, frustrated by my impotence to achieve dramatic change in the world. In this dissertation, I set myself the goal of answering a challenge to behavioural scientists: how should we think about behaviour so that our science is useful to our world? I set five aims for the dissertation in order to achieve this goal, to: (a) justify a method stance and research process for studies with the goal of developing conceptual models for applied social theory, (b) characterise the implicit logics of 'the act' in three prominent psychological theories of behaviour change, (c) interrogate the narrative processes enabling continued reference to theory in the face of contradictory evidence in t school-based HIV prevention intervention in sub-Saharan Africa, (d) describe the assumptions about sex agency in the languages HIV risk used by school-community members, and (e) propose a conceptual model of 'the act' by articulating general principles with examples. I feel I have met those objectives. However, I end work on this PhD dissertation still naïve, still frustrated, and now 34-years-old. Now my frustration is with my inability to clearly articulate my sense of what behaviour is with greater clarity and not yet having really started on applying principles to intervention practice. Nonetheless, I consider my goal achieved because I believe that there has been – even if only marginal – a moved toward a conceptual model of 'the act'. I have made a novel contribution to *how* behaviour change theory can be generated transparently and from the global South. I believe that what I have presented here has direct implications for three academic spaces. Firstly, for psychological theories of behaviour and behaviour change. I look forward to attempting to reconcile some of my thoughts from the symphonic model with theories like social learning theory and stage models of social change. Secondly, for psychological theories of self, including dialogical self theory and social identity construction through rhetoric. Here, my symphonic model of 'the act' might serve as a unit of analysis. Thirdly, for the applied

context of HIV prevention in Africa. My experience with public health colleagues is that none would dispute the claims that processes of co-creating meaning with affected communities is key to public health interventions. However, why and how to build such work as *part of* instead of just *in order to facilitate* the intervention is difficult to articulate with normative models of 'the act'. I hope that my symphonic model sheds some light on points of investment in the process *as* the intervention.

It has been a long, difficult road for me to write this dissertation. On reflection, I have been wracked by unnecessary angst about organizing my thoughts in the dissertation to be consistent with my symphonic model of 'the act'. Some of this is still reflected in the structure, writing style, and substantive content of the dissertation. My narrative frame for 'the act of writing my PhD' has changed significantly over the years it took me to complete it. I became married, changed jobs, moved house – several times. I remain a child of social privilege with the luxury of ruminating behaviour as an object. I have my own anxieties about sex in which I seek to rationalise my protestant, liberal, white South African and masculine identities. This also reflected in some of the disparateness between chapters. In the process of writing this dissertation, I have had multiple iterations of clarifying what is at stake and why, with slightly different answers each time. And now the journey is over. Except it is not. I have proposed my act into the world, and it is now up to you frame its narrative significance. Thank you.

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Appendix A

Table 3. Descriptive texts of the health belief model

	Year	Reference
1	1960	Rosenstock, I. M. (1960). What research in motivation suggests for public health. *American Journal of Public Healthublic Health*, *50*(3), 295–302. http://doi.org/10.2105/AJPH.50.3_Pt_1.295
2	1966	Rosenstock, I. M. (1966). Why people use health services. *Milbank Quarterly*, *44*(3), 94–124. http://doi.org/10.1111/j.1468-0009.2005.00425.x
3	1966	Kirscht, J. P., Haefner, D. P., Kegeles, S. S., & Rosenstock, I. M. (1966). A national study of health beliefs. *Journal of Health and Human Behavior*, *7*(4), 248–254.
4	1970	Haefner, D. P., & Kirscht, J. P. (1970). Motivational and behavioral effects of modifying health beliefs. *Public Health Reports*, *85*(6), 478–484.
5	1974	Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, *2*(4), 328–335. http://doi.org/10.1177/109019817400200403
6	1974	Rosenstock, I. M. (1974). The health belief model and preventive health behavior. *Health Education Monographs*, *2*(4), 354–386.
7	1974	Kirscht, J. P. (1974). Research related to modification of health beliefs. *Health Education Monographs*, *2*(4), 455–469.
8	1974	Kirscht, J. P. (1974b). The health belief model and illness behavior. *Health Education Monographs*, *2*(4), 387–408. http://doi.org/10.1177/109019817400200406
9	1974	Green, L. W. (1974). Editorial - health belief model. *Health Education Monographs*, *2*(4), 324–325.
10	1974	Haefner, D. P. (1974). The health belief model and preventive dental behavior. *Health Education Monographs*, *2*(4), 420–432. http://doi.org/10.1177/109019817400200405
11	1974	Kasl, S. V. (1974). Health belief model and behavior related to chronic illness. *Health Education Monographs*, *2*(4), 433–454. http://doi.org/10.1177/109019817400200409
12	1974	Becker, M. H. (1974). Introduction - health belief model. *Health Education Monographs*, *2*(4), 326–327.
13	1974	Becker, M. H., Drachman, R. H., & Kirscht, J. P. (1974). A new approach to explaining sick-role behavior in low-income populations. *American Journal of Public Health*, *64*(3), 205–216. http://doi.org/10.2105/AJPH.64.3.205
14	1974	Maiman, L. A., & Becker, M. H. (1974). The health belief model: origins and correlates in psychological theory. *Health Education Monographs*, *2*(4), 336–353.
15	1974	Rosenstock, I. M., & Kirscht, J. P. (1974). Practice implications. *Health Education Monographs*, *2*(4), 470–473. http://doi.org/10.1016/S0145-2134(03)00023-1

16	1975	Becker, M. H., & Maiman, L. A. (1975). Sociobehavioral determinants of compliance with health and medical care recommendations. *Medical Care*, *13*(1), 10–24.
17	1978	Cummings, K. M., Jette, A. M., & Rosenstock, I. M. (1978). Construct validation of the health belief model. *Health Education Monographs*, *6*(4), 394–405. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/299611\nhttp://heb.sagepub.com/content/6/4/394.short
18	1981	Jette, A. M., Cummings, K. M., Brock, B. M., Phelps, M. C., & Naessens, J. (1981). The structure and reliability of health belief indices. *Health Services Research*, *16*(1), 81–98.
19	1984	Janz, N. K., & Becker, M. H. (1984). The health belief model: a decade later. *Health Education Quarterly*, *11*(1), 1–47. http://doi.org/10.1177/109019818401100101
20	1988	Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education Quarterly*, *15*(2), 175–183. http://doi.org/10.1177/109019818801500203
21	1992	Harrison, J. A., Mullen, P. D., & Green, L. W. (1992). A meta-analysis of studies of the health belief model with adults. *Health Education Research*, *7*(1), 107–116. http://doi.org/10.1093/her/7.1.107
22	1995	Thomas, L. W. (1995). A critical feminist perspective of the health belief model; implications for nursing theory, research, practice, and education. *Journal of Professional Nursing*, *11*(4), 246–252.
23	2000	Clarke, V. A., Lovegrove, H., Williams, A., & Machperson, M. (2000). Unrealistic optimism and the health belief model. *Journal of Behavioral Medicine*, *23*(4), 367–376. http://doi.org/10.1023/A:1005500917875
24	2005	Abraham, C., & Sheeran, P. (2005). The health belief model. In M. Conner & P. Norman (Eds.), *Predicting health behaviour: research and practice with social cognition models* (2nd ed., pp. 28–80). New York: Open University Press. http://doi.org/10.1016/S0925-7535(97)81483-X
25	2008	Champion, V., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health eduction - theory, research, and practice* (4th ed., pp. 45–62). San Fransisco: Jossey-Bass Publishers. http://doi.org/10.7326/0003-4819-116-4-350_1
26	2010	Carpenter, C. J. (2010). A meta-analysis of the effectiveness of health belief model variables in predicting behavior. *Health Communication*, *25*(8), 661–669. http://doi.org/10.1080/10410236.2010.521906

Table 4. Descriptive texts of protection motivation theory

	Year	Reference
1	1975	Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The Journal of Psychology*, *91*, 93–114.
2	1976	Rogers, R. W., & Mewborn, C. R. (1976). Fear appeals and attitude change: effects of a threat's noxiousness, probability of occurrence, and the efficacy of coping responses. *Journal of Personality and Social Psychology*, *34*(1), 54–61. http://doi.org/10.1037/0022-3514.34.1.54
3	1981	Beck, K. H. (1981). A conceptualization of threat communications and protective health behavior. *Social Psychology Quarterly*, *44*(3), 204–217.
4	1983	Maddux, J. E., & Rogers, R. W. (1983). Protection motivation and self-efficacy: a revised theory of fear appeals and attitude change. *Journal of Experimental Social Psychology*, *19*(5), 469–479. http://doi.org/10.1016/0022-1031(83)90023-9
5	1983	Rogers, R. W. (1983). Cognitive and physiological processes in fear appeals and attitude change: a revised theory of protection motivation. In J. T. Cacioppo & R. E. Petty (Eds.), *Social psychophysiology: a source book* (pp. 153–176). New York: The Guildford Press. http://doi.org/10.1093/deafed/ent031
6	1984	Beck, K. H. (1984). The effects of risk probability, outcome severity, efficacy of protection and access to protection on decision making: a futher test of protection motivation theory. *Social Behavior and Personality*. http://doi.org/10.2224/sbp.1984.12.2.121
7	1986	Stanley, M. A., & Maddux, J. E. (1986). Cognitive processes in health enhancement: investigation of a combined protection motivation and self-efficacy model. *Basic and Applied Social Psychology*, *7*(2), 101–113. http://doi.org/10.1207/s15324834basp0702_2
8	1987	Wurtele, S. K., & Maddux, J. E. (1987). Relative contributions of protection motivation theory components in predicting exercise intentions and behavior. *Health Psychology*, *6*(5), 453–466. http://doi.org/10.1037/0278-6133.6.5.453
9	1987	Rippetoe, P. A., & Rogers, R. W. (1987). Effects of components of protection-motivation theory on adaptive and maladaptive coping with a health threat. *Journal of Personality and Social Psychology*, *52*(3), 596–604. http://doi.org/10.1037/0022-3514.52.3.596
10	1989	Tanner, J. F. J., Day, E., & Crask, M. R. (1989). Protection motivation theory - an extension of fear appeals theory in communication. *Journal of Business Research*, *19*(4), 267–276. http://doi.org/10.1016/0148-2963(89)90008-8
11	1991	Tanner, J. F. J., Hunt, J. B., & Eppright, D. R. (1991). The protection motivation model: a normative model of fear appeals. *Journal of Marketing*, *55*(3), 36–45. http://doi.org/10.2307/1252146
12	1993	Brouwers, M. C., & Sorrentino, R. M. (1993). Uncertainty orientation and protection motivation theory: the role of individual differences in health compliance. *Journal of Personality and Social Psychology*, *65*(1), 102–112.
13	1996	Boer, H., & Seydel, E. R. (1996). Protection motivation theory. In M. Connor & P. Norman (Eds.), *Predicting health behaviour* (pp. 95–120). Buckingham: Open University Press. http://doi.org/10.1080/13548506.2011.579983
14	1996	Sturges, J. W., & Rogers, R. W. (1996). Preventive health psychology from a developmental perspective: an extension of protection motivation theory. *Health Psychology*, *15*(3), 158–166.
15	1998	Block, L. G., & Keller, P. A. (1998). Beyond protection motivation: an integrative theory of health appeals. *Journal of Applied Social Psychology*, *28*(17), 1584–1608. http://doi.org/10.1111/j.1559-1816.1998.tb01691.x
16	1998	Hodgkins, S., & Orbell, S. (1998). Can protection motivation theory predict behaviour? A longitudinal test exploring the role of previous behaviour. *Psychology & Health*, *13*(2), 237–250. http://doi.org/10.1080/08870449808406749

17	2000	Floyd, D. L., Prentice-Dunn, S., & Rogers, R. W. (2000). A meta-analysis of research on protection motivation theory. *Journal of Applied Social Psychology*, *30*(2), 407–429. http://doi.org/10.1111/j.1559-1816.2000.tb02323.x
18	2000	Ho, R. (2000). Predicting intention for protective health behaviour: a test of the protection versus the ordered protection motivation model. *Australian Journal of Psychology*, *52*(2), 110–118. http://doi.org/10.1080/00049530008255376
19	2000	Neuwirth, K., Dunwoody, S., & Griffin, R. J. (2000). Protection motivation and risk communication. *Risk Analysis*, *20*(5), 721–734. http://doi.org/10.1111/0272-4332.205065
20	2002	Milne, S., Orbell, S., & Sheeran, P. (2002). Combining motivational and volitional interventions to promote exercise participation: protection motivation theory and implementation intentions. *British Journal of Health Psychology*, *7*, 163–184. http://doi.org/10.1348/135910702169420
21	2004	Umeh, K. (2004). Cognitive appraisals, maladaptive coping, and past behaviour in protection motivation. *Psychology & Health*, *19*(6), 719–735. http://doi.org/10.1080/0887044042000196692
22	2006	Cismaru, M. (2006). Protection motivation theory - an additive or a multiplicative model? *Advances in Consumer Research*, *33*, 271–273.
23	2006	Cismaru, M., & Lavack, A. M. (2006). Marketing communications and protection motivation theory: examining consumer decision-making. *International Review on Public and Nonprofit Marketing*, *3*(2), 9–24. http://doi.org/10.1007/BF02893617
24	2006	Milne, S., Sheeran, P., & Orbell, S. (2006). Prediction and intervention in health related behavior: a meta analytic review of protection motivation theory. *Journal of Applied Social Psychology*, *30*(1), 106–143. http://doi.org/10.1111/j.1559-1816.2000.tb02308.x
25	2007	Cismaru, M., & Lavack, A. M. (2007). Interaction effects and combinatorial rules governing protection motivation theory variables: a new model. *Marketing Theory*, *7*(3), 249–270. http://doi.org/10.1177/1470593107080344
26	2009	Lippke, S., & Plotnikoff, R. C. (2009). The protection motivation theory within the stages of the transtheoretical model - stage-specific interplay of variables and prediction of exercise stage transitions. *British Journal of Health Psychology*, *14*(2), 211–229. http://doi.org/10.1348/135910708X399906
27	2015	Clubb, A. C., & Hinkle, J. C. (2015). Protection motivation theory as a theoretical framework for understanding the use of protective measures. *Criminal Justice Studies*, *28*(3), 336–355. http://doi.org/10.1080/1478601X.2015.1050590
28	2015	Guo, X., Han, X., Zhang, X., Dang, Y., & Chen, C. (2015). Investigating m-health acceptance from a protection motivation theory perspective: gender and age differences. *Telemedicine and E-Health*, *21*(8), 661–669. http://doi.org/10.1089/tmj.2014.0166
29	2015	Kaspar, K. (2015). An embodiment perspective on protection motivation theory: the impact of incidental weight sensations on threat-appraisal, coping-appraisal, and protection motivation. *Studia Psychologica*, *57*(4), 301–315.
30	2015	Williams, L., Rasmussen, S., Kleczkowski, A., Maharaj, S., & Cairns, N. (2015). Protection motivation theory and social distancing behaviour in response to a simulated infectious disease epidemic. *Psychology, Health & Medicine*, *20*(7), 832–837. http://doi.org/10.1080/13548506.2015.1028946

Table 5. Descriptive texts of the theory of planned behaviour

	Year	Reference
1	1969	Ajzen, I., & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology*, *5*(4), 400–416. http://doi.org/10.1016/0022-1031(69)90033-X
2	1971	Ajzen, I. (1971). Attitudinal vs. normative messages: an investigation of the differential effects of persuasive communications on behavior. *Sociometry*, *34*(2), 263–280. http://doi.org/10.2307/2786416
3	1972	Ajzen, I., & Fishbein, M. (1972). Attitudes and normative beliefs as factors influencing behavioral intentions. *Journal of Personality and Social Psychology*, *21*(1), 1–9. http://doi.org/10.1037/h0031930
4	1973	Ajzen, I., & Fishbein, M. (1973). Attitudinal and normative variables as predictors of specific behavior. *Journal of Personality and Social Psychology*, *27*(1), 41–57. http://doi.org/10.1037/h0034440
5	1974	Ajzen, I., & Fishbein, M. (1974). Factors influencing intentions and the intention-behavior relation. *Human Relations*, *27*(1), 1–15. http://doi.org/10.1177/001872677402700101
6	1980	Smetana, J. G., & Adler, N. E. (1980). Fishbein's value x expectancy model: an examination of some assumptions. *Personality and Social Psychology Bulletin*, *6*(1), 89–96.
7	1981	Miniard, P. W., & Cohen, J. B. (1981). An examination of the Fishbein-Ajzen behavioral-intentions model's concepts and measures. *Journal of Experimental Social Psychology*, *17*(3), 309–339. http://doi.org/10.1016/0022-1031(81)90031-7
8	1984	Liska, A. E. (1984). A critical examination of causal structure of the Fishbein/Ajzen attitude-behavior model. *Social Psychology Quarterly*, *47*(1), 61–74.
9	1985	Ajzen, I. (1985). From intentions to actions: a theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: from cognition to behavior* (pp. 11–39). Heidelberg: Springer-Verlag. http://doi.org/10.1007/978-3-642-69746-3
10	1985	Harrison, W., Thompson, V. D., & Rodgers, J. L. (1985). Robustness and sufficiency of the theory of reasoned action in longitudinal prediction. *Basic and Applied Social Psychology*, *6*(1), 25–40. http://doi.org/10.1207/s15324834basp0601_3
11	1986	Bagozzi, R. P. (1986). Attitude formation under the theory of reasoned action and a purposeful behaviour reformulation. *British Journal of Social Psychology*, *25*(2), 95–107. http://doi.org/10.1111/j.2044-8309.1986.tb00708.x
12	1988	Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: a meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, *15*, 325–343.
13	1991	Ajzen, I. (1991). The theory of planned behavior. *Orgnizational Behavior and Human Decision Processes*, *50*(2), 179–211. http://doi.org/10.1016/0749-5978(91)90020-T
14	1991	Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*, *25*(3), 285–301. http://doi.org/10.1016/0092-6566(91)90021-H
15	1992	Doll, J., & Ajzen, I. (1992). Accessibility and stability of predictors in the theory of planned behavior. *Journal of Personality and Social Psychology*, *63*(5), 754–765. http://doi.org/10.1037/0022-3514.63.5.754
16	1992	Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin*, *18*(1), 3–9. http://doi.org/10.1177/0146167292181001

17	1993	McCaul, K. D., Sandgren, A. K., O'Neill, H. K., & Hinsz, V. B. (1993). The value of the theory of planned behavior, perceived control, and self-efficacy expectations for predicting health-protective behaviors. *Basic and Applied Social Psychology*, *14*(2), 231–252. http://doi.org/10.1207/s15324834basp1402_7
18	1995	Manstead, A. S. R., & Parker, D. (1995). Evaluating and extending the theory of planned behaviour. *European Review of Social Psychology*, *6*(1), 69–95. http://doi.org/10.1080/14792779443000012
19	1996	Godin, G., & Kok, G. (1996). The theory of planned behavior: a review of its applications to health-related behaviors. *American Journal of Health Promotion*, *11*(2), 87–98. http://doi.org/10.4278/0890-1171-11.2.87
20	1997	Orbell, S., Hodgins, S., & Paschal, S. (1997). Implementation intentions and the theory of planned behavior. *Personality and Social Psychology Bulletin*, *23*(9), 928–940. http://doi.org/0803973233
21	1998	Chatzisarantis, N. L. D., & Biddle, S. J. H. (1998). Functional significance of psychological variables that are included in the theory of planned behaviour: a self-determination theory approach to the study of attitudes, subjective norms, perceptions of control and intentions. *European Journal of Social Psychology*, *28*, 303–322.
22	1998	Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: a review and avenues for further research. *Journal of Applied Social Psychology*, *28*, 1429–1464. http://doi.org/10.1111/j.1559-1816.1998.tb01685.x
23	1998	Sparks, P., & Guthrie, C. A. (1998). Self-identity and the theory of planned behavior: a useful addition or an unhelpful artifice? *Journal of Applied Social Psychology*, *28*(15), 1393–1410. http://doi.org/10.1111/j.1559-1816.1998.tb01683.x
24	1999	Armitage, C. J., Conner, M., & Norman, P. (1999). Differential effects of mood on information processing: evidence from the theories of reasoned action and planned behaviour. *European Journal of Social Psychology*, *29*, 419–433. http://doi.org/10.1002/(SICI)1099-0992(199906)29:4<419::AID-EJSP933>3.0.CO;2-L
25	1999	Sheeran, P., & Orbell, S. (1999). Augmenting the theory of planned behavior: roles for anticipated regret and descriptive norms. *Journal of Applied Social Psychology*, *29*(10), 2107–2142. http://doi.org/10.1111/j.1559-1816.1999.tb02298.x
26	1999	Sheeran, P., & Orbell, S. (1999). Implementation intentions and repeated behaviour: augmenting the predictive validity of the theory of planned behaviour. *European Journal of Social Psychology*, *29*, 349–370. http://dx.doi.org/10.1002/%28SICI%291099-0992%28199903/05%2929:2/3%3C349::AID-JSP931%3E3.3.CO;2-P
27	1999	Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behaviour:self-identity, social identity and group norms. *The British Journal of Social Psychology*, *38*, 225–44. http://doi.org/10.1348/014466699164149
28	2000	Ajzen, I., & Fishbein, M. (2000). Behavioral interventions: design and evaluation guided by the theory of planned behavior. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology - Volume 11* (pp. 1–33). Chichester: Wiley.
29	2000	Conner, M., Sheeran, P., Norman, P., & Armitage, C. J. (2000). Temporal stability as a moderator of relationships in the theory of planned behaviour. *British Journal of Social Psychology*, *39*, 469–493. http://doi.org/http://dx.doi.org/10.1348/014466600164598
30	2001	Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: a meta-analytic review. *British Journal of Social Psychology*, *40*, 471–499. http://doi.org/10.1348/014466601164939
31	2001	Sheeran, P., Conner, M., & Norman, P. (2001). Can the theory of planned behavior explain patterns of health behavior change? *Health Psychology*, *20*(1), 12–19. http://doi.org/10.1037/0278-6133.20.1.12
32	2002	Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, *32*(4), 665–683. http://doi.org/10.1111/j.1559-1816.2002.tb00236.x
33	2002	Fekadu, Z., & Kraft, P. (2002). Expanding the theory of planned behaviour: the role of social norms and group identification. *Journal of Health Psychology*, *7*(1), 33–43. http://doi.org/10.1177/1359105302007001650

34	2002	Hardeman, W., Johnston, M., Johnston, D. W., Bonetti, D., Wareham, N. J., & Kinmonth, A. L. (2002). Application of the theory of planned behavior in behavior change interventions: A systematic review. *Psychology and Health*., 123-158. http://doi.org/10:1080/08870440290013644
35	2003	Abraham, C., & Sheeran, P. (2003). Implications of Goal Theories for the Theories of Reasoned Action and Planned Behaviour. *Current Psychology*, *22*(3), 264–280. http://doi.org/10.1007/s12144-003-1021-7
36	2003	Rivis, A., & Sheeran, P. (2003). Descriptive norms as an additional predictor in the theory of planned behaviour: a meta-analysis. *Current Psychology*, *22*(December), 218–233. http://doi.org/10.1007/s12144-003-1018-2
37	2003	Sheeran, P., Trafimow, D., & Armitage, C. J. (2003). Predicting behaviour from perceived behavioural control: tests of the accuracy assumption of the theory of planned behaviour. *British Journal of Social Psychology*, *42*, 393–410. http://doi.org/10.1348/014466603322438224
38	2004	Ajzen, I., & Fishbein, M. (2004). Questions raised by a reasoned action approach: comment on Ogden (2003). *Health Psychology*, *23*(4), 431–434. http://doi.org/10.1037/0278-6133.23.4.431
39	2005	Bojan, B. (2005). The theory of planned behaviour and health behaviours: critical analysis of methodological and theoretical issues. *Hellenic Journal of Psychology*, *2*, 234–259.
40	2005	Hagger, M. S., & Chatzisarantis, N. L. D. (2005). First- and higher-order models of attitudes, normative influence, and perceived behavioural control in the theory of planned behaviour. *The British Journal of Social Psychology*, *44*, 513–535. http://doi.org/10.1348/014466604X16219
41	2005	Norman, P., Clark, T., & Walker, G. (2005). The theory of planned behavior, descriptive norms, and the moderating role of group identification. *Journal of Applied Social Psychology*, *35*(5), 1008–1029. http://doi.org/10.1111/j.1559-1816.2005.tb02157.x
42	2006	Chatzisarantis, N. L. D., Hagger, M. S., Smith, B., & Sage, L. D. (2006). The infuences of intrinsic motivation on execution of social behaviour within the theory of planned behaviour. *European Journal of Social Psychology*, *237*, 229–237. http://doi.org/10.1002/ejsp.299
43	2006	Hagger, M. S., & Chatzisarantis, N. L. D. (2006). Self-identity and the theory of planned behaviour: between- and within-participants analyses. *British Journal of Social Psychology*, *45*, 731–757. http://doi.org/10.1348/014466605X85654
44	2006	Rhodes, R. E., Blanchard, C. M., & Matheson, D. H. (2006). A multicomponent model of the theory of planned behaviour. *British Journal of Health Psychology*, *11*, 119–137. http://doi.org/10.1348/135910705X52633
45	2007	Ajzen, I., & Albarracín, D. (2007). Predicting and changing behavior: a reasoned action approach. In I. Ajzen, D. Albarracín, & R. Horne (Eds.), *Prediction and change of health behavior - applying the reasoned action approach* (pp. 1–22). Hillsdale: Lawrence Erlbaum Associates.
46	2008	Churchill, S., Jessop, D., & Sparks, P. (2008). Impulsive and/or planned behaviour: can impulsivity contribute to the predictive utility of the theory of planned behaviour? *British Journal of Social Psychology*, *47*(4), 631–646. http://doi.org/10.1348/014466608X284434
47	2008	Montano, D. E., & Kasprzyk, D. (2008). Theory of reasoned action, theory of planned behavior and the integrated behavioral model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education - theory, research, and practice* (4th ed., pp. 67–92). Jossey-Bass Publishers.
48	2008	Sandberg, T., & Conner, M. (2008). Descriptive norms as an additional predictor in the theory of planned behaviour:a meta-analysis. *British Journal of Social Psychology*, *47*, 589–606. http://doi.org/10.1007/s12144-003-1018-2
49	2009	Hagger, M. S., & Chatzisarantis, N. L. D. (2009). Integrating the theory of planned behaviour and self-determination theory in health behaviour: a meta-analysis. *British Journal of Health Psychology*, *14*, 275–302. http://doi.org/10.1348/13S910708X3739S9
50	2009	Manning, M. (2009). The effects of subjective norms on behaviour in the theory of planned behaviour: a meta-analysis. *British Journal of Social Psychology*, *48*, 649–705. http://doi.org/10.1348/014466608X393136

51	2009	Rivis, A., Sheeran, P., & Armitage, C. J. (2009). Expanding the affective and normative components of the theory of planned behavior: a meta-analysis of anticipated affect and moral norms. *Journal of Applied Social Psychology*, *39*(12), 2985–3019. http://doi.org/10.1111/j.1559-1816.2009.00558.x
52	2009	Sniehotta, F. F. (2009). An experimental test of the theory of planned behavior. *Applied Psychology: Health and Well-Being*, *1*(2), 257–270. http://doi.org/10.1111/j.1758-0854.2009.01013.x
53	2009	White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: the role of descriptive, injunctive, and in-group norms. *The British Journal of Social Psychology*, *48*, 135–158. http://doi.org/10.1348/014466608X295207
54	2010	Rise, J., Sheeran, P., & Hukkelberg, S. (2010). The role of self-identity in the theory of planned behavior: a meta-analysis. *Journal of Applied Social Psychology*, *40*(5), 1085–1105. http://doi.org/10.1111/j.1559-1816.2010.00611.x
55	2011	Ajzen, I. (2011). The theory of planned behaviour: reactions and reflections. *Psychology and Health*, *26*(9), 1113–1127. http://doi.org/10.1080/08870446.2011.613995
56	2011	McEachan, R. R. C., Conner, M., Taylor, N. J., & Lawton, R. J. (2011). Prospective prediction of health-related behaviours with the theory of planned behaviour: a meta-analysis. *Health Psychology Review*, *5*(2), 97–144. http://doi.org/10.1080/17437199.2010.521684
57	2012	Jaccard, J. (2012). The reasoned action model: directions for future research. *The ANNALS of the American Academy of Political and Social Science*, *640*, 58–80. http://doi.org/10.1177/0002716211426097
58	2013	Ajzen, I., & Sheikh, S. (2013). Action versus inaction: anticipated affect in the theory of planned behavior. *Journal of Applied Social Psychology*, *43*(1), 155–162. http://doi.org/10.1111/j.1559-1816.2012.00989.x
59	2013	Orr, M. G., Thrush, R., & Plaut, D. C. (2013). The theory of reasoned action as parallel constraint satisfaction: towards a dynamic computational model of health behavior. *PLoS ONE*, *8*(5). http://doi.org/10.1371/journal.pone.0062490
60	2014	Head, K. J., & Noar, S. M. (2014). Facilitating progress in health behaviour theory development and modification: the reasoned action approach as a case study. *Health Psychology Review*, *8*(1), 34–52. http://doi.org/10.1080/17437199.2013.778165
61	2014	Sniehotta, F. F., Presseau, J., & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychology Review*, *8*(1), 1–7. http://doi.org/10.1080/17437199.2013.869710
62	2014	Ogden, J. (2014). Time to retire the theory of planned behaviour? A commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 165–167. http://doi.org/10.1080/17437199.2014.898679
63	2014	Ajzen, I. (2014). The theory of planned behaviour is alive and well, and not ready to retire: a commentary on Sniehotta, Presseau, and Araújo-Soares. *Health Psychology Review*, *9*(2), 131–137. http://doi.org/10.1080/17437199.2014.883474
64	2015	Conner, M. (2015). Extending not retiring the theory of planned behaviour: a commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 141–145. http://doi.org/10.1080/17437199.2014.899060
65	2015	Hagger, M. S. (2015). Retired or not, the theory of planned behaviour will always be with us. *Health Psychology Review*, *9*(2), 125–130. http://doi.org/10.1080/17437199.2015.1034470
66	2016	Hassan, L. M., Shiu, E., & Parry, S. (2016). Addressing the cross-country applicability of the theory of planned behaviour (TPB): a structured review of multi-country TPB studies. *Journal of Consumer Behaviour*, *15*, 72–86. http://doi.org/10.1002/cb.1536

Table 6. Supplementary texts for ontology of cognitive health behaviour theory

	Year	Reference
1	2003	Abraham, C., & Sheeran, P. (2003). Acting on intentions: the role of anticipated regret. *British Journal of Social Psychology*, *42*, 495–511. http://doi.org/10.1348/014466603322595248
2	1998	Abraham, C., Sheeran, P., & Johnston, M. (1998). From health beliefs to self-regulation: theoretical advances in the psychology of action control. *Psychology & Health*, *13*(4), 569–591. http://doi.org/10.1080/08870449808407420
3	1974	Ajzen, I. (1974). Effects of information on interpersonal attraction: similarity versus affective value. *Journal of Personality and Social Psychology*, *29*(3), 374–380. http://doi.org/10.1037/h0036002
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Appendix B

UNIVERSITY OF
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10 February 2012

Mr Graeme Hoddinott (203500619)
School of Psychology

Dear Mr Hoddinott

PROTOCOL REFERENCE NUMBER: HSS/1051/011D
PROJECT TITLE: *"What is it 'to do' in the context of change?* Toward an operational model of the act for school-community based HIV prevention."

FULL APPROVAL NOTIFICATION – COMMITTEE REVIEWED PROTOCOL

This letter serves to notify you that your application in connection with the above was reviewed by the Humanities & Social Sciences Research Ethics Committee, has now been granted **Full Approval** following your responses to queries previously raised:

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach/Methods must be reviewed and approved through an amendment /modification prior to its implementation. Please quote the above reference number for all queries relating to this study. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

Best wishes for the successful completion of your research protocol

Yours faithfully

.....

Professor Steven Collings (Chair)
Humanities & Social Sciences Research Ethics Committee

cc Supervisor Dr M Van Der Riet
cc Dr P Rule
cc Professor J Imrie
cc Mrs Beulah Jacobsen

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

21 August 2018

Mr G Hoddinott 203500619
School of Applied Human Sciences – Psychology
Pietermaritzburg Campus

Dear Mr Hoddinott

Protocol reference number: HSS/1051/011D
New Project Title: Toward a conceptual model of 'the '; an exercise in theroy generation in the problematic space of School-Based HIV prevention through behaviour change intervention

Approval notification – Amendment Application

This letter serves to notify you that your application for an amendment dated 16 August 2018 has now been granted **Full Approval** as follows:

- **Change in Title**

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Professor Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr Mary van der Riet
cc Academic Leader Research: Professor D Wassenaar
cc School Administrator: Ms Tembisa Magojo

Humanities & Social Sciences Research Ethics Committee
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Appendix C

Informed consent form for
Umthombo Wentsha – Ukuhlomisa Umphakathi Wesikole

Hello, my name is Graeme Hoddinott. I am a researcher and a psychologist at the Africa Centre for Health and Population Studies, University of KwaZulu-Natal. We are doing a study on empowering the school community to protect youth from HIV. I will be working with two schools in the Hlabisa sub-district of KwaZulu-Natal for the next year and a half. At these schools I will talk with girls, boys, out-of-school youth, potential mentors for youth, parents and interested community members, school staff, policy makers, and those responsible for school operations. In talking to these people I will both listen to what the school community thinks and try to create a plan so we can act together to stop HIV.

I am speaking with you because I believe you have valuable information about youth and HIV, what should be done and who should do it. We have identified your school community because we have conducted previous work with the school over the last few years. We have been given approval to conduct the research at this school by the Senior Management Team (SMT), the School Governing Body (SGB), district and sub-district Department of Education and an independent Ethics Review Board from the University of KwaZulu-Natal.

If you agree that you, or the child of whom you are a guardian, will participate then it will involve either 1 or 2 meetings with me and the group that you are part of (for example, girls with girls, boys with boys). These meetings will be about 3 hours long (this includes breaks for refreshments). At each meeting we will not just sit and talk, instead there will be activities to show each other what we mean (for example voting to list what are the biggest problems for youth and HIV).

The meetings will be video recorded from behind you so that I can look later at what happened and not forget important things that you may say or do. But I will never use these videos to show other people who said what. There will be no way for anyone who was not at the meeting to know that it is *you* saying or doing something. The research is interested that *a person* may say or do something, it is not interested that it is *you*. We will keep who you are confidential. All information we collect is kept in a safe place (not at the school) for five years and then it is destroyed.

Nobody who takes part in this research will get any money or goods for doing so. But they will get the satisfaction of knowing that they are helping their community and the youth in it.

Even if you agree that you (or the child of whom you are a guardian) will participate, should you feel uncomfortable at any point or wish to stop you are welcome to do so. You will not be penalised in any way for stopping. Nobody is forced to participate.

We will use the information in this study to develop a programme of different things that we hope will help stop youth getting HIV in South Africa. In order to do so we will show our ‘findings’ to other researchers, to policy makers and to the other school communities in the form of written articles and presentations. This will be done locally, nationally and internationally as well.

Anyone who participates in this research is allowed (and encouraged) to see the 'findings'. For this reason we will schedule a presentation at the school once the research is finished.

For more information contact:

Graeme Hoddinott (Research Coordinator of *Umthombo Wentsha*):
035 550 7608

Prof. John Imrie (Assistant Director, Africa Centre for Health and Population Studies):
035 550 7640

Ntombi Mncwango (Community Liaison Officer):
035 550 7500

Thank-you for your time. If you wish to participate (or for the child for whom you are guardian to participate) please complete the form below:

By signing this form I acknowledge that I understand what the research study is about, what is expected of me (or the child for whom I am guardian), and what will happen with the research. I also know who to contact if I have questions and that I am allowed to stop participating if I wish to:

Signature of participant (or guardian): _____

Date: _____

Relation of the participant to the school community (please circle one):
Girl learner/Boy learner/Out-of-school youth/Potential mentor/School staff/Parent or concerned community member/Policy maker for schools.

Signature of witness: _____

Date: _____