Radio Power: An exploration of agency for the participants of a climate change communication campaign in South Africa

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Abstract

Communication for Development (C4D) appeared after World War 2 and has since become a key approach to achieving sustainable and democratic development, especially in the Global South. It borrows from behaviour economics and psychology, focusing mostly on behaviour change outcomes. While it has been effective in public health campaigns, it consistently fails at addressing more complex issues, or "wicked problems", like as climate change.

Inspired by agentic perspectives in development studies and the potential of radio as a critical thinking development, dialogue, and mobilisation tool, I wondered what the potential of communication for social change to activate agency in the face of wicked problems could be.

I thus decided to explore the potential of media, and community-based radio projects to address wicked problems and catalyse agency.

I studied the impact of a youth-led sustainable living radio campaign and its impact on its producers and listeners in three communities in South Africa to understand to what extent engagement with the campaign manifested agency within its producers and listeners.

In the face of wicked environmental issues, collective agency emerged as the only potentially effective power to mobilise. I concluded that more participatory approaches are needed when designing and implementing communication for social change campaigns and recommend that agency be reconsidered as a practical and achievable short-term outcome with potential exponential impact, rather than the abstract long-term goal it's often envisioned as.

1. Introduction

1.1 Research area and problem statement

1.1.1 The climate change crisis

There is overwhelming agreement in the scientific community on the existence of climate change, with consensus levels reaching 99% regarding its human cause (Lynas, Houlton, & Perry, 2021). Scientists, governments and international organizations alike acknowledge that anthropogenic climate change—"the long-term rise in the average temperature of the Earth's by human activity" (Rahmstorf, 2008, p.35)—represents the ultimate menace of our times. They also agree on the fact that climate change is a multifaceted problem. In a special report published in October 2021, the World Health Organisation described anthropogenic climate change as the "single biggest health threat facing humanity" (World Health Organization, 2021). Similarly, the Secretary General of the United Nations calls it a "crisis multiplier with profound implications for international peace and stability" (United Nations Security Council, 2021).

As such, it represents a wicked problem: Wicked problems are typically understood as extremely complex socio-ecological problems with no clear definition or causal pathway, that are never solved because both the problem and its solution are constantly evolving (Rittel & Webber, 1973). They appear at the "interface of human and environmental interaction" (Sun & Yang, 2016, p. 2) or at the "boundaries of natural and social systems" (Dryzek as cited in Bueren, Klijn, & Koppenjan, 2003, p. 193). The growing awareness of the acuteness of the climate crisis in the global population is reflected through a recent United Nations Development Program (UNDP) and University of Oxford "Peoples' Climate Vote" survey, the largest survey of public opinion on climate change ever conducted, with over 1,2 million respondents in 50 countries. According to the survey, "64% of people believe that climate change is a global emergency" (University of Oxford, 2021).

In its February 2022 report, the Intergovernmental Panel on Climate Change (IPCC) confirmed that people and ecosystems least able to cope with climate change are being hardest hit (International Panel on Climate Change, 2022). Africa is the continent most affected and the situation is likely to worsen with the passage of time (Harvey, 2011; Shahadu, 2012). Ironically, Africa's contribution to global emissions stands negligibly at around 4% (Ayompe, Davis, &

Egoh, 2020). While civil society networks, and particularly youth movements, are mobilising across the continent (Reid, Ampomah, Rabbani, & Zvigadza, 2012), there isn't consolidated data on climate change awareness of the general population. The Peoples' Climate Vote survey provides some insights when it comes to the awareness of the climate crisis on the continent. Sub-Saharan Africa comes last in the ranking of all regions surveyed. Though South Africa ranks as the first African country on the list in terms of awareness levels, the 2018 Afrobarometer survey highlights that "more than half (54%) of South Africans never heard of climate change. Rural residents (63%), women (58%), and citizens without formal education (65%) were particularly likely to be unaware of the phenomenon. Only about half (52%) of those who were familiar with climate change believed it needs to be stopped and far fewer thought they could do a lot (20%) or even a little bit (15%) to help fight it (Nonjinge, 2018).

Beyond these numbers, there is little found in the literature on Africans' general perceptions of climate change, defined as a combination of "awareness, belief in its human cause, risk perception, need to stop it and self-efficacy" (González, 2021). Even in South Africa, where information is more available, most studies focus on perceptions of how climate change affects tourism and agriculture sectors. "This lack of specific literature on public knowledge, views and attitudes about climate change communication in Africa and the fragmented nature of research in the field have created gaps that need to be filled" (Shahadu, 2012, p.5). These gaps represent a clear impediment to designing climate change-related campaigns that are relevant to the local contexts and communities.

1.1.2 Communicating climate change in Africa

Information dissemination through the media is widely acknowledged as a tool for social change by addressing complex social issues through creating awareness, empathy and mobilisation from readers, viewers or listeners (Kraidy, 2002). On the African continent, community radio remains the most popular media, way ahead of TV, newspapers, and commercial radio. Its main appeal is that it is cheap to produce, it broadcasts in local languages and is accessible even in remote communities (UNESCO, 2020). To be labelled as a "community radio", a station must be a non-profit entity, currently broadcasting, offer a service to the community in which it is located (or to which it broadcasts), and elicit the participation of this community (AMARC, 1994, p.4). It is estimated that more than 2000 community stations currently broadcast in Sub-Saharan Africa, and more than 4000 across the continent

(Ntshangase, 2021). In South Africa, 249 community radio stations were counted in 2020 (Wits Radio Academy, 2020). Because of its mandate of public service, community radio has been identified as particularly well-suited for development and social change (Manyozo, 2010).

At the intersection of the development and communication sectors is Communication for Development (C4D), which aims to persuade and mobilise people around social issues by disseminating messaging via a broad range of mass, community-based and social media channels (Servaes, 2008). This approach is often used by local and national authorities, non-governmental organisations, and United Nations agencies.

The main methodologies used by Communication for Development borrow directly from behavioural psychology, which studies the determinants of human behaviour and how to influence them. Such theories can be effectively applied to tackle straightforward challenges, such as road safety or simple health issues (Laverack, 2017). Their linear change pathway is less geared towards addressing complex issues like climate change. The overall challenge communication for climate change initiatives have in reaching their expected behavioural change goals has been noted (Van Der Linden, 2014), raising questions about the effectiveness of those approaches (Shahadu, 2012). In addition, ethical issues have arisen in terms of how the behaviour change methodology applied to communication prolongs a neo-colonialist approach, especially when campaign outcomes are set by international NGOs in charge of designing and implementing campaigns with limited input from local actors (Laverack, 2019; Tengland, 2012). These ethical concerns echo broader concerns expressed by critical theorists about the "ambiguous nature" of international development when it comes to empowerment (Ingram, 2017, p.677).

In this context, alternative communication for development models have been brought forward that aim at developing cognitive capacities and self-efficacy rather than using them to achieve a subsequent change in behaviour (Tengland, 2012). These models aim at developing agency, a concept broadly understood as the ability to shape one's own world or "to make purposeful choices" (Samman & Santos, 2009). This process could eventually lead to what Laverack describes as "organic change" or "concerted actions at an individual or community level to gain control over the social, economic and political influences that are necessary to improve people's lives and health" (2019, p.1). It also contributes to sustainable development, defined in 1992 at

the Earth Summit in Rio de Janeiro as progress that "equitably meets development and the environmental needs of present and future generations" (Hens, 1992).

1.2 Aims and objectives

1.2.1 Research aim

This aim of this research was to understand the impact of a radio-centred communication campaign and explore the potential of radio to develop agency in response to wicked problems like climate change.

This research straddled the fields of communication theory, psychology and climate change research but is anchored in praxis and aims to contribute to the fields of community development and communication for social change. It was less concerned with examining the effectiveness of the campaign with regards to its intended goals as it is with participants' emerging empirical manifestations of agency. The latter point was particularly important to me, as most articles available looking at agency in the context of communication for social change do so from an abstract perspective rather than from the experience and opinions of recipients. This study purposively focused on the decision-making process and how agency develop at that micro-level, without underestimating the influence of structures and external factors.

1.4.2 Research objectives

To achieve this aim, the research studied a specific youth-led climate change and sustainable living radio campaign called *Earth our home* and its impact on participants at four sites where it was conducted in South Africa. It uses a case study methodology including a document review and semi-structured interviews with 21 respondents, to answer the following research questions:

1. What is the potential of communication for social change to trigger agency in the context of a wicked problem like climate change and how are the manifestations and characteristics of this agency perceived?
2. What characteristics should social change campaigns feature in order to foster agency in the context of wicked problems such as climate change?

After analysing how agency manifests in different settings, I developed an agency activation framework that includes templates for community radio stations and other stakeholders to use

when creating communication campaigns that help recognize, activate, and sustain agency at the community level. The primary target audiences of the innovation are community radio stations and local and international organisations using C4D to foster agency at the local level. The framework is illustrated in Appendix 1. I hope these findings and tools will provide useful guidance in how to set objectives, indicators, and pathways of change for future communication for social change campaigns.

2. Literature Review

2.1 Introduction

Literature about the main constructs that I am exploring, namely wicked problems (and super wicked problems such as climate change), agency and empowerment, and communication for social change, is abundant, and crosses over different fields or disciplines such as media theory, development studies, psychology and sociology. The intersections have started to attract focus over the last few years (Harvey, 2011; Servaes & Lie, 2015; Shahadu, 2012; Shahzalal & Hassan, 2019; Van Der Linden, 2014), both in the academic and the praxis spaces as traditional approaches to deal with wicked problems such as climate change via the media and communication campaigns have so far proven mostly ineffective (Van Der Linden, 2014).

Scholars and practitioners have come to realise that trying to influence people's behaviour wasn't able to trigger change of the nature and scope required by the current climate emergency. It is this realisation, and quest for alternatives that I am interested in exploring as it could provide some practical applications when it comes to using communication for social change, particularly in relation with climate awareness and adaptation. I am going to first unpack the construct of wicked problems, focusing particularly on climate change as a super wicked problem, and what approaches have been brought forward to address them. This will allow me to then bring forward the construct of communication for social change and how is has been developed to help understand how human beings interact with wicked problems and what strategies can be put in place to help tackle them. And finally, I will focus on two models widely used in communications for social change, the behaviour change and the agency models, and explore whether the latter holds potential for more sustainable change, using Laverack's concept of "organic" change.

2.2 Wicked problems and climate change as a super wicked problem

2.2.1 Wicked problems

Wicked problems are extremely complex issues with no clear definition or causal pathway (Rittel & Webber, 1973). Originally coined to describe social planning policy issues, the terms has been applied since to the social, political, economic and environmental fields. The term wicked was originally crafted to seem "akin to that of 'malignant' (in contrast to 'benign') or

‘vicious’ (like a circle) or ‘tricky’ (like a leprechaun) or ‘aggressive’ (like a lion, in contrast to the docility of a lamb)” (Rittel & Webber, 1973, p.136). The authors decided to use a word that was loaded enough to strike the imagination, while leaving enough room for interpretation about the problems’ true nature and attendant threats. Rittel and Weber listed 10 characteristics to gauge and grasp the scope, complexity and commonalities existing between the issues, while conceding that it is difficult to coin definitions. The 10 criteria point to both the relative and the holistic nature of wicked problems.

1. There is no definite formulation of a wicked problem.

2. Wicked problems have no stopping rules.

3. Solutions to wicked problems are not true-or-false, but better or worse.

4. There is no immediate and no ultimate test of a solution to a wicked problem.

5. Every solution to a wicked problem is a “one-shot operation”; because there is no opportunity to learn by trial-and-error, every attempt counts significantly.

6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.

7. Every wicked problem is essentially unique.

8. Every wicked problem can be considered a symptom of another [wicked] problem.

9. The causes of a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem’s resolution.

10. [With wicked problems,] the planner has no right to be wrong.

The authors concluded that understanding and formulating the problem was the most important component in the journey towards finding its solution. In attempting to define wicked problems, scholars have been opposing them to problems “that scientists and perhaps some classes of engineers deal with” or “tame” problems” (Rittel & Webber, 1973, p.136) that can be solved by following a step by step recipe, even if they are extremely complicated. In a word, “problems that lack simplistic or straightforward planning responses” (Levin, Cashore, Bernstein, & Auld, 2007, p.3). This points to the fact that despite the scientific method seeming to be the most

obvious approach to follow, its logical, positivist approach has actually failed to solve wicked problems and might actually have contributed to their emergence, or at least their multiplication (Sun & Yang, 2016).

Wicked problems obviously pre-existed their conceptualisation, but in the 1960s and 1970s, "alerts have come from specialists in many quarters" (Roberts, 2000, p.2) who were confronted by unsolvable problems. Roberts (2000), gives a different hypothesis to explain the alarm bells ringing across the globe, pointing to technological advancements, the rise of democracy, increased innovations in public management including a trend towards decentralization, allowing more people to input decision-making processes and increasing their complexity. Bueren et al. suggest that the concept of uncertainty is at the core of wicked problems, but they dismiss the lack of technical knowledge as the main source of uncertainty. They describe the cognitive confusion we all face when trying to grasp wicked problems, as "great uncertainty with regard to the nature and extent of the risks involved for individuals and society as a whole" (Bueren et al., 2003, p.193). They also highlight the institutional uncertainty that "results from the fact that decisions are made in different places, in different policy arenas in which actors from various policy networks participate" (Bueren et al., 2003, p.194). In other words, when it comes to wicked problems, decisions are made at different levels of decision-making and often in an uncoordinated manner.

Following this argument, Coyne goes further by saying that as soon as people are involved "wickedness is the norm" (Coyne, 2005, p.12). The social element is pivotal in understanding wicked problems, as Bueren et al. (2003, p.194) put it "dealing with wicked problems is - to a large extent - a problem of interaction." People bring different backgrounds, values, opinions and agendas to the decision-making process, the greater the number of people involved, the more complex the issues become.

Conklin introduces the concept of fragmentation that **"**occurs when decision-makers each believe that they have defined the problem correctly to the exclusion of other definitions. As a result, individuals and organizations alike perceive themselves as more separate than united, and (…) information and knowledge are chaotic and scattered". (Conklin, 2005, p.1) Sun & Yang explain that, in the context of the current global climate change debate, the main issue is the "disconnect between stakeholders" (2106, p.3). This disconnect is multi-faceted, it includes a "lack of shared understanding of climate change as a problem, of the roles and responsibilities

that organizations must play, of the potential solutions offered by clean technology" (Sun & Yang, 2016, p.3).

Wicked problems are also interconnected by nature and they appear to be increasingly so. For Vogel et al. (2016, p.515) in the context of climate change, it means acknowledging that "the interaction of the complexities of global environmental change, entangled with economic, political and developmental issues make for a suite of issues that require different approaches, understandings and learning" (2016, p.515). This resonates with the fact that global warming is currently recognised as an aggravating factor contributing to global public health crises, conflicts and migrations, amplifying poverty and inequalities. Thus, the term climate justice comes to frame global warming with an intersectionality lens as a political and ethical issue, not only an environmental one (Kaijser & Kronsell, 2014).

Sun and Yang (2016, p.1) emphasise that "while the notion that climate change as a global problem is widely accepted, the issue of what to do remains highly controversial, with different disciplines providing a variety of recommendations." They then bring concepts from the field of systems thinking and complexity theory, like the concept of social mess, which offers more nuanced insights of the issues at stake. The concept of social mess, is very close to the concept of wicked problem, but seen from a systems lens wherein **"**every problem interacts with other problems and is therefore part of a set of interrelated problems, a system of problems" (Ackoff, 1990, as cited in Sun and Yang, 2016, p.6).

Climate change has been described as a social mess in the context of a globalised planet, where we have entered a "systems age" (Lazarus, 2009, p.6). Climate change, as the main symptom of a multiplicity of different yet inter-related wicked problems, all with their local complexities and specificities, is indeed a global problem. All human beings are now involved in this global social mess, but the most affected people are rarely the main cause of the issue. The result of this complexity is that most often stakeholders find it difficult to collaborate, to understand and even to tackle the issue. "The failure to reach an agreement on the desired outcome further exacerbates the original wicked problem, therefore transforming it into a 'super-wicked' problem" (Lazarus, 2009, p.2).

2.2.2 Super wicked problems

The term super-wicked problem was specifically crafted to describe climate change. It adds an extra level of complexity, as super wicked problems have four additional characteristics: "Time is running out, there is no central identity, those seeking to end the problem are also causing it and hyperbolic discounting" (Levin, Cashore, Bernstein, & Auld, 2007, p.3). In the case of climate change, the latter means that the long-term impact of global warming is irrationally disregarded to allow short term benefits of a certain behaviour, such as the convenience of using cars or planes. The scope of the hyperbolic discounting is often proportional to the current risk at stake for a specific person. It often only diminishes or vanishes all together when concrete threats to one's lifestyle or even life arise. This constant evaluation of the costs versus the benefits of a behaviour combined with the propensity to choose immediate reward over higher-value, delayed reward, is well documented by scientists that describe "the true objective of the brain is to maximize the rate of reward" (Haith, Reppert, & Shadmehr, 2012, p.11727). As a result "individuals in interdependent situations face choices in which the maximization of short-term, self-interest yields outcomes leaving all participants worse off than feasible alternatives"(Ostrom, 1998, p.1)

The COVID-19 pandemic that started in late 2019 has very quickly been identified as a wicked problem or a wicked mess (Friedman, 2020; Mathur, 2020; Mitroff, 2020) by academics from disciplines ranging from education psychology to public health and technological forecasting. In fact, COVID-19 presents all the characteristics of a super wicked problem and is of interest here in its overlap with social justice, communication for social change and climate change issues, as insightfully expressed by Watson et al: "The COVID-19 pandemic is, metaphorically speaking, the canary in the coal mine, a rehearsal for the fragility of living in a neoliberal globalized world. It forces us to pay closer attention to the complex interwoven threats of health inequity, economic insecurity, environmental injustice, and collective trauma. These complexities have highlighted our global interdependence while also making visible racism, classism, and the climate crisis shaping our lives" (2020, p.2).

2.2.3 Strategies to tackle wicked and super wicked problems

Scholars warn of trying to tackle wicked problems with solutions meant for more straight forward or "tame" problems (Roberts, 2000; Conklin, 2005). Roberts explores the main strategies used to tackle climate change, focusing on who is making the decision. On the one

end of the spectrum, she describes “authoritative” or “taming” strategies that “diminish the level of conflict inherent in wicked problems by putting problem-solving into the hands of a few stakeholders who have the authority to come up with a solution” (Roberts, 2000, p.4). She warns from the danger of trying to tame wicked problems by “turning them over to experts or some centre of power for definition and solution” (Roberts, 2000, p.16). On the other end she finds “collaborative strategies” that involve getting “the whole system in the room”, to learn from one another and for the different parties to be “open to self-organisation and co-evolution” (Roberts, 2000, p14.).

The search for solutions to such problems needs to be seen as a social process in which “many parties are equally equipped, interested, and/or entitled to judge (them), and these judgements are likely to vary widely and depend on the stakeholder’s independent values and goals ”(Rittel & Webber, 1973, p.17). That’s why it seems crucial to involve the whole network of people that is engaging with the problem and to harness their “collective intelligence’ as “having a few brilliant people or the latest project management technology is no longer sufficient” (Conklin, 2005, p.17). This network approach facilitates the introduction of more collaborative, horizontal and dialogic strategies that could open potentially promising pathways for effectively tackling wicked and super wicked problems.

The network needs to be strongly grounded in and informed by a specific context as “no two wicked problems are alike, and the solutions to them will always be custom designed and fitted and (…) one is always a beginner in the specifics of a new wicked problem” (Conklin, 2005, p.8). Some specific methodologies like co-production of knowledge (CPK), have been developed to tackle environmental issues from a scientific perspective. CPK is an inclusive approach which enables “a wider framing of environmental challenges and (its) ownership by various publics, and pave the way for effective implementation of solutions and actions” (Vogel, 2016, p.515).

Thompson Klein (2004), argues that this participatory approach, where multiple stakeholders are consulted, not only to provide knowledge towards a solution but also in the framing of the actual issue at stake, represents “a more democratic form of knowledge production as knowledge is assumed to exist more widely in society”. According to this methodology, stakeholders are “specialists of everyday life” (Thompson Klein, 2004, p.518). This type of approach will obviously result in more messy processes as “the natural pattern of problem

solving behaviour may appear chaotic on the surface, but it is the chaos of an earthquake or the breaking of an ocean wave – it reflects a deeper order in the cognitive process"(Conklin, 2005, p.6). Such techniques have also been used in the context of consulting with rural communities around development projects, under the label of participatory rural communication appraisal (Cavestro, 2003).

For some scholars, the network approach needs to include a small-scale component to be effective. Sun and Yang advocate for a more modest approach when it comes to the time of tackling climate change and a focus on the micro level that "would prove more beneficial than seeking to tackle the entire social mess of climate change" (Sun & Yang 2016, p.6). This would allow communities, organisations and countries to focus on "local approaches rather than universal solutions, thereby allowing (them) to identify the components of their own problem—the social mess—in order to achieve a better understanding of its global context" (Sun & Yang, 2016, p.6).

The specificities (environmental, cultural, economic and political) of the understanding, become a strength of the network approach, as the lessons, solutions or mutual understandings are recorded and shared to contribute towards formulating a broader solution. This is what Levin et al. (2007, p.4) call "the Big Bang approach" because "the very nature of super wicked problems (that) militates against the political achievability of one shot, large-scale responses." Conklin (2005) points at "addressing the fragments" while Fiol and Lyle talk about manageable "chunks" (as cited in Sun & Yang, 2016) that are easier to tackle. This approach would be a way to reduce cognitive uncertainty and the feeling of being overwhelmed by wicked problems. Sun and Yang argue that organisations, as the quintessential complex adaptive system, would be the best placed units at which decision-making is made in order "break down the problem into smaller components" (Sun and Yang, 2016, p.11).

Other scholars emphasize the fact that these changes don't have to bring about perfect answers to be worth implementing. This is based on the concept of "bounded rationality" introduced by Simon (2000), which can be defined as the awareness of the limitation of one's knowledge. Essentially, rationality, and therefore knowledge, are always limited and situated, and the awareness of this allows individuals and organisations to interact with each other in a more productive manner. Perry insists on the fact that "clumsy solutions, while intrinsically inefficient, provide the way forward since (they) recognize that conflict among stakeholders is

inherent to complex issues and, as such, these solutions incorporate dialogic methods that bring together disparate perspectives in a manner that is at once, adaptive, participatory, and transformative" (Perry, 2015, p.8). Other authors also recommend the use of unconventional cognitive tools to facilitate these processes of learning and change. Such new models include the use of specific functionalities of human thought, like reflexivity, "to improve learning capacity, in order to more fully 'reflect upon our actions, intentions, and motives'" (Clark, G.L.; Marshall, J.C.2002, cited in Sun & Yang, 2016, p.9). The concept of tacit knowledge is invaluable as it can be inferred that "an intrinsic part of the cognitive process, (is) essential for gaining new insights into how others perceive the same problem" (Sun & Yang, 2016, p.11).

The scope and unpredictability of climate change requires tools like creativity to shortcut the learning process and foster innovation and adaptation as "human beings often benefit from thinking processes that exist outside the realm of rationality, namely imagination and creativity, tied to emotional responses or affect" (Sun & Yang, 2016, p.9). Climate change is increasingly understood to be one of the most important problems of our time as it ties in so many socio-politico-economic issues and as such, it requires a global yet local and integrated response. "Only in this integrated way is it possible to limit the effects of climate change and to achieve sustainable development and social equity, including poverty eradication "(Sun & Yang, 2016, p.1).

2.2.4 The critique of wicked problems theory

Some recent scholarly contributions argue that despite its attractiveness in "drawing attention to the complexity and interconnection of societal issues and the multiplicity of stakeholders involved" (Niskanen, Rask, & Raisio, 2021, p.3), the use of wicked problems theory to analyse issues such as climate change bears some intrinsic weaknesses. Noordegraaf et al. describe three main flaws "(1) the daily experiences of people and their practices are missing from the grand narratives about wickedness, (2) the potential of collaborations and learning to address these problems is romanticised. (3) the implications for managerial and professional perspectives are unclear" (Noordegraaf, et al., 2019, p.278). In a nutshell, the criticisms highlight the gap between theory and practical applications of the concept, the fact that "wickedness theory in its current shape and form does not contribute enough to the ability to tackle wicked issues in practice" (Noordegraaf, et al., 2019, p.278).

While all three criticisms are key to keep in mind when looking at climate change as a wicked problem in the context of communication for social change, the second one, that targets more specifically some of the above-mentioned strategies to tackle wicked problems is particularly relevant to this research. Noordegraaf et al mention a "playful, positive and optimistic overtone in wickedness theory – with emphases on networks, trust and learning –which seems unrelated to the roughness of wicked issues experienced" (Noordegraaf et al., 2019, p.279). Instead, they argue that more focus needs to be on documenting practical applications of wickedness theory in their successes and failures "the difficulties of building networks and trust will have to be seen as part of wickedness, instead of a way out" (Noordegraaf et al., 2019, p.283).

Niskanen et al. describe how wicked problems theory originates in the West and has up to date mostly been used to describes issues taking place in the global North. They nonetheless warn that "the concept's limited usage in the literature on Africa does not, however, mean that the continent's countries, societies, and peoples are free from serious challenges" (Niskanen et al., 2021, p.1) They also question whether the typology (the original once crafted by Rittel almost 50 years ago, but also more recent iterations grounded in the Western context) succeeds in describing contemporary African complex challenges. For example, in their systematic literature review of wicked problems in Africa, climate change appears widely as a subcategory of Environmental Resource Management, but only one article makes it its primary focus. They point out that this reflects a narrow inquiry about how the issue of climate change on the continent is being handled by scholars.

To broaden the focus on Africa, Niskanen et al, introduce the concept of "dual wickedness" or "wickedness within wicked- ness" arguing that the "concept could potentially advance the discussion on wicked problems by providing a perspective rooted in the African context" (Niskanen et al., 2021, p.9). They claim that many wicked problems in African are exacerbated by "the continuing impact of colonial or apartheid history on people or broader cultural contexts" which can come to explain a distrust in authorities and public policies and a lack of "sense of collective 'ownership' of public property" (Niskanen et al., 2021, p.10).

2. 3 Communication for social change

2.3.1 Principles and history

Communication for social change, sometimes also called development communication, communication for social change or communication for development (C4D) is a subfield of communication theory, which is as multifaceted as its name. In its 2018 report, the USAID SPRING Institute sums up where it comes from and what it aims to do in a straightforward manner:

For thousands of years, traditional storytelling—the most basic approach to communication and knowledge transfer—has been used to help change or reinforce social norms and promote the adoption of individual and community-level behaviours. Thanks to modern media technologies, storytelling can now have an even broader impact on communities and individuals, motivating them to improve the nutrition and health of families, friends, and neighbours. (SPRING, 2018, p.1)

In other words, it uses media and other forms of interpersonal communication to address problems (often wicked ones), focusing specifically on a change in individual behaviour. The main thematic areas covered by communication for social change campaigns are health, education and protection. Climate change communication is one area of communication for social change that has grown exponentially in the last twenty years under pressure from the global climate crisis. Climate change communication examines "a range of factors that affect and are affected by how we communicate about climate change (Chadwick, 2016). So far studies of climate change communication have been largely limited to the global North (Harvey, 2011; Van Der Linden, 2014). Despite climate change communication being a growing field, there is a consensus around the current lack of understanding of the issues at stake amongst the general population (Van Der Linden, 2014), particularly across the African continent (Chari, 2016)**,** which in turn has led to a feeling of powerlessness to implement potential remedial actions (Shahadu, 2012).

Communication for Social Change Theory and Climate Change communication are based on Social Learning Theory, which infers as a basic principle that human beings learn through observing others. It insists on the influences of social variables on the learning process indicating that all learning happens through interaction. In Albert Bandura's Social Learning

Theory, the media can also be a source of knowledge acquisition and behaviour change, as observation can be “symbolic” and done through mediating objects such as a television (Bandura, 1977). Mass media (TV, radio and print) has generally been perceived as one of main vehicles for knowledge dissemination since the 1960s, at least in the global North. “The media play a central role in informing the public about what happens in the world, particularly in those areas in which audiences do not possess direct knowledge or experience” (Happer & Philo, 2013, p.1).

Bandura’s theory relies on “observational learning”, where the observer will “model” their emotional experience on what the character in the show does or feels and use this information later in their life. For Bandura "media representations gain influence because people's social constructions of reality depend heavily on what they see, hear and read rather than what they experience directly" (2004, p.78). But it is important to note that according to Social Learning Theory, it’s not because something has been learnt that it will necessarily result in a change of behaviour (Fryling, et al., 2011).

In the case of climate change communication, most scholars agree that most “public awareness and understanding of climate change are linked to media coverage”(Chadwick, 2016, p.8). Following Bandura’s exposure theory, more media coverage of climate change is associated with more awareness (Nisbet & Myers, 2007). Knowing more about climate change is associated with greater concern about climate risks (Milfont, 2012), but this won’t necessarily translate into a change in behaviour (Fryling et al., 2011; Van Der Linden, 2014). Some scholars also point at the negative influence media coverage can have, on the opinion the public forums on climate change-related issues: “numerous studies have questioned the efficacy and professional ethos of the mass media in communicating climate change, with some scholars accusing the mass media of mis-communicating, mis-reporting, distortions or falsification” (Chari, 2016, p.1)

It is important to trace back the history of communication for social change as a discipline to understand its origins, the different phases it has been through and what it currently looks like when applied as a tool to further the development mandate of NGOs, United Nations agencies, governments and communities mostly across the Global South. Development communication emerged as a discipline after World War II, as a “strategy to use mass media to foster positive social change, which, in turn, was believed to enhance the socioeconomic development of a

country"(Kraidy, 2002, p.931). It was based on neo liberal economic theory and modernists media theory that assumed that messages conveyed through mass media could have a direct influence on the minds of their audience. This presumed a central direct power or authority launched the "diffusion", which in turn led to the genesis of development communication as a discipline for nation building and economic development. Servaes, notes that "the media were seen as magic multipliers, able to accelerate and magnify the benefits of development" (2008, p.18). According to this model, the flow of communication goes only one way, from top to bottom, and often from the Global North to the Global South.

Starting in the late 1960s, the second phase of development of Communication for Social Change was based on a radical paradigm shift from modernist theories to post-modernists, which brought concepts like participatory development and consultation with the audiences to the forefront. It came as a backlash to interventions that were perceived by some scholars, like Golding and Freire, as neo-colonialist, ethnocentric and with the hidden agenda of opening new markets for Western countries. This is what Rogers, one of the first critics of the emerging science, called the "dominant paradigm", in his opinion based on scientific premises that oversimplified the issues at stake and the lives of the "recipients" of the message. In this context, Rogers crafted a new definition which describes communication for social change as "a widely participatory process of social change in a society, intended to bring about both social and material advancement… for the majority of the people" (1978, p. 68). The need to better understand the local context in drafting strategies emerged strongly as "a lack of understanding of the complexity of behavioural, societal and cultural factors on end-user consumption patterns has more often led to ineffective, or even counterproductive outcomes" (Servaes, 2008, p.17).

Community participation is regarded by many scholars as an essential requirement for meaningful communication. "The consensus around this issue seems to be almost universal. Currently, there is no development organization that does not put the notion of participation at the forefront. (…) communication for sustainable development is about 'people first"(Mefalopulos, 2005, p.248). Participatory and grassroots approaches are strongly embedded in most communication for social change initiatives and taken as a pre-requisite for both moral and effectiveness criteria. "The point of departure must be the community. It is at the community level that the problems of living conditions are discussed, and interactions with

other communities are elicited. The most developed form of participation is self-management" (Servaes, 2008, p.23).

Participation and engagement cover a broad scope of concepts and many different typologies, scales and ladders including those of Arstein, Pretty, Hart, Kanji & Greenwood who have mapped its different variations from no participation to full participation, with in between stages including manipulation, tokenism, consultation and collaboration. With participation at the core, getting a message across is not necessarily the aim of development communication, which focuses more on creating spaces of dialogue and knowledge sharing for action. "Development communication is the sharing of knowledge aimed at reaching a consensus for action that considers the interests, needs and capacities of all concerned. It is thus a social process" (Servaes, 2008, p.391). The focus moves from a dissemination model to a "receiver-centric" model. "With this shift in focus, one is no longer attempting to create a need for the information one is disseminating, but one is rather disseminating information for which there is a need" (Servaes, 2008, p.22).

This second phase also shaped up when researchers and practitioners started to realise that the role of mass media in impacting social change, was not as direct and powerful as first thought. Lazarsfeld, and later Klapper crafted the "limited-effect" theory that shows that interpersonal connection is more effective than the media in influencing perspectives. This theory has been widely corroborated and is nowadays agreed upon by most media practitioners and academics alike (Katz, 2001). Hornik for example sees the value of mass media as a "catalyst, organizer, maintainer, equalizer, and legitimator-motivator" and "effective complementary strategy" (cited in Krady, 2002, p.932) but maintains that it isn't sufficient in itself. The need for interpersonal conversations to relay and strengthen mass media messages then became evident. It was done through formalising approaches such as peer to peer, community meetings and community dialogues and by harnessing community media. Modernist approaches still lingered, and often blended with participatory ones in a quest for more effectiveness. For example, the two-step flow model was developed, which involves "ambassadors" of the campaign, for example extension workers in the agriculture field who relay and explain the message conveyed by the media to farmers and members of rural communities.

Currently, the discipline is borrowing from both paradigms, grounding itself deeply, at least in principle, in participatory practises while still applying modernists techniques, especially in

difficult, emergency situations. But it is widely acknowledged that we have moved to the age of “multiplicity” (Servaes, 2008, p.17) within a globalised context, where no country or community and the issues they encounter are totally independent from the rest of the world and where no one’s version of reality can be upheld as more valid than another.

2.3.2 Communication for social change platforms

We have explored above how effective communication for social change consists of a relevant message channelled by a combination of media and interpersonal interaction. This insinuates a context where community media is an obvious fit as “it combines some of the major benefits, elements, and strategies associated with both mass media and interpersonal communication techniques while tapping into storytelling traditions” (SPRING, 2018, p.3). It is impossible to find a prescriptive definition for community media, as it has as many variants as there are communities. It encompasses community radio, participatory video, newspaper, internet-based media and social media, but also some more traditional or alternative ways to relay information like community theatre, dance, storytelling and community meetings and campaigns. Some criteria are used to delineate the field and particularly its intent and purpose. They most often revolve around access and level of participation of the community and the nature of content shared, which needs to be local and culturally appropriate. In a nutshell, it is created in the community, by the community and for the community.

For Howley “community media represent a fertile site to examine what media do as well as what we do with media”(2010, p.6)**.** Howley also refers to the notion of “knowable communities” introduced by Williams's (1973). It is this notion of active citizenship that can express itself through community media that makes it the ideal vehicle for communication for social change initiatives. Community media such as participatory video (White, 2003) and community newspapers (Yamamoto, 2011) have attracted attention over the years for effectively promoting such participation. But since the beginnings of communication for social change, one particular type of community media captured the attention of practitioners. Community radio has been identified as the ideal medium, for its embeddedness in community, deep rooting in storytelling and oral tradition and its accessibility, for both listeners and producers.

A community radio station can be broadly defined as a not-for-profit media entity that broadcasts to a local audience and has community development as part of its core mandate.

The World Association of Radio Broadcasters (AMARC) describes community radio as "a "non-profit" station, currently broadcasting, which offers a service to the community in which it is located, or to which it broadcasts, while promoting the participation of this community in the radio" (AMARC, 1994, p.4). This mandate is achieved through the participation of the communities they reach, whether they are geographical or communities of interest, in the life and the programming of the station (Bailey et al cited in Manyozo, 2010). They also aim at serving the expression and promotion of local identities (Restrepo-Estrada & Fraser, 2002).

Over the last half century, community radio has emerged as a powerful tool for social engagement and mobilization (Myers, 2010). In the 1950s, tin miners in Bolivia used community radio to amplify their fight for better working conditions. In South Africa, community radio stations emerged in the 1980s and 1990s as a powerful mobiliser in the struggle against Apartheid (Olorunnisola, 2009). On the continent more broadly, the 'Freedom for African Radios' conference held in Bamako in 1993 marked a turning point by acknowledging the potential of community radios for social change (Restrepo-Estrada & Fraser, 2002).

The potential of community radio for the amplification of local concerns and mobilisation around them has become greater in recent years thanks to the rise of the internet and social media, which led to the term "Radio 2.0" being coined. It describes the hybrid of FM radio, internet and social media that the medium has become. It has that the potential to put radio back in the race by broadening its reach beyond its original community of listeners, but also by offering the potential for more interactive communication. This hybrid of radio and ICT is what, according to Gilberds and Myers forms the "renewed promise" (2012, p.3) of community radio to community development and participation. Various scholars argue that the role of community radio stations goes beyond information sharing, as promoters of two-way community dialogue and engagement. Gilberds and Myers (2012) and Harvey (2012) highlight the ability for radio broadcasters to act as 'knowledge producers' and therefore provide a suited platform for the emergence of collective reflection and action. This potential gets tampered by the many challenges community radio stations face on a daily basis including a wide spread lack of capacity (Manyozo, 2010) and their "NGO-ification" and instrumentalization, through which aid agencies impose their agendas onto radio managers and journalists in the context of C4D campaigns (Manyozo, 2010; Gilberds & Myers, 2012).

The potential of community radio for mobilising community members for consultation and decision-making has been highlighted in the literature (Gilberds & Myers, 2012), but not broadly implemented in practice. In some communities, the radio station is a natural gathering place, replacing the community hall, or even the police station. A place that is trusted to work for the community. Shahzalal and Hassan emphasize the fact that community radio stations possess "unique media characteristics" and therefore have more potential to influence people, than other forms of media due to their high "acceptability" (Shahzalal & Hassan, 2019, p. 811) in most communities where they are based, especially in rural areas. This can be explained by many factors described above, including the fact that the station is in the community, focused on local news and participation from listeners and broadcasts in local language. When managed according to the principles highlighted above, it represents the most visible, reliable and accountable source of information local communities and particularly rural, poor and marginalised ones can find.

When it comes to delivering climate-change related messages, various scholars regard community radio, especially in Africa, as the most appropriate medium (Chari, 2016; Shahzalal & Hassan, 2019).They nonetheless emphasise the fact that when scientific information is shared on radio, it mostly doesn't translate into knowledge. Often the information is still shared in a traditional top-down manner, for example through the "delivery of messages informing listeners about strategies for adapting, preparing them for such anticipated climate-induced events as floods and droughts, and influencing decision-making at the household level" (Godfrey et al., 2008 cited in Harvey, 2011) {FormattingCitation}. Some also point specifically at the current need for climate change adaptation, and how communication for climate change " fails to capitalize on the much greater potential of community radio to strengthen citizens' voices, openings and alternative spaces where their voices might be heard" (Pettit, Salazar, & Dagron, 2009, p. 445).

In this context, how can communication for social change principles and campaigns be owned and guided by community radio's staff and the communities they serve? They need to see communication as a process rather than a tool, as expressed by Servaes, "communication as a process, (is) often seen in metaphor as the fabric of society. It is not confined to the media or to messages, but to their interaction in a network of social relationships" (2008, p.220). It is when these campaigns are seeking to achieve this aim of fostering "communication as a

process," that it becomes possible for a powerful media such as community radio to meaningfully address wicked problems like climate change.

2.4 Impact: Behaviour change versus agency models

The two main models or approaches in development communication are communication for behaviour change (linear model) and communication for social change or participatory communication (dialogic model) (Mefalopulos, 2005). These approaches are radically different in their goals, and scholars worry that "unless there is a common, consistent theoretical framework upon which to draw, that richness of approaches and perspectives can actually be considered one of its major weaknesses" (Mefalopulos, 2005, p.248). Most mainstream communication for social change campaigns led by NGOs don't explicitly express which "model" or paradigm they follow and usually mix the two approaches, often using empowerment and agency to achieve behaviour change which is the case at *Earth our Home,* the sustainable behaviour change radio campaign I am studying.

Often, the implementers focus on "delivering activities" but they and don't know which approach they are following. One has to go digging in documents like project log frames and proposals or get clues from the actual implementation to try and figure out the paradigmatic backbone of the project. Despite being instrumental in conducting the campaign, it is often the case that, local staff at the radio station are not informed about the goals and objectives of the campaign run by local or international NGOs.

The same applies when it comes to the effectiveness of the different models. Reports evaluation which are often the only document where the effectiveness of the campaigns is mentioned, remain internal to the organisation (and its donors and partners) and are therefore very difficult to access. Likewise, it is often the case that, voices of people who are the recipients of the campaign, are a very minor part of the content of the evaluation. The academic literature is full of theories around what works and what doesn't work when it comes to communication for social change campaigns, but when it comes to effectiveness, I found that only a few articles focus on specific campaigns (Chib & Ale, 2009; Okaka, 2009; Tan et al., 2008) rather than on providing a comprehensive review. Popular media (websites like the Guardian or the New York Times) often run articles on the "top 3" most effective climate change communication campaigns, but again, I couldn't find a comprehensive database or any kind of comparative

study. As far as the grey literature is concerned, Farm Radio International, a Canadian non-profit organisation using radio to support farming communities in Africa is one of the few NGOs that makes available some of its impact studies and related published academic articles on its website but their focus is specifically on food security and farmers adaptation, rather than on the general public.

Given the lack of empirical evidence, I will focus in this section on the two approaches and the various theories regarding their effectiveness, particularly when it comes to climate change related issues in Africa.

2.4.1 The behaviour change model

Of the two models mentioned above, the most prominent one, is called social and behaviour change communication (SBCC) and can be defined as "the strategic use of communication approaches to promote changes in knowledge, attitudes, norms, beliefs and behaviours" (Johns Hopkins University, 2016). The behaviour change approach is so prominent that it has almost become a synonym of communication for social change itself. The model was renamed from "behaviour change communication" when the need to include various economic, environmental and social influences (including family, peer networks, communities and society at large) arose and a social ecological model to individual decision-making was applied (Lindridge, et al., 2013). Today, most social behaviour change communication campaigns use behavioural psychology and behavioural economics approaches, and more particularly social marketing to not only explain but also to trigger social change.

Behavioural psychology or "behaviourism", developed in the early 20th century studies human behaviour, starting from the assumption that human behaviour is acquired through a repetitive process called "conditioning" and is influenced by our social and physical environment. Behaviourists such as Pavlov and Walton have experimented on influencing behaviour through conditioning and, since the 1950s, behaviourism has been used to influence customer behaviour and choice (Wells, 2014). Behavioural economics diverges from mainstream economics paradigms as it uses behavioural psychology to assess the social emotional and psychological factors that influence an individuals' choices, rather than assuming that all choices are rational.

Nobel prize winner Richard H. Thaler is considered as the father of behavioural economics and brings about the concept of "libertarian paternalism" that justifies the use of tools like stimuli,

nudges and other types of suggestions if they aim at the betterment of someone's situation: "Once it is understood that some organizational decisions are inevitable, that a form of paternalism cannot be avoided, and that the alternatives to paternalism are unattractive, we can abandon the less interesting question of whether to be paternalistic or not and turn to the more constructive question of how to choose among paternalistic options" (Thaler & Sunstein, 2003, p.175). Some of the most prominent recent behavioural economics applications focus, with some success, on fighting poverty. "It is increasingly recognised that poverty reduction policies which are informed by behavioural insights may, as a result, be more effective" (Anand & Lea, 2011, p.284).

Behavioural communication approaches have taken the development world by storm over the last 10 years and are perceived by many as the magic bullet that will solve social issues. The success of marketing in getting people to buy products has pushed social communicators to adopt and apply similar techniques to lead people to adopt what is perceived as "positive" behaviour through meticulously crafted campaigns often using a combination of interpersonal interactions, community media and mass media. Some key principles of social marketing that distinguish it from advertising are the ideas that the target group is actively engaged in the campaign and that it should have a long-term social goal beyond the immediate objectives of the campaign (Government Communication Network, 2009). Most behaviour change models are based on the crafting of messages that target the different determinants of behaviour such as individual knowledge and attitude, feeling of self-efficacy and social norms by appealing to the cognitive, affective and conative components of the brain (Shahzalal & Hassan, 2019). Central to this approach is the assumption that behaviour is "the outcome of a linear and ultimately rational process" (Hargreaves, 2011, p.81).

One of the most prominent models used in this approach is the 'theory of planned behaviour', developed by Ajzen's in 1991 which "posits that behavioural intention, which necessarily precedes actual behaviour, results from interactions between an individual's attitude towards the behaviour in question, their beliefs about what others think about the behaviour – the subjective norm – and their perceived level of control over the behaviour, or perceived behavioural control" (Hargreaves, 2011, p.81).

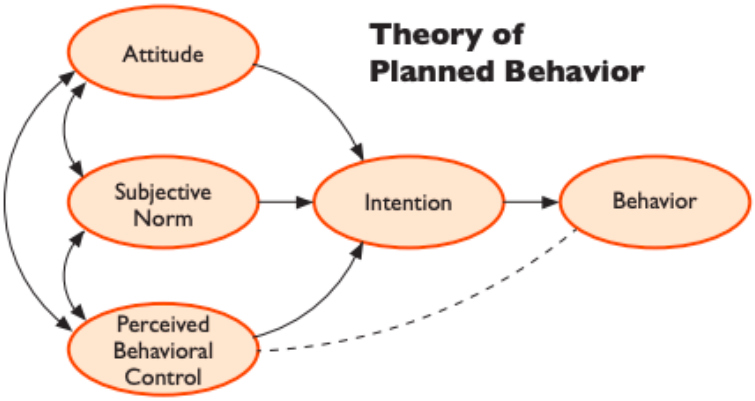

Figure 1 - Theory of planned behaviour
(Health communication capacity collaborative, 2021)

These types of interventions are very popular because "if the necessary cognitive components can be identified and modified, behavioural changes will cascade across contexts throughout all areas of an individual's lifestyle (Hargreaves, 2011, p.81). Looking at policies incentivising the use of public transport, Bamberg argues that a major reason why such models have received so much attention is because if the necessary cognitive components can be identified and modified, behavioural changes will cascade across contexts throughout all areas of an individual's lifestyle (Bamberg & Schmidt, 2010). In that sense, they allow straight forward applications of policies that are basically based on an input/output model.

Behaviour change-based communication models have shown their relative effectiveness, especially to combat health-related issues (Gordon et al., 2006; E. K. L. Nisbet & Gick, 2008) but also stark limitations. When it comes to climate change communication, it appears that these limitations are tremendously amplified. Even though the media is an important source of scientific information about climate change, and that information on the topic has been plentiful in mainstream media for the last twenty years, Van Der Linden insists on the disparity between "public communication and the lack of actualized behavioural change observed in the general public" (2014, p.2). Basically, the public has been bombarded (especially in the Global North) with information, but behaviour hasn't changed positively. If anything, it has actually become more detrimental to the environment (Corner & Randall, 2011).

A first set of limitations has to do with the underestimation of structural (economic, social, environmental) factors that influence individual decision-making. In their article titled "whose

behaviour is it anyway", Hasting et al are encouraging social marketers to take into account the "upstream influences", or in other words, the structural determinants that guide individual behaviour such as the immediate environment, economic factors, institutions, or social norms (Hastings et al., 2000). Laverack explains that "despite decades of acknowledging the direct influence of poverty, unemployment and housing on people's health, the policy problems often end up being defined as a behavioural risk such as physical inactivity" (Laverack, 2017, p.2). He also explains that he sees isolated "single interventions" like promoting physical activity, as strategic tactics that are "attractive to decision makers because they promise quantifiable results within a short time frame, are relatively simple and offer savings in healthcare services (…) However, what is clear is that single interventions simply take our attention away from a complacent policy agenda that creates the conditions of poor health in the first place" (Laverack, 2019, p.1)**.**

The second is the "knowledge-action gap" (also called the attitude-behaviour gap, the intention-behaviour gap, the knowledge-attitudes-practice gap or belief-behaviour gap) according to which, despite possessing the adequate information and acknowledging the need for action, the person receiving a message doesn't act on their knowledge (Kollmuss, 2010). Or, to put more bluntly, it is the difference between what people say and what they do. This leads them to live in a state of cognitive dissonance, or what Stoknes calls in the context of climate change "the psychological climate paradox" that allow us for example, to carry on travelling by plane while knowing the environmental consequences of this practice (Stoknes, 2014). Van Der Linden explains that to bridge this gap, most behaviour change communication campaigns provide more information, basing themselves on the information deficit model that equates lack of action with lack of information, while we are actually facing a "deficit model of human behaviour"(Van Der Linden, 2014, p.2) In that model, recipients of the campaigns are seen as "empty vessels waiting to be filled with useful information" (Ockwell, 2009, p.7),

Thirdly, scholars are also raising ethical issues with the behaviour change approach, and these issues are the same ones that behavioural economics are facing. According to these critics, these techniques are in fact, coercion in disguise:

The irony is that behavioural economics, having attacked Homo Economicus as an empirically false description of human choice, now proposes, in the name of paternalism, to enshrine the very same fellow as the image of what people should want to be. Or, more precisely, what

paternalists want people to be. For the consequence of dividing the self has been to undermine the very idea of true preferences. If true preferences don't exist, the libertarian paternalist cannot help people get what they truly want. He can only make like an old fashioned paternalist and give people what they should want (Leonard, 2008, p.360)**.**

In the context of public health and health promotion, Tengland, asks the following question: "What means are we allowed to use in trying to achieve and distribute this good" ? (Tengland, 2012, p.1). Some of the means he describes and condemns are persuasion, coercion and manipulation, arguing that they undermine people's rights. He focuses on social marketing which uses manipulative tools influencing the "individual's wants and beliefs and practises coercive interference" which undermines people's right to autonomy and self-determination by selectively limiting the knowledge they have access to and therefore can base their choices on (Tengland, 2012, p.9). A statement echoed by Kraidy who argues that given that social marketing is based on the capitalist paradigm, there are risks that it regards "individuals as consumers to be persuaded to buy a commodity, rather than citizens to be informed about issues" (2002, p.935). Laverack also highlights that these campaigns can lead to a "blaming of the victim" scenario for example, when people carry on smoking despite a campaign, which can lead "to stigmatization and to increased inequalities in health, as its focus is on individual behaviours instead of the "causes of the causes of poor health." He sums the paternalist and instrumental tendencies of this approach with the following statement "Fundamentally, people do not resist change, but they do resist being changed" (Laverack, 2017, p.2). Giving the mixed results of the behaviour change approach and the ethical issues raised, alternative or "blended" models of social change communication that place empowerment as the end goal of the campaign rather than as a mere detriment, particularly in a wicked problem context, ought to be explored.

2.4.2 The empowerment model

This brings to the forefront the concepts of empowerment and agency and how they are understood and use in the development field. Empowerment is as a process of "increasing-power" as well as the result of this process (Shahzalal & Hassan, 2019). Empowerment as a process implies that the individual or group has as much "control as possible over the change processes they are involved in" (Tengland, 2012, p.9). Agency is most often described as the

result of the empowerment process (Samman & Santos, 2009). Agency is also described as both reflexion and action (Bandura, 2006; Emirbayer & Mische, 1998).

It is important here to distinguish, with Campbell, the "materialist view that sees power as a monolithic force possessed and used by one group to dominate another" from "the social constructionist view influenced by Foucault (…) seeing power as more complex and fragmented" (2014, p.47). Rowland's typology of power (1997) developed to assist in the design of international NGOs programmes working specifically with women, draws from Foucault's heritage but adds a collective and collaborative component to his analysis. Her "power analysis" framework relies on the four following manifestations of power (whether they are in awareness or in action) and is meant to be applied to a qualitative methodology from the perspective of the person experiencing the process of empowerment and achieving agency:

Power from within - which represents an inner desire to change

Power to - which represents an individual's capacity for change

Power over – which represents the change in underlying power and resources

Power with – which represents the solidarity of creating change together

The process of acquiring agency is broadly considered as the logical goal or main "pillar" (Mefalopulos, 2005) of all communication for social change campaigns, while participation represents their standard method. "A communication model based on genuine dialogue would almost automatically produce participation and empowerment" (Mefalopulos, 2005, p.251). Despite this acknowledgment, agency is rarely at the centre of these projects.

Mefalopulos identifies a problem linked with actors on one hand defining this concept and on the other hand coming to a common understanding on its meaning, in order to apply it. Empowerment is a "charged term used in a number of different ways" (2005, p.249). Linked to this first issue, he talks about the gap between the theorization and the application, between the normative concept and its application in communication for social change projects. Finally, he notes that "true" empowerment would disrupt the business as usual or the workflow of most communication for social change projects beyond what is considered manageable:

Projects are designed away from the "field" with a strict timeframe, and consultation is often sacrificed in a deadline and outcome-driven setting. But he expresses the need for practitioners

and academics to become aware of this tension to “educate” their partners, especially authorities, and donors about the “shifting role of communication” as they need to be made to understand that “communication is not simply about sending messages, or informing and persuading people in order to change behaviour” (Mefalopulos, 2005, p.258). Tengland, nonetheless warns that true empowerment-centred processes often take much longer to achieve their goals and that it represents a hindrance not to be underestimated (Tengland, 2012).

Grounding himself in the work of Freire, Tengland describes what he perceives as the ontological difference between the behaviour change and the empowerment/agency models: “As distinct from the behaviour change approach, which primarily relies on cognitive or behavioural psychology, the empowerment approach is based on humanist–existentialist ideas about human nature (Tengland, 2012, p.5). Tones and Green call it the “ideological soundness” of the empowerment model (Tones and Green 2004, p.39). Tengland describes the positive aspects of working with empowerment as a process and agency as a goal. First by explaining that “it fully respects the participating individuals’ right to self-determination, since they are completely involved in the problem formulation, the decision process, and the actions undertaken” (Tengland, 2012, p.149) and therefore leads to knowledge development. Laverack explains that “groups that participate develop their ‘collective autonomy’, in that they develop deliberating, reasoning and negotiating skills, and therefore acquire tools for making democratic decisions” (as cited in Tengland, 2009, p.149).

The development of agency and its impact on other development outcomes or to address wicked problems like climate change, is poorly documented in the academic literature. Samman and Santos in their review article were surprised by the “dearth of studies of the determinants and impact of empowerment” (2009, p.28)**.** From the studies they reviewed, they nonetheless note a strong relationship between agency and determinants such as education or employment prospects while cautioning that "often the direction of causation is unclear” (Samman & Santos, 2009, p.25).

According to Amartya Sen’s capability approach, agency is unconditional and described as “what a person is free to do or achieve in pursuit of whatever goals he or she regards as important” (Sen, 1985 as cited in Samman & Santos, 2009). For Albert Bandura, agency also has to be intrinsic. His social cognitive theory (extension of the social learning theory) is based on an “agentic perspective in which individuals are producers of experience and shapers of

events" (Bandura, 2000, p.75). Key to Bandura's theory is the concept of self-efficacy, the belief one has in his capacity to achieve an outcome, which constitutes according to him, the "foundation of human agency" (Bandura, 2000, p.75). Bandura firmly opposes behavioural theories that propose models where agency is a means to achieve a behavioural goal (instrumental agency). In Bandura's view, these theories reduce the scope of human power of thinking and action: "These non-agentic conceptions strip humans of agentic capabilities, a functional consciousness, and a self-identity"(Bandura, 2006, p.167).

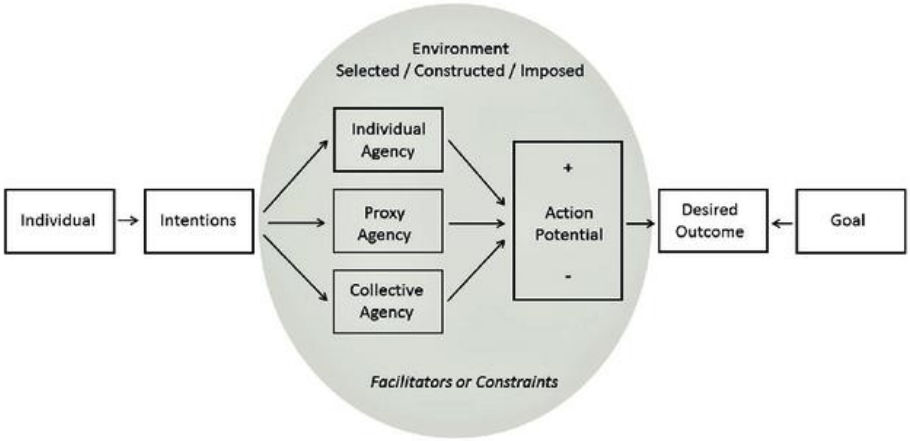

Figure 2 - Model of Bandura's personal agency

(Bergman, Bergman, & Thatcher, 2019)

Pelenc et al. (2013, p.77) make an argument that for tackling wicked problems such as climate change, agency also needs to be looked at from a moral lens. They argue that an agent is a "responsible person acting so as to generate sustainable human development". They shape the concept of "ex-ante responsibility" defined as "the individual's capacity to exercise self-restraint on a voluntary basis in order to satisfy obligations towards others"(Pelenc & al., 2013, p.86). Ex-ante responsibility also applies to non-human beings and to the environment. This echoes Bandura's inclusion of self-regulation as one of the defining components of agency (Bandura, 2006) and the concept of "forward reasoning" on which effective environmental action and policies must be based on, according to (Levin et al., 2007, p16).

Pelenc et al, critique Sen's capability approach that frames agency as an individual's capacity to act, and therefore challenge the idea that well-being is individual. They instead argue that all agency is collective as it can't exist without considering others and the environment. "Our conception of responsibility cannot be reduced to the responsibility, that each individual would

assume if acting in isolation. Every human being is responsible, but also shares this responsibility with others, thus forging a collective capacity for responsible action" (Pelenc et al., 2013, p.12). This is in line with Foucault's views of power as described by Rowlands as a property that's "relational and exists only in its exercise. It is constituted in a network of social relationships among subjects who are, to at least a minimal extent, free to act"(Rowlands, 1997, p.12).

Social cognitive theory also extends the conception of human agency to collective agency which occurs when people "pool their knowledge, skills, and resources, and act in concert to shape their future" (Bandura, 2000, p.165). For Bandura, the success or failure of a collective can't be predicted by looking at the total competencies of its members as it is rather due to the "interactive, coordinative, and synergistic dynamics of their transactions" (Bandura, 2000, p.75). This is reinforced by Pelenc et al. for whom "a view of the community resulting simply from aggregation does not allow us to understand a wide range of the mechanisms for social change" (Pelenc et al., 2013, p.12). In addition, collective agency cannot be imposed, it must emerge through a learning process based on interactions between people. Pelenc et al. highlight the role of dialogue and "public discussion" as "means through which people can reveal to others his/her own representation of what well-being is" (Pelenc et al., 2013, p.13). Ensor & Harvey (2015, p. 510), call on tools like Social Learning which is defined as an array of "practices that facilitate knowledge sharing, joint learning, and co-creation of experiences between stakeholders around a shared purpose" to improve current climate research and communication. This echoes Roberts recommendations when it comes to strategies to tackle wicked problems. She argues that social learning-based strategies are more likely to be successful if based on a "self-organizing, complex adaptive system that co-evolves as stakeholders meet, interact, and inform one another's actions" (Roberts, 2000, p.16).

2.5 Conclusion

This chapter reviewed literature that describes and investigates the value of behaviour change and agency as models for social change, or 'ideal types' as referred to by Tengland in his study of health promotion campaigns (Tengland 2012, p.142). While there are pros and cons to both models and that their effectiveness remains unclear and often context-dependent, the latter

seems to bear promises when it comes to addressing wicked and super wicked problems such as climate change.

The review of literature also shows that while most current communication for development initiatives, hold the development of empowerment and agency as their ultimate principle and participation as their standard method, they often follow the current dominant model that relies on behaviour change outcomes but with limited results. In this context, and to echo the study's research questions, it seems interesting to further explore the potential of communication for social change campaigns, focusing on issues such as climate change to trigger agency (whether intentionally or not) and what the characteristics of this agency are.

When it comes to channels and strategies used, the literature points at the need for a multiplicity of platforms that are locally rooted and accepted as well as participatory strategies that are sustained throughout the initiative as prerequisites for agency to develop. It seems interesting to further flesh out these points by observing a specific campaign and unpacking its characteristics.

Given the lack of academic literature about agency-focused communication campaigns about climate change, the findings from this research have the potential to provide some fresh and evidence-based insights on the matter. It also seems crucial that this inquiry focuses on the rarely heard views of the participants of such initiatives (in our case, the radio producers and listeners of a climate change and sustainable living radio campaign in South Africa); and specifically on their opinions of its potential effectiveness in empowering them when it comes to climate and sustainable living-related decisions, as well as in other areas of their lives.

3. Methodology

3.1 Rationale

This chapter describes the qualitative methodology adopted for this research, focusing on the research strategy, the method adopted and the research design that derives from the strategy. It includes, the data collection methods used, the data analysis process and the ethical and research criteria that were followed. Furthermore, it also examines the positionality of the researcher and its potential influence of the research criteria. The chapter also highlights the circumstantial challenges encountered in the context of the COVID-19 pandemic, as well as the mitigation strategies that were adopted to overcome these challenges, and how some of these challenges were actually sources of learning for potential future research, but also for my own practice as a development practitioner.

The choice of the Children's Radio Foundation (CRF) as the organisation I am focusing on, is relevant because I have been working with the organisation for eight years, and specifically on impact measurement and change indicators, including behaviour change and agency. As an initiative, *Earth our Home* is also relevant as it targets the thematic area this research is focusing on and it uses a blended impact approach (agency and behaviour change). The timings of the project and the research are also in line as the project started in June 2018 and ran for three years, and my data collection, which took place between December 2020 and April 2021, happened towards the end of the project, allowing for an overall retrospective account from the respondents in the different sites. As we'll explore below in the sampling section, I decided to use the "campaign" as my unit of analysis, with four "sites" where the campaign took place as case study sites, that each included a sample of respondents representing the whole ecosystem of the project at the local level, namely: the youth producers, the radio mentors and the campaign participants (listeners and outreach participants).

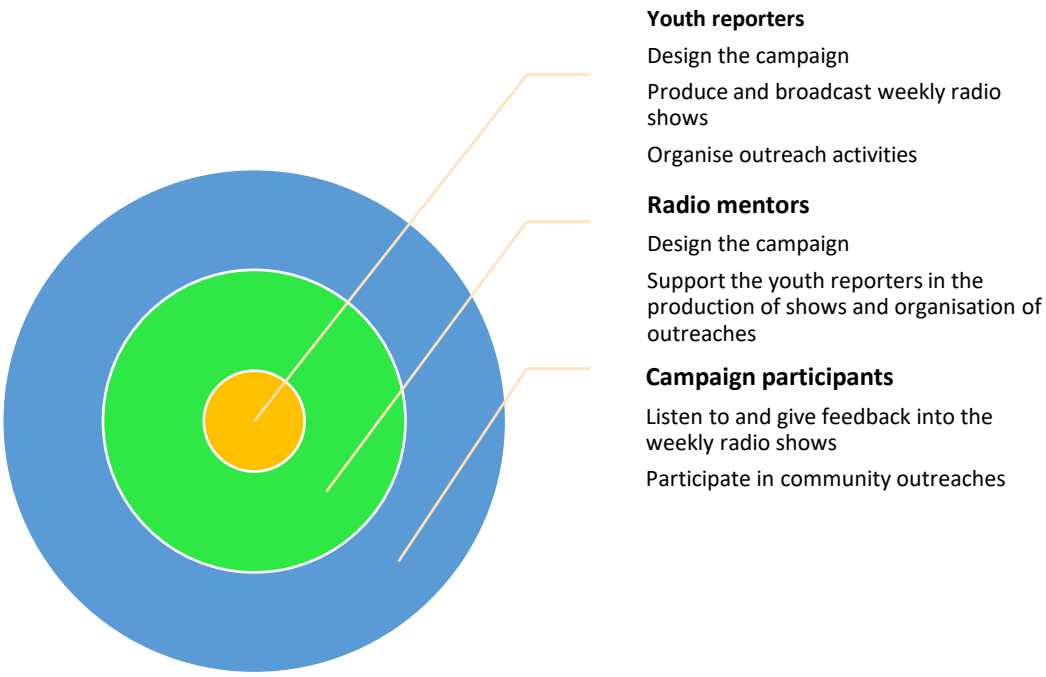

Figure 3 - Ecosystem of the campaign at the local level

3.2 Research strategy and approach

3.2.1 Strategy

For this research project, I decided to adopts a qualitative methodology as I was interested in obtaining a "thick" understanding (Flick, Von Kardorff, & Steinke, 2004) of social phenomena, with a specific focus on the personal, micro-level experience of individuals (Hancock, 2009; Maxwell, 2008; Merriam, 2002). Qualitative research necessitates that one must take into account the subjectivity of the researcher as well as their previous experience (Maxwell, 2008). This justifies the use of a qualitative methodology, based on interacting with people, observing them in their environment and with each other, and focusing on understanding the "why" of their interactions through collecting their opinions and experiences. This focus stems from the understanding that "much of the world with which we deal is essentially socially constructed" (Gioia, Corley, & Hamilton, 2012, p.16), especially when looking at constructs such as empowerment and agency, that are rooted in deep personal insights and feelings, while also only experienced in relation to other human beings and social structures.

It was key for me to adopt a qualitative approach that didn't look only at asserting whether the respondents changed their behaviour or experienced an increased agency (the what), but really

at digging with them into what these changes felt like for themselves (how) and why they thought these changes happened. This qualitative study followed an inductive and theory-building approach as I aimed to gain insight into complex and interconnected social phenomena, namely the development of behaviour change and agency in the context of wicked problems and attempts to draw theory from these insights. It relied on a predefined framework – the typology of power developed by Rowlands (1997) to assist the theory-building.

Fossey et al, define a paradigm in a research context as a "system of ideas, or world view, used by a community of researchers to generate knowledge" (Fossey, Harvey, Mcdermott, & Davidson, 2002). This research was based on an interpretive paradigm, described by Maxwell (2008, p.221) as focusing mainly on the "meaning" of the constructs or phenomena observed for the different participants from their subjective and experiential view point, and how this meaning shapes their behaviour.

Next to this main paradigm, the adjacent "intellectual goals" of qualitative research mentioned by Maxwell (2008, p.221) are extremely relevant to this research for the reasons described below:

1. "Understanding the particular context within which the participants act and the influence this context has on their actions". This is particularly relevant as the wicked problem of climate change is an integral part of the respondent's context which they live in and respond to. Furthermore, as discussed in the literature review, wicked problems are by nature interconnected, it was therefore crucial to understand the broader socio-economic-environmental context the respondents experience fitted in.

2. "Identifying unanticipated phenomena and influences and generating new 'grounded' theories" the theory-building aspect of this research is also important as it feels, as shown in the literature review section, that there was a gap in the conceptual understanding and qualifying of the type of agency that develops in the face of wicked problems.

3. "Developing causal explanations". One of the main phenomena examined are the pathways of change and their determinants. The question of causality in these pathways is key to enquire about, especially in a context where the dominant change model used seems ill equipped to address the issues at stake.

The choice of a qualitative and interpretive approach and the study findings, especially in terms of impact, were put in perspective using the results of an evaluation of *Earth our Home* conducted in August 2021 by an independent firm with 3200 respondents across the four countries where the campaign took place.

3.2.2 Positionality

This point brings me to my positionality within this research and its "potential effects on the research process, as well as on participants and the researcher" (Bourke, 2014, p.1). Biases are inevitable in qualitative research, as researchers are human beings who are "as marvellously flawed as everyone else" (Cosgrove, 2012, p.7) This self-reflective process of acknowledging one's bias is particularly important when examining issues of power and agency.

My "multiple overlapping identities" (Bourke, 2014, p.1) as a 40 year-old white woman from France, but having lived in South Africa for 15 years, conducting this research while being employed by the organisation (Children's Radio Foundation) that co-managed the campaign, certainly influenced my design and understanding of this research. My frustration with the current dominant paradigm in Communication for Social change with its focus on behaviour change outcomes has orientated my inquiry around finding potential new outcomes that are less "instrumentalising" and potentially respond better to the challenges at stake. My yearning for engaging in deep conversation around topics such as agency also come from my experience of projects where agency wasn't placed at the forefront of the outcomes.

With that in mind, it makes sense to say that the epistemological concern of the research is to advance academic knowledge, because, as Rowlands notes: "Most of the literature about empowerment, with the exception of Freire and Batliwala, originates from work in industrialised societies" (Rowlands, 1997, p.84) and hoping that in turn, it provides evidence for practice in a global South context. This research process also carries the concern around empowering the respondents with tools and frameworks that will help them develop a better understanding of the constructs explored and the concepts of empowerment and agency.

All my identities have also necessarily influenced the interactions I had with the respondents who are all young Black people under the age of 25, some of whom I shared an exitsing relationship as a radio trainer for a previous project and some (the four radio mentors) work for a radio station my organisation supported financially in kind. In this context, and despite the

mitigation strategies put in place with clear disclaimers about the confidentiality and anonymisation of the research data, the potential for a social-desirability threat in the content of the interviews was acknowledged and acted upon. I will explore in the research criteria (3.6) section what was done to mitigate compromising as much as possible of the validity and reliability of the data.

3.3 Research design

3.3.1 Research design process

I chose to use a case study approach, defined as a strategy that consists in "digging out the characteristics of a particular entity and its key distinguishable attributes include focus on a single unit, in depth description of a phenomenon" (Njie & Asimiran, 2014, p. 36). This choice was particularly motivated by the boundedness (Miles, Huberman, & Saldaña, 2009) of the cases chosen, as I was studying the interactions of a specific group of people (the ecosystem mentioned above), in the context of a particular succession of time-bound events (the radio campaign), in the context of and related to specific issues linked to the distinct social-environmental context of each site.

The case-study methodology allows one to understand "the dynamics present within single settings" (Eisenhardt, 1989, p.534) by using a range of data collection methods. However it is only after the researcher is "familiar with each case as a stand-alone entity" (Eisenhardt, 1989, p.540) that they can move to cross-case comparisons and searching for cross-case patterns by looking for similarities and differences that will eventually lead to the emergence of categories or concepts.

3.3.2 Data collection

For this research the case study methodology originally included a combination of face to face semi-structured interviews, focus group discussions, observation and document reviews. This methodology had to be completely revisited when the COVID-19 pandemic first hit South Africa in March 2020. By then, I had only been able to start my field work with one case study in Atlantis (three semi-structured interviews and the observation of one radio show live in studio).

In this context, I had to rely more heavily on remote semi-structured interviews in my interactions with respondents. Semi-structured interviews were chosen in the context of this qualitative inductive research as they are "designed to ascertain subjective responses from persons regarding a particular situation or phenomenon they have experienced. It employs a relatively detailed interview guide or schedule, and may be used when there is sufficient objective knowledge about an experience or phenomenon, but the subjective knowledge is lacking" (McIntosh & Morse, 2015, p.1) Their flexible structure, including a predetermined set of questions combined with the possibility for "the interviewer or interviewee to diverge in order to pursue an idea or response in more detail" (Gill et al., 2008, p.291) allowing for more empathy to develop between the two people conversing appeared particularly suited in the new forced remote setting context.

The documents reviews component remained and was essentially a review of the baseline and the external evaluation of the campaign related to behaviour change, agency, empowerment and review of the feedback of listeners about the radio shows.

The data instruments that were supposed be used as per my pre-COVID design are described in the first column of the table below and the adjusted ones in the second column.

Data collection instruments (planned)	**Data collection instruments (final)**	**Type of sample/ type of document (final)**
Face to face semi-structured interviews	Semi-structured interviews (phone)	• Youth reporters • Mentors
Focus group discussions (FGD)	Semi-structured interviews (phone)	Listeners
Observation	N/A	"Making" of the show: Youth reporters interviewing and interacting with community members and other project members, presenting their show live.
Documents review	Data about past and current projects (1	Data about past and current projects (baseline studies, external evaluations)

	baseline study, 1 external evaluation) Analysis of samples of feedback from listeners (6 shows)	Analysis of samples recordings of weekly youth shows broadcast on the stations (content of the show and feedback from listeners)

Table 1 - Data collection methods and instruments

When the "field" component of the data collection was ruled out, I was forced to make the following changes to the design:

1. The decision to rely on remote online data collection (phone calls) for all respondents was taken when inter-province travel was forbidden in April 2020. This was comforted as the same month, the youth reporters adopted a "remote reporting model" where they didn't meet as a team anymore nor presented their shows live on air, but relied on online applications such as WhatsApp to conduct their interviews and share them with the Radio Mentors, who would in turn broadcast them on air. This comforted me in the choice of phone interviews as the youth themselves were not meeting anymore. This undermined the observational component of the data collection. I describe below the consequences of the remote set-up chosen as a compromise and the reliance on second-hand accounts of these interactions.

2. The adoption of online semi-structured interview method with all respondents. I first tried to keep the interactivity between respondents created by focus group discussion as described by Morgan (2004) by experimenting with a WhatsApp focus groups, with three listeners. Unfortunately, the methodology wasn't efficient in providing the levels of engagement usually desired in focus groups. Given the smaller number of respondents that I was able to recruit, the remote setting and the reflexive nature of my research question, more in-depth and personal interactions such as interviews seemed more suited "as vehicles and sites through which people construct and contest explications for their views and actions" (Foucault, 1977, as cited in James & Busher, 2012, p.22).

3. My quasi-total inability to conduct in-person field work and travel to sites to meet most of the respondents as initially planned also undermined the observational component of the data collection. I describe below the consequences of the remote set-up chosen as a compromise and the reliance on second-hand accounts of these interactions. It also somehow "blurred" the specificities of each "site" (despite the importance given in the questionnaires and therefore in the data to the local contextual realities experienced in each site, especially when it comes to the respondents' experiences of wicked problems).
4. The documents review component remained unchanged and, in this case, the possibility to have access to radio show recordings including live interactions with listeners was a great asset as this data was raw and unfiltered rather than tampered by an extra layer of subjectivity.

As I was making these adjustments, the matter of the research relationship between researcher and participants, as described by Maxwell (2008, p.234) as this "unavoidable mutual influence of the research participants and the researcher on each other," really hit me. I was originally planning on an "action research" inspired research strategy, with elements of co-creation and "sense-making" with the project participants, echoing the overarching research question around the concept of agency. Not only were the practicalities of this approach now compromised, but I was also wondering whether its spirit would be able to "live through" the new imposed remote approach, despite a general consensus that ""online or Internet interviews have become popular tools for data collection" (James & Busher, 2012, p.4).

I researched the main risks in terms of building an online research relationship. Orgad warns that: "we cannot ignore the potential obstacles that anonymity and disembodiment pose in attempting to arrive at a relationship of trust with other people online" (2005, p. 55). These were to add to the biases and the issue of positionality mentioned above. I came to the conclusion that transparency and ample communication before the actual interview were probably my best allies, as recommended by Mann and Steward (2000, as cited in James & Busher, 2012, p.9). We'll see how I applied these recommendations in the data collection section below.

3.3.3 Interview guide development

The interviews aimed at having respondents to reflect on the impact of the campaign on their lives and specifically on the different potential manifestations of agency perceived during or as a result of the activities of the project, prompted by questions covering their interaction with the project and related to the projects key themes, which were climate change and sustainable living. The questionnaires for the three "sub-samples" (youth reporters, radio mentors, listeners) shared six core questions to which some additional questions related to their role and relation to the project were added (See Appendix 2 for the interview questionnaires).

An initial questionnaire was developed and tested in January 2020 through a face-to-face group interview with three youth reporters in Khayelitsha. The initial questionnaire was lengthy (16 questions) and it appeared clearly during the interview as well as during the transcription process that many of the questions were too abstract, using concepts such as "empowerment" and "agency" and therefore, the answers given were very vague. I had fallen into the trap described by Maxwell (2004) of confusing research question and interview questions.

Based on this experience, I rewrote the core questionnaire, limiting myself to 10 questions covering the following: personal introduction, introduction of the context of "life for young people in your community", the radio project and your role in it /relationship to it, important environmental and other social issues in your community, agency/behaviour change questions. In the context of a study of agency, these situational questions are important as agency only exist in a specific context and in relation to other people and structures.

The main questions asked to trigger the interviewees reflection on the topics of behaviour change and agency were the following:

- What has making or listening to the radio show meant to you and your life? Can you give an example of something that has changed in your life as a result of the radio show?

This question was asked first, using the Most Significant Change methodology, which is a technique borrowing from participatory monitoring and evaluation that relies on looking for "kernels" that are not framed in any specific way by the interviewee (Davies & Dart, 2005, p.11). This is meant to allow to unearth unexpected manifestations of change. When needed, the following question that differentiates between agency and behaviour change was asked:

- Is it more about actual changes in the way you think, what you know or how you behave or actual changes in the way you feel you have the ability to do things in your life?

The next question asked about the impact of the campaign on other people.

- How do you think the project has changed the way people in your community, and especially young people think or act related to climate change? What about other social issues?

Both questions were asked to all respondents. In describing the reported change, I nonetheless separate listeners, reporter and radio mentors as the intended type of behaviour change was different for each group and their relationship to the campaign was different too. The behaviour change in listeners (or lack thereof) was reported both by the listeners themselves and by the youth reporters/radio station mentors as they witnessed it.

Only then did I introduce the typology of power developed by Rowland in 1997. I chose Rowlands' framework for the following reasons: first for its simplicity as it is based on non-academic terminology and includes clear and simple prompts for each "Power" described. It is also a very suitable tool as it has been developed specifically for global South countries and for a self-assessment of power experience (Rowlands was working on the question of empowerment with women in South America in the context of international development projects). Finally, I appreciated its "sturdiness" as it draws from other frameworks and has since been tried, tested and refined in different contexts by academics (Miles, Monkman) and practitioners alike.

I took into account Gioia's (2012, p.17) warning about designing a questionnaire around an existing framework and how this might undermine the respondents sense-making process by" imposing our preordained understandings on their experience." But I found that, from the first interview, Rowlands' framework was incredibly useful to the respondents and allowed them to deconstruct power and to relate to it much better. In a way, it harnesses and honours Gioia's concept of " knowledgeable agents,'' (2012, p.17) while providing some conceptual ground for this knowledge to emerge. Finally, it seemed important to use a framework that deconstructs power because, as Rowlands expresses herself: "*Some of the confusion arises because the root-concept — power — is itself disputed, and so is understood and experienced in differing ways*

by different people" (Rowlands, 1995, p.87). According to this framework, empowerment can be divided into four types, based on which I developed the four questions bellow:

1. Power from within - increase awareness and desire to change – Related question: "How much do you feel your desire/motivation for change has grown?"
2. Power to - increased individual capacity for change - choice – Related question: Do you feel your ability to change things if you want to has grown? If so, can you describe how?
3. Power over – change in underlying power and resources - individual power/action to challenge these constraints (control). – Related question: Do you feel your levels of control over your environment have changed? If so, can you describe how?
4. Power with – solidarity – Related question: Do you feel you are able to get together with other people around environmental issues/other issues? Has this changed since the beginning of the project? If so, can you describe how?

I asked the respondents whether they identified more with one (or more than one) type of agency/empowerment, and the introduction of the framework yielded very fruitful answers. One of the respondents shared that it "*gave (him) tools to better reflect on this issue"* (Youth reporter Atlantis). In that sense, providing some "tools" felt like a very modest step in the direction of the more collaborative research project originally envisioned.

3.3.4 Data collection

I started with having short pre-interview conversations with the participants to introduce the research, clarify any question and answer any concern from the respondent and obtain their informed consent as recommended by various articles (Farooq & De Villiers, 2017; James & Busher, 2012). These conversations happened either on the phone (me calling the respondent on their phones over Skype so that they wouldn't incur any cost) or through exchanging WhatsApp messages. The intention was to introduce the upcoming interview as an "important but relaxed conversation" (Hermanowicz, 2002 as cited in Farooq & De Villiers, 2017, p.15) with goals that could be interesting or even useful for the respondents themselves.

I mostly conducted my interviews in a synchronous manner that "mirror(s) a traditional interview in that they take place in real time but in an online environment" (James & Busher, 2012, p.4). It felt like the most conducive way to reproduce a face-to-face interaction as

expressed by Bowker and Tuffin: “The immediate and dynamic form of dialogue can elevate participants' awareness of each other and narrow the psychological distance between them, as well as enhancing the feeling of joint involvement” (2004, as cited in James & Busher, 2012, p.5). I nonetheless also used asynchronous techniques, in the form of WhatsApp messages and particularly voice-notes to follow-up or “dig deeper” on certain questions with some respondents, especially with listeners. The respondents were then able to ponder and take the necessary time, sometimes days, they needed to fully answer my questions. The depth of the answers obtained through this process leads me to agree with James & Busher (2021, p5) that this approach might provide “more open and honest exchanges than socially desirable responses.”

The interviews were conducted through Skype and recorded directly on the computer in MP3 format. All interviews were conducted in English. I originally shared with the respondents my inability to speak any of South Africa’s other national languages but informed them that they could express themselves in the language of their choice if they were struggling to express themselves fully in English. It only happened twice that a respondent switched very briefly to another language (once in Afrikaans and one in IsiZulu). I then used a translator to first transcribe the recording extracts and then translate these two segments into English.

3.4 Sampling

3.4.1 Unit of analysis

The unit of analysis chosen for this study was the “campaign” Earth *Our Home - youth dialogues on climate change*. Atkinson et al, defines a communication campaign as ”a strategic course of action, undertaken during a predefined time limit, involving communication, which is carried out for a specific outcome (2016, p. 4732). The literature didn’t provide insight into using campaigns as units of analysis, but I found articles referencing “project” as a potential unit of analysis. A project is most often defined as “a temporary endeavour undertaken to create a unique product or service" (PMI as cited by Engwall, 1998, p.1). Engwall goes on to challenge this normative lens to broaden the definition and include in the “project” different phenomena related to the endeavour. Engwall goes on to explain that “ whether an activity will be considered as belonging to the project or not might depend more on the observer's point of departure than the studied activities themselves” (Engwall, 1998, p.2).

With this framing in mind, I defined the studied project or campaign as the activities undertaken by different key participants (listeners, producers and mentors) at the site level within a specific time-space period. The time-bound characteristics of the campaign confirmed its suitability as a unit of analysis. The different participants represent the "ecosystem" of the campaign at the local level, with the radio station as the central node where people meet, activities take place and radio shows are produced and broadcast from. Since I focused on the manifestation of agency for people who directly interacted with the campaign, I did not study the management side of the project taking place in Cape Town.

Earth Our Home - youth dialogues on climate change, consisted of a three-year project that ran from June 2018 to June 2021 which consisted in a campaign combining youth-led magazine radio shows broadcast on local community radio stations and related outreach activities about climate change and sustainable living in 50 communities across Africa including 12 in South Africa. The project summary reads as follows:

The project utilizes radio to kick start dialogues on the multiples dimensions of climate change, and to create platforms for low impact living in communities. Youth reporters will mobilise local communities to engage in consultation and dialogue about the local climate change and consumption realities, shift perceptions, and encourage behaviour change and active citizenship.

In terms of its objectives, the project was in line with my enquiry, looking at the behaviour change and agency models in communication for development projects as it adopts a blended approach as we'll see below.

- The intended overall goal of the project was for the listeners of the radio shows and the outreach participants (the main target audience was young people between the ages of 15 and 24 generically referred to as "campaign participants") to change their behaviour and display "increased levels of low-impact living". This goal was meant to be achieved through the "increase knowledge levels" they obtain through listening to the shows and participating in the community activities. The type of behaviour change intended for the listeners is considered of a "lower" kind in the sense that it is restricted to the themes of the campaign.
- For the youth reporters (young people from the community between the ages of 15 and 24 trained to become radio journalists and run the campaign) the intended behaviour

change was to “become sustainable living advocates/peer educators”) with “increased knowledge” and “critical skills acquisition” as enablers (intermediary outcomes in project language). The type of behaviour change intended for the youth reporters is considered of a “higher” kind as it aims at going beyond the themes of the campaign to influence the way the youth reporters interact with people in their environment as advocates/peer educators.

- **The radio mentors** (young people up to 30, often ex-youth reporters working at the community radio station and mentoring the youth) shared the youth reporters’ pathway of change in terms of increased knowledge, and their role was first and foremost to support the youth in working towards the overall goal.

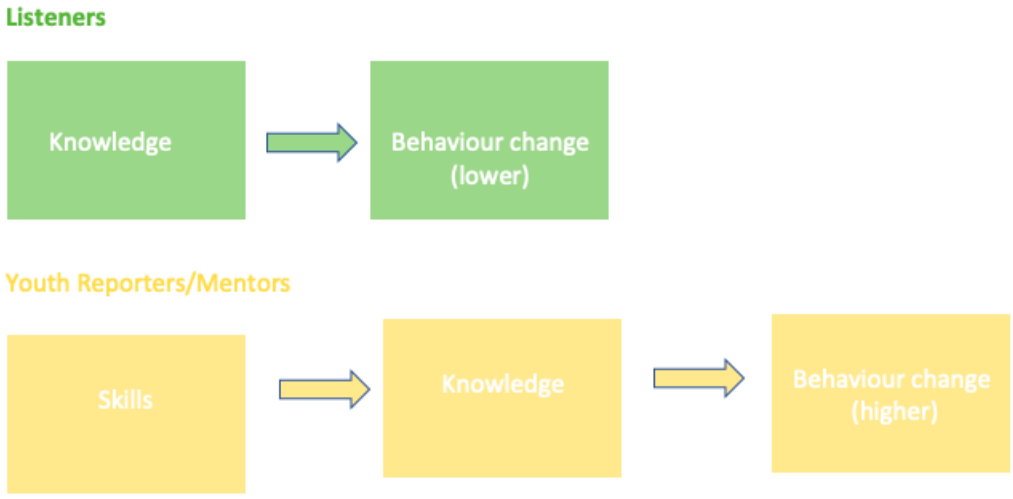

Figure 4 - Pathways of change for the different participants/target audiences

The table below (the project logical framework) describes the main intended outcomes of the project and their related objectives. Each objective is attached to one of the three key target audiences (youth reporters, listeners and radio station Mentors). The “ultimate” objectives indicators of change for the project are indicated in red.

	Results	Indicators
Target audience 1	Youth reporters acquire **critical skills (critical thinking, communication,**	# with critical skills levels

	confidence and leadership), learn key information on climate change and sustainable living that allow them to report adequately on the targeted issues. They become sustainable living **advocates and peer educators** within their communities.	# with increased knowledge levels
		# who become sustainable living advocates/peer educators
Target audience 2	Radio station mentors support the youth reporters and are able to produce further radio shows on identified issues of climate change, low- impact living, and consumption behaviours.	# of radio mentors with increased understanding of issues
		# of extra content on topic created
Target audience 3	Listeners to the shows **report a better understanding** of climate change and related issues (including consumption patterns, and the marketing tactics of multinational corporations), and report **engaging in more environmentally conscious habits and low impact living.**	# of listeners with increased knowledge and understanding of climate change and SL issues
		# of listeners with increased levels of low-impact living

Table 2 - Earth our home, project logical framework (Children's Radio Foundation, 2018)

Despite this clear focus on behaviour change, the project uses a "blended approach" by referencing agency at two levels:

- As a determinant or "activator" of behaviour change (especially in the case of the youth reporters, where mentioned "critical skills" particularly leadership can be perceived as determinants of agency). In this case the intended causal pathway is that the youth reporters first acquire "self-efficacy" through participating in the weekly project activities and that these skills, combined with increased knowledge levels, will allow

them to activate behaviour change ("engaging in more environmentally conscious habits and low impact living") in their listeners. This relates to the "instrumental agency" described by Bandura but here we see a "doubly" instrumental agency as its first the agency of someone else that triggers one's agency and finally behaviour change.

- As an ultimate objective, the project summary proposed to reach "active citizenship", which is an interesting concept that is loosely related to agency but within a frame of rights and responsibilities. On top of that, no clear pathway of change towards "active citizenship" is drawn and it makes it difficult to draw a causal relationship between the activities and active citizenship as a result, but I will explore potential manifestations of "active citizenship" as well as how these can relate to the notion of "activism" in the findings chapter.

This ultimate outcome resonates with Children's Radio Foundation's theory of change that talks about "a future where resilient young people across Africa shaping their futures and strengthening their communities through dialogue and action." The envisioned resilience go clearly beyond behaviour change, to take us to the realm of empowerment and agency.

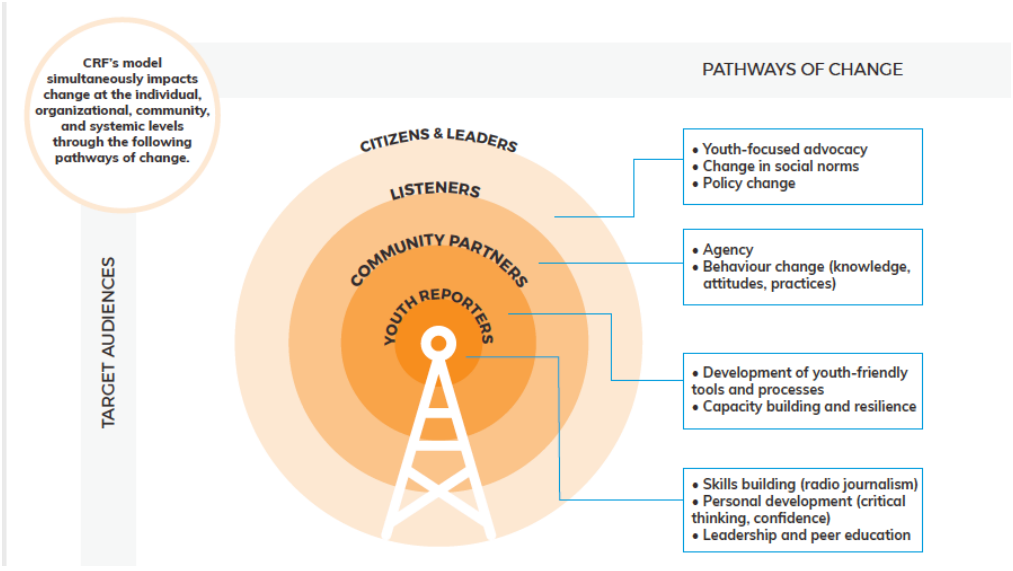

Figure 5 - Children's Radio Foundation's Theory of Change
(Children's Radio Foundation 2020)

3.4.2 Sites

The initial sites were chosen following Eisenhardt's recommendations, for their contrasting "polar types in which the process of interest is "transparently observable"(Eisenhardt, 1989, p.537). I wanted to work at Alex FM, a community radio station located in the township of Alexandra close to Johannesburg. The other station, Bulungula FM, is located in the Xora Mouth District, in rural Eastern-Cape. By choosing these two communities, I was expecting the perceived realities of climate change, and the manifestations of agency in Alexandra and in Bulungula to be extremely different. This strategy was compromised by the COVID-19 pandemic. In this new context, where travelling to sites wasn't possible, I decided to rather base my sites selection on the dynamism of the youth reporters in organising community activities and the success of their radio shows in mobilising listeners. I also only chose sites that I had extensively visited myself in the context of projects such as *Earth our Home* and therefore knew the specific social and environmental context of the different communities, and the radio stations and their immediate environments. Based on these criteria, I therefore finally chose the four following sites:

1. Atlantis is a municipality of about 70,000 inhabitants, located in the Western Cape province. The local community Radio Atlantis has an estimated listenership of 18,000.
2. Alexandra is a township that forms part of the City of Johannesburg Metropolitan Municipality in Gauteng Province. It has a population of about170 000 inhabitants. One of the local community radio stations, Alex FM has an estimated listenership 20,000.
3. Emalahleni is a municipality located in the Mpumalanga province of South Africa. It has a population of about 395,000 inhabitants. The local community radio, Emalahleni FM has an estimated listenership of 22,000.
4. Tlokwe is a municipality of about 163,000 inhabitants located in the North-West province. The local community radio station, Aganang FM has an estimated listenership of 17,000.

All the population estimates are from Statistics South Africa (Statistics South Africa, 2012) and all listenership estimates are extracted from the South Africa Broadcast Research Council database (Broadcast Research Council, 2021).

Figure 6 - Map of South Africa with sites

(Google Maps 2022)

3.4.3 Participant Sampling

I used a purposive methodology to choose my respondents, following Maxwell's definition of "a strategy in which particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices"(2008, p.235). In the case of this study, the project participants at the four sites chosen hold information that no one else has, which justifies the use of a purposive sampling.

The respondents of the study are represented in the following table with the third column indicating the originally planned sampling and the fourth one, the final sampling. On top of the original inclusion criteria mentioned in the second column, after the shift to remote field work, I also considered the general levels of English-language proficiency of the respondents as well as their access to cell phones, as I had to conduct interviews over the phone. Farooq and De Villiers consider the two above-mentioned criteria as key criteria for assessing the suitability of telephonic qualitative research interviews (2017).

Type of respondents within the project	Inclusion Criteria	Total number (planned)	Total number (final)
Youth reporters (the young people creating the radio shows on sustainable livelihood and climate change)	Between 15 and 24 years-old Attention given to gender balance Active involvement in the project English proficiency Access to cell phone	10	9
Radio mentors	Active involvement in the project Under 30 years-old English-language proficiency Access to cell phone	2	4
Regular listeners of the show/participant in outreach activities	Active listening/ participation in the project (at least listen to 2 shows a week and/or participates to one outreach per semester) Between 15 and 24 years-old	20	8

Table 3 - Sampling methodology

The main type of respondent affected by the new set-up in terms of numbers was the regular listeners of the show (20 planned for 8 reached), but the use of individual interviews as the data collection instrument, rather than focus group discussions allowed for more in-depth interactions as described in 3.3.4 (Data collection).

It is important to emphasize here that, in line with the project design described above, while all target groups are part of the ecosystem of the campaign, they can almost be seen as "Russian dolls" fitting inside each other. The listeners (the most numerous and visible in terms of project outcomes) can be considered as the outside doll while the youth reporters and the mentors (less numerous and visible) as the inner dolls (or primary beneficiaries in "project" language). The youth reporters benefit from high exposure to the content through training (in all the critical skills mentioned in the log frame), the production of the radio shows (knowledge producers) and the related outreach activities and interactions with the listeners. The listeners (the outer doll) have a more moderate exposure and less active relationship with the project (one radio show once a week and one outreach activity once a month).

3.4.4 Recruitment

Radio station mentors were recruited individually as their recruitment derives from their direct engagement in the project. My pre-existing relationship with the radio mentors through Children's Radio Foundation allowed me to gain easy access and trust from them but I made sure to specify that I wasn't engaging with them in my CRF capacity and ensured them of the confidentiality of our exchanges.

All 15 youth reporters active in each chosen site fulfilled the inclusion criteria mentioned in the above table. I wrote a short letter explaining the research's aims and objectives, and it was shared with the youth reporters on WhatsApp and nine of them came back to me, willing to be interviewed.

Originally, listeners were going to be recruited via a public service announcement broadcast during the youth reporters show in the lead-up to the field work visit, as well as through a follow-up call prior to the visit to secure participation. This strategy didn't work, and no listener called into the show to volunteer. I therefore relied on the youth reporters and on snowball sampling to recruit the eight listeners, mostly amongst the acquaintances of the youth reporters and chose them using the eligibility criteria.

3.5 Data analysis

The data from the semi-structured interviews was first transcribed into English, and in the few cases where other languages were used (Afrikaans and isiZulu), to clarify an idea, the sentence was first transcribed, then translated into English.

All transcripts were done in Microsoft Word. Once transcribed, the data was first coded using the NVivo software, and then analysed using the Gioia methodology for qualitative data analysis (Gioia et al., 2012) with the following steps:

- **1st-order analysis** – I started by developing "informant-centric" (Gioia et al., 2012, p.18) codes through Nvivo by looking for similarities and differences, first by comparing answers to the same questions in all the interviews. This is following guidance around semi-structured interviews that states that "analytically, the SSI is characterized by comparing participants responses by item. Because all participants are asked the same questions in the same order, data collected are comparable" (McIntosh & Morse, 2015, p.1)**.** When codes or concepts appeared across answers to different questions, I started to consolidate the related quotes.
- I used within site analysis when it comes to the data related to the context-specific manifestations of climate change and other wicked problems for all respondents (youth reporters, mentors, listeners). Once these differences were noted, I then moved to across sites analysis.
- I refined and ordered the categories to finally come up with five main themes and 26 sub-themes.
- **2nd-order analysis** – I worked on developing interpretive themes and ended up with eight concepts, amongst them the emergent concept of wicked problem agency, as a concept that is "*relevant to the human organizational experience in terms that are adequate at the level of meaning of the people living that experience and adequate at the level of scientific theorizing about that experience"* (Gioia et al., 2012, p.16).
- I then developed a data structure (see Appendix 4). This process definitely represented the "pivotal step" that I needed and the "visual aid" described by Gioia et al (2012, p.20) actually helped me refine further my 2nd order themes by seeing how they relate to one another visually.

What was interesting with this first-order analysis is that the main concepts or codes were quite tightly aligned with the fields or categories set in the interview questionnaire, at least for the first five main concepts:

1. Key social issues in young people's lives
2. Perceptions of climate change
3. Relationship with the radio campaign
4. Impact of reporters and mentors
5. Impact on listeners

The sixth concept that emerged from the 1st level analysis "collective reflexion and action" was surprising as it came through answers to questions from most fields, almost as an overall pathway of change as illustrated in the diagram below.

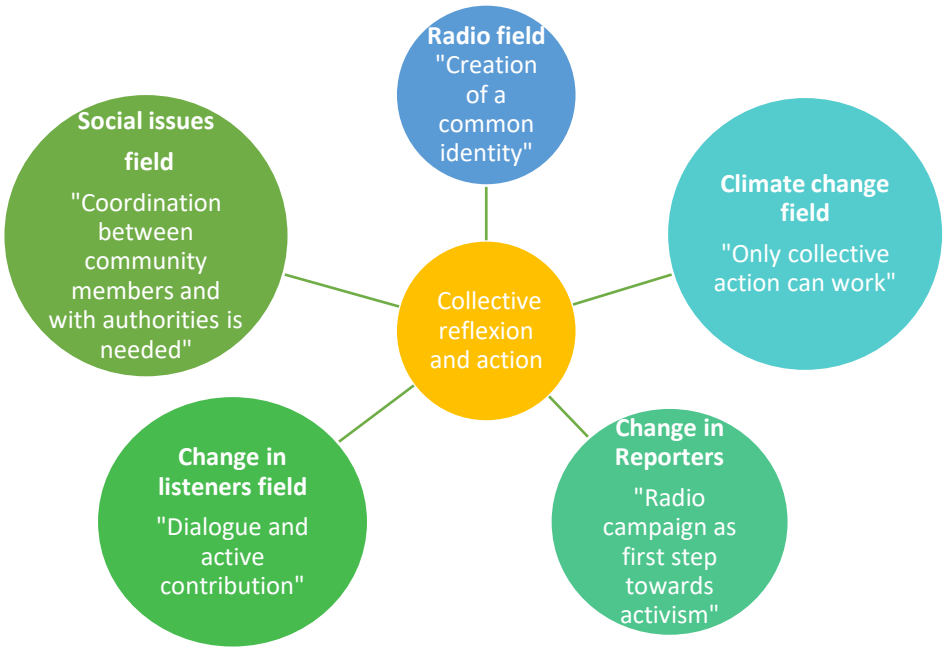

Figure 7 - 1st-level emerging code: Collective reflection and action

What was also very interesting to observe with the field of social issues in youth lives is that when talking about these issues, the respondents were addressing them through a "mechanism" lens (in blue in the diagram) rather than through a "manifestation" lens (in orange in the diagram), exposing without naming it their common structural causes and "their interconnectedness", which became one of the key second order themes.

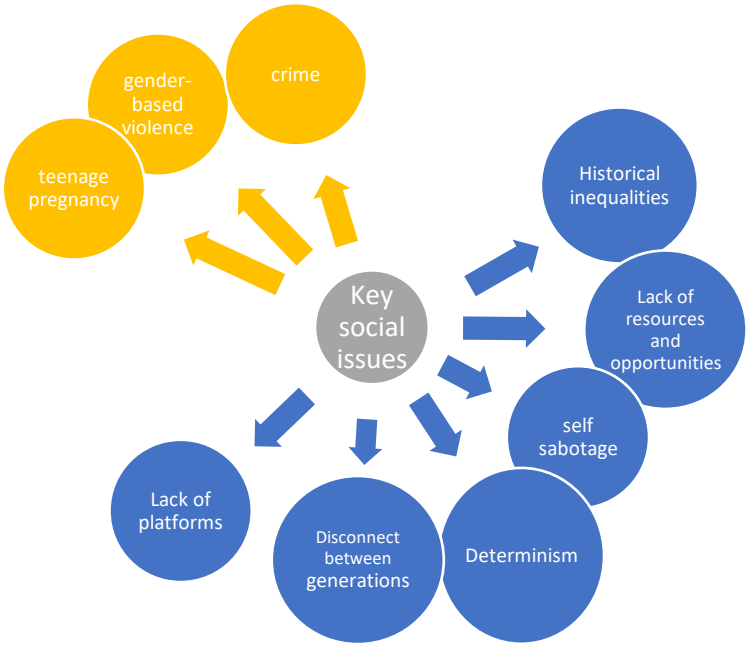

Figure 8 - 1st-level code: Key social issues

Probably the most striking moment in the data analysis process was the emergence of the concept of wicked problem agency as a key second-order concept. Some potential lenses to frame the type of agency that needs to emerge in the context of wicked problems were given through the literature review, with the key concepts of an agency that is intrinsic, moral and collective. These three concepts came through strongly in the interviews, often with the intrinsic and moral component coming as sub-qualities of the kind of collective agency the respondents were experiencing or aiming to emulate in their respective challenging contexts.

The causal pathway provided by Bandura, that position self-efficacy as the key determinant of agency also clearly appeared through the often-cited need (7 references) for ongoing "personal development" in order to acquire the "Power within" for Rowlands' typology. What's most interesting for me is how the data came to further qualify the concept of wicked problem agency: 1. the added quality of a social cause or aim (with 2nd order themes of activism and campaigning) and 2. The need for leaders in the context of this collective agency who are enablers or activators (4 references) rather than influencers. This last distinction allows to further differentiate the behaviour change and agency model, bringing us back to the original "ideal types" and fuelling the discussion around their intrinsic divergence.

3.6 Research criteria

The criteria of validity and reliability are paramount as they determine the quality of a qualitative research study. They are particularly concerned with evidence of "how well" the research measures and explains the phenomenon described (Brink, 1993; Sharan Merriam, 1995). Meeting these criteria ensures credibility and trustworthiness, towards the scientific community but also towards the community of practice and the beneficiaries of the potential real-world applications of the research.

According to Brink, validity is " concerned with the accuracy and truthfulness of scientific findings" while reliability "with the consistency, stability and repeatability of the informant's accounts as well as the investigators' ability to collect and record information accurately" (Brink, 1993, p.35)

I have already described above how I have acknowledged my positionality and bias at every key point of the research (research design, data collection, data analysis). When it comes specifically to data collection, my training and long-term practice as a journalist and as a media trainer specialising in youth-centred processes was put to use to make sure biases are minimised, as advised by Field & Morse (Brink, 1993, p.36). I had regular check-ins with my supervisor, as well as with a social anthropology lecturer teaching methodology at the University of Cape Town. Both provided a platform where potential validity issues of the research design where raised. When it comes to the research findings, the iterative and often asynchronous process that most of the interviews took (as they often had to be interrupted because of power or network connection issues) offered a great opportunity for what Merriam calls "members checks" (Sharan Merriam, 1995), p.54. These unpredicted circumstances gave both parties time to seat back and reflect and I was then able to follow-up on key questions by asking the respondents (often via WhatsApp voice notes) to further qualify or to unpack a concept for me.

I also used triangulation to ensure the validity of the findings, using the project final evaluation mentioned above. I also used a monitoring and evaluation Children's Radio Foundation database called the "Show Evaluation form" filled every week by youth reporters at every site and that records the feedback given by listeners.

When it comes to reliability and the concern with being able to replicate the findings, scholars warn that it is not always achievable in social sciences as "human behaviour is never static" (Sharan Merriam, 1995). I nonetheless ensured that my instruments were reliable by making sure that the key guiding questions of the different questionnaire mentioned above were always all asked (even if different follow-up or clarifying questions could unfold). Following Lincoln and Guba's framing, I focused on an understanding of reliability "not as whether the results of one study are the same as the results of a second or third study, but whether the results of a study are consistent with the data collected" (as cited in Merriam, 1995, p 56). To do so, I thoroughly followed Gioia's methodological approach designed to help "imbue an inductive study with 'qualitative rigor" (Gioia et al., 2012, p.15). I then shared my data structure (Appendix 4) with a colleague and researcher working in the field of impact evaluation and talked her through the first order categories and constructs and the second order concepts. In December 2021, once the findings had been structured, I organised a WhatsApp focus group which had five respondents to share the key insights and gather their feedback.

The change in research methodology, from face-to-face to online particularly worried me in terms of the ensuing the validity and reliability of the data collected. The shift in method was discussed at length with my supervisor and it was jointly decided that the conditions were met for the research to continue being valid even with this change in strategy.

3.7 Limitations

My research, and particularly the data collection component, has been extensively affected by the COVID-19 pandemic, like most research projects currently (Corbera, Anguelovski, Honey-Rosés, & Ruiz-Mallén, 2020) as I had to resort to doing my field work remotely. This triggered different interconnected limitations.

The first has to do with the small-scale of the research sample (21 participants instead of the 30 initially planned). This was mostly due to the issues with remote recruitment and additional limited inclusion criteria (access to a cell phone and English-language proficiency) that had to be adopted due to the remote data collection. It impacted particularly the sample group of listeners, as their recruitment that was supposed to happen on site through an announcement on the youth reporters show, had to mostly happen through recommendations and snowball sampling.

The remote nature of the field work also hampered some of the data collection strategies that I had envisioned as part of the case study methodology, such as focus group discussions and observation. These would have brought a formative component of interaction between different respondents that is missing, especially when the concept of collective agency is so central to answering the research question. The post-data collection focus group served this purpose, in a post-research context, providing some collective reflexion. I also felt like discussing such personal and complex concepts such as power and agency was more difficult to do remotely despite the use of flexible, iterative semi-structured interviews.

3.8 Ethics

Ethical approval was granted for this research study in September 2019, and renewed in October 2020 based on a thorough and updated ethical protocol that included the sections below.

3.8.1 Informed consent

Organizational consent was requested from the management of the Children's Radio Foundation during a telephonic meeting that took place in November 2019. During the meeting the research's objectives, methodology and intended outcomes were described, and it was be explained that the organization's anonymity was going to be ensured. Similar processes took place with the management of the four chosen radio stations in March-April 2020. In the case of Alex FM, the radio mentor interviewed for the research was part of the call. My role as an independent researcher, rather than a CRF staff member, in the context of this research was clearly stated during the meeting with the stations management to avoid any misunderstanding or potential biases.

Individual recorded consent processes for the Young Reporters, Radio Mentors and listeners were conducted ahead of the interview and the recorded consent statements stored separately from the actual interviews. Despite the inclusion of minors in the selection criteria and the provisions made with the development of an ascent form for parents, none of the final participants were under 18 and therefore there wasn't a need for the ascent form to be used.

3.8.2 Anonymity and confidentiality

In the introductory call with the respondents (or in the introductory statement at the beginning of the actual interview) it was made clear to all respondents what the research's aims and

objectives were, that their anonymity will be ensured and that they may withdraw from the research at any time without reason.

To ensure that the participants' anonymity was maintained, the audio recording were only labelled with a participant number. The recordings were saved on a password-enabled hard drive as soon as they were finished and removed from the researcher's computer. The table cross-referencing the respondents' identity and their number was kept on a separate drive. A 2nd copy of the data has also been stored online on a secured Google Cloud server. The study complies with the Protection of Personal Information Act, which requires data to be anonymised as soon as possible after data collection.

3.8.3 Deception and potential harm

The issue of potential deception was taken care of during the informed consent process that ensured that the respondents understood the specific goals and objectives of the research before consenting to participating. It was indicated that a summary of the research findings would be shared with the interested respondents, which was done in December 2021 (slides were shared via WhatsApp and respondents interested in further findings were invited to a WhatsApp focus group discussion).

I was aware of the psychological harm that could be caused by unearthing personal stories by the respondents especially related to climate change, other social issues and the specific and very personal topics of empowerment and agency. To avoid such instances, I followed ethical guidelines (Orb, Eisenhauer, & Wynaden, 2001) advising all respondents the fact that they could refuse to answer questions as well as terminate the interview process if they felt at any point uncomfortable. I also mentioned to them at the beginning of the call that I could refer them to psychologist in their community in case they felt the need during or after the interview as I had prepared a list of referral structures that I could activate.

3.8.4 Benefit of the research for participants

The findings of the study were debriefed with some of the participants during a WhatsApp focus group that took place in December 2021 with five respondents who were interested in exploring the topic further as well as doing it in a group setting (with other respondents). The draft praxis model that includes participatory tools to measure collective agency was shared

during the focus group and one of the respondents, who is involved with a youth organization has expressed interest in using it in the personal development and well-being trainings she runs.

4. Findings

4.1 Introduction

4.1.1 Organisation of findings

In this findings chapter, I'll try to answer the two research questions which are:

> RQ1: What is the potential of communication for social change to trigger agency in the context of a wicked problem like climate change and how are the manifestations and characteristics of this agency perceived?
>
> RQ2: What characteristics should social change campaigns feature in order to foster agency in the context of wicked problems such as climate change?

To answer the research questions, I will first look at what the landscape of wicked problems respondents and their communities encounter looks like (the "environment and constraints" in Bandura's agency model (Bandura, 2006), whether climate change is regarded as a wicked problem, and whether they feel empowered to tackle wicked problems more broadly. I will then zoom into respondents' experience of the campaign and whether they perceived it as impacting their personal agency around climate change. I'll conclude by examining whether the radio campaign provided adequate tools and strategies to engage with the wicked problem.

4.1.2 Profiles of respondents

The table below gives an overview of the demographics of the respondents. As per the table, all 21 respondents were between the ages of 18 and 30, including 13 females, 7 males, and one gender-nonconforming individual.

	Type of respondent	Site	Age	Gender
1	Radio mentor	Tlokwe	30	Male
2	Youth reporter (YR) 1	Tlokwe	18	Female
3	Youth reporter (YR) 2	Tlokwe	19	Female

4	Youth reporter (YR) 3	Tlokwe	18	Female
5	Campaign participant (CP)1	Tlokwe	24	Male
6	Campaign participant (CP) 2	Tlokwe	22	Female
7	Campaign participant (CP) 3	Tlokwe	21	Female
8	Radio mentor	Alexandra	23	Female
9	Youth reporter 1	Alexandra	22	Female
10	Youth reporter 2	Alexandra	18	Male
11	Campaign participant (CP) 1	Alexandra	25	Male
12	Campaign participant (CP) 2	Alexandra	18	Female
13	Youth reporter 1	Emalahleni	19	Male
14	Youth reporter 2	Emalahleni	24	GNC
15	Youth reporter 3	Emalahleni	22	Female
16	Radio mentor	Emalahleni	26	Female
17	Campaign participant (CP) 1	Emalahleni	22	Female

18	Campaign participant (CP) 2	Emalahleni	19	Male
19	Radio mentor	Atlantis	24	Female
20	Youth reporter	Atlantis	19	Male
21	Campaign participant (CP)	Atlantis	21	Female

Table 4 - Demographic profile of the respondents

4.2 Experience of wicked problems: interconnectedness and exclusion

It was essential to first ascertain what key social issues existed in respondents' lives and whether they considered climate change to be a wicked problem affecting their lives or not. In this first section, I will explore the landscape of social issues that affect the young respondents' lives, how climate change features in this landscape as a wicked problem, and try to understand why, despite being acknowledged, it is not considered an essential issue they are concerned about or ready to act against.

4.2.1 Youth lives and interrelated issues

In my interviews I didn't bring up the concept of "wicked problem" with the respondents, but rather asked them to describe to me what they see as "the key environmental issues and broader social issues they face". They mentioned a range of social problems such as drug and alcohol abuse, crime, lack of opportunity, gender-based violence and gun violence. Only three participants mentioned climate change without being prompted.

This gave me a better grasp of the broader socio-ecological context in which climate change issues exist within respondents' communities, which allowed me to better contextualise their relationship - or lack thereof - to climate change. This also helped "locate" the communication for social change radio initiative in the lives of young people by pointing at barriers to and potential catalysts of agency. It seems that the interconnected nature of these issues motivated

respondents to often mention them in a conversation primarily about climate change, as they can't be separated from their daily lived experiences.

They described these social problems as "*complex issues",* with "*a lot of things intertwined, a web of cause and consequences"* (YR Atlantis), hinting at their wickedness without naming it. In a way, inquiring about the issues that are most prevalent and most difficult to eradicate in these young people's lives, pointed directly at wicked problems. One respondent called these issues *"the elephants in the room"* (CP1 Alexandra) as they are constantly present and take a lot of space but feel too overwhelming to address. In another instance, a youth reporter called them the "*bread and butter*" (YR2 Alexandra) of the radio show, the source of inspiration for their weekly broadcast, emphasizing the fact that they are common issues by saying "*we just talk about everyday life!"* (YR1 Alexandra).

All the issues one listener thought should be featured on the radio show were complex social issues or wicked problems: *"1. Sexual health 2. Education 3. Political issues 4. Opportunities for youth 5. Climate change"* (CP2 Emalahleni). The fact that climate changed was ranked last suggested it was not regarded as a main issue affecting young people's lives.

Crime came up as the most frequently quoted wicked problem affecting young people, cited by 12 respondents. It appeared to mean different things for different people but mostly as a *"suitcase word"* or a shortcut for a causal chain that starts with of intergenerational poverty and inequality and manifests into issues of unemployment, gender-based violence, drugs, alcohol abuse and teenage pregnancy. One respondent spoke of the "*crime of teenage pregnancy"* which reinforces the continuum between structural inequalities and their consequences, such as young women's compromising their education after becoming pregnant, which perpetuates the cycle of poverty, as described by Christofides et al. (Christofides et al., 2015)When asked who was committing the "crime of teenage pregnancy", the respondent replied bluntly *"everybody: the girl, the boyfriend, the parents, the State"*, emphasizing the structural drivers of the issue. To further organise the findings according to this causal lens, I use Niskanen et al.'s concept of mechanisms of wicked problems (2021, p. 1).

4.2.2 Mechanisms of wicked problems

4.2.2.1 Historical inequalities

The tension between respondents' personal potential and South Africa's historical inequality (what a lot of young respondents referred to as their "circumstances") was akin to describing wicked problems in the young respondents' life.

The concept of "potential", conceived as latent abilities that may be developed and lead to success in the future, was particularly interesting for me as the prerequisite to self-efficacity and agency.

- "There is ambition and potential here and young people who are business-oriented and who actually want to change their lives. But I feel like their circumstances restrict young people from encountering the right opportunity." (CP2 Alexandra)
- "They (young people in my community) are incredibly talented. I mean, for example, a lot of them are involved in music, but because of where they come from, they can't make a living out of it so they get addicted to drugs which is a very sad and sensitive issue." (YR3 Emalahleni)

The second quote is particularly interesting as it draws a direct link between historical inequalities as a mechanism of wicked problems and a manifestation such as drug abuse that come as a coping mechanism and that creates brand new wicked problems to deal with.

This tension between potential and the omnipresent influence of wicked problems on young people's lives is expressed in a metaphor about the community of Alexandra, a campaign site that is located across the highway from Sandton, one of Johannesburg's most exclusive business districts. The physical space itself embodies the tension that young people feel within themselves and how demoralising but also confusing this tension can be: *"On one side of the road there are shacks and the other side, you find mansions. And for us (youth from Alexandra) there are the pressures of living up to that standard. It is really confusing because there's just so many pressures from so many different places. And they are trying to fit in, trying to be successful, trying to build a model. It's very confusing for young people, but I think it also highlights the inequality in South Africa"* (Radio mentor, Alexandra).

While most respondents acknowledged the influence of these structural mechanisms on their lives, a few rejected the idea of determinism and assured that free will is ultimately the main determinant of someone's outcomes in life: *"60 percent of our young people in Tlokwe prioritize partying all weekend and doing this is more than the education. And then, the other 40 percent is like definitely focused kids. So it's kind of polarized"* (CP2 Tlokwe).

4.2.2.2 Lack of resources and opportunities

The lack of resources, support and opportunities also came up as a key wicked problem identified by youth respondents. The lack of physical places that can assist young people to access information and opportunities such as libraries, community centres or information and communication technologies (ICT) centres, and the fact that, when they exist, they are not properly maintained was brought up repeatedly: "*We don't have a lot of organizations or spaces where we can have talks, where we can just explore and learn, where we can read books, and we only have one library here now in the whole area of Emalahleni (…) we don't have a lot of opportunities where we can go and explore different things"* (CP1 Emalahleni). This idea of being supported in finding oneself through exploration and experimentation came up a lot for young respondents. The same observation was applied to programs or initiatives meant to support young people in their growth, as they are seen as not adapted to the needs of the youth, as described here: *"Programs exist but often it's such a short-lived cycle of process because at the end of them, no one eventually makes it out with anything. At best they get a certificate that doesn't really allow them to grow to their fullest potential"* (CP2 Alexandra).

4.2.2.3 Disconnect between generations

Different respondents also noted that one of the key wicked problem affecting the youth in particular, was the fact that, as a segment of society, they are neither listened to nor afforded space for getting advice from adults:

- "No one is assisting young people in our community. We need people who are here for us as young people, like counsellors." (CP2 Tlokwe)
- "If you are going through something or there's something bothering you, nobody is there. I feel like there's a gap between young people and adults." (YR Atlantis)

This lack of advice and dialogue at the individual level reflects, in various participants' opinions, the lack of presence of youth voices in the public space and debate, which isolates them as an age group and eventually impacts on their ability to participate in decision-making.

- "I feel like there's a gap because they don't see us as important. If you are young, you don't have a say around here. If you are older, maybe you can have something to say. But when you're young, they don't want to hear you." (CP1 Tlokwe)
- "We really are frustrated because no one wants to hear us. They say, we don't really have control of our lives yet, so we can't talk." (CP1 Alexandra)

This last comment highlights the paradoxical nature of the issue, whereby young people are excluded from the decision-making process because of their age, which, in turn, prevents them from getting control over their lives, maintaining them in a state of frustration and helplessness. It confirms the common idea that young people in South Africa are somehow an homogenous group that is deeply disruptive and restless, in a word a "ticking time bomb" that needs to be kept in check. (Lefko-Everett, 2012; Mago, 2019; Mattes & Richmond, 2015)

4.2.2.4 Self-sabotage

A couple of respondents brought up statements that invoked low-self-esteem, self-destruction or sabotage as consequences of the frustration mentioned above: "*Young people are not really standing up for themselves"* (YR 3 Tlokwe)*; "We are also categorizing ourselves as people who don't really deserve the best of everything"* (YR2 Emalahleni)*; "We have community centres, where young people don't even go and instead vandalize them"* (CP1 Alexandra).

This apparently incoherent action that jeopardises a community's few available assets and perpetuates poverty and highlights the interconnectedness of other wicked socio-economic issues.

4.2.3 Climate change as a stranger

Once this "context diagnosis" was done, the manifestations of climate change mentioned by the respondents were easier to put in perspective. All respondents acknowledged that climate change exists and were able to identify its manifestations very clearly, but very few categorised it as a "key issue". Next, I will explore the reasons invoked by the respondents to explain this absence.

4.2.3.1 Manifestations of climate change

Beyond general environmental issues that were mentioned in all communities (such as air and land pollution, especially inadequate waste disposal), respondents mentioned climate change-related issues that were specific to their community and their impact, especially on health.

In Tlokwe, respondents often mentioned the ongoing droughts that cripple the area and that have severely intensified in the last 30 years. Potchefstroom, the former name of Tlokwe means "broken pot", due to the cracks that appear in the soil of the Mooi River Valley when there's a drought. In Alexandra, they spoke about the effect of the air pollution released by the mines that are *"damaging us as young people with people having eye problems, sinus issues"* (YR2, Alexandra). In Emalahleni, a Nguni word meaning "place of coal", they described how coal mining affects their lives, in the most heavily nitrogen dioxide-contaminated region in the world. They spoke of both widespread respiratory diseases and the contamination of the water. "*Even yesterday, it was so black when it came out of the tap"* (YR3 Emalahleni). Finally, in Atlantis, they mentioned the open-air burning of waste throughout the community and the effect it has on the air quality.

Despite these clear manifestations, participants noted a general lack of engagement with the issue of climate change and its manifestations among the general population and listeners of the show. The lack of knowledge and understanding (linked to a lack of access to adequate information and conceptual complexity) and lack of interest (linked to the overwhelming nature of climate change, perceived lack of direct experience, socio-economic circumstances, lack of direct solutions and disconnect between actors) were cited as the perceived causes of this inertia.

4.2.3.2 Perceived causes of lack of awareness and action

- Lack of knowledge and generational gap

A lack of knowledge and understanding represented the most invoked for the lack of action to tackle climate change. Most youth reporters said that their listeners don't know about climate change and that even if they recognise its consequences, can't relate them to their existing knowledge and therefore identify it as such. This information gap was described as:

- “Pollution in my community, that is dumping everywhere, is a huge problem. People don't even know that they are contributing to climate change.” (CP Atlantis)
- “We don't have enough information about recycling. So people just throw anything everywhere.” (CP2 Alexandra)

The respondents mention that adults’ ignorance often influences younger generations: “Young children grow up thinking that what throwing a paper around is ok. They don’t see a problem with it because an older person is overdoing it” (CP Atlantis).

The lack of knowledge often seems to be a direct cause for the lack of interest perceived (a very common link cited by 12 respondents). This comforts the linear information to action model that assumes that if people knew more, they would care more, but “*people are not there yet”* (YR 2 Alexandra).

Again, a generational gap features strongly, with older people seemingly knowing and caring less about the environment: *“Our parents and elders really don’t have much info about it, therefore they don’t care*” (CP1 Tlokwe). It seems like the generational gap might come from the fact that climate change is now part of the national curriculum in South Africa and that pupils are therefore engaging with it: *“Climate change, we are also doing it at school!”* (YR1 Alexandra).

- Lack of direct experience

The lack of interest is often also explained by respondents’ lack of direct experience of the issue and the apparent lack of direct impact of climate change on people’s lives*: “they tell me ‘I don’t care about it, it doesn’t affect me’”* (YR Atlantis). Some quotes seem to indicate that channels of information such as mainstream national media dissociate the issue even more from people by showing faraway places being hit by weather disasters like cyclones or tsunamis: *“there is something that they see on the news and it’s something that is far from them. So they think, it’s never going to happen here”* (YR3 Emalahleni); *“you know, as a country, we haven't experienced something that is huge, that is very dramatic in terms of climate”* (CP2 Tlokwe).

- Conceptual complexity

Some respondents emphasized the conceptual complexity of climate change as a barrier to engagement and how youth reporters had to somehow become "translators" of climate change science for their communities:

- "It's really hard with the community here because some people don't even understand it." (CP 2 Alexandra)
- "You have to first explain climate change and what's happening to the weather because they can see the weather pattern changes, but they don't understand the meaning of it. So it's really difficult in terms of educating everybody, because some people cannot really can't understand the big words." (YR1 Alexandra)
- It is a very hard topic for us to grasp because it has lots of concepts. The whole team had to analyse it so that we could understand it ourselves before we can give it back to the people." (YR Atlantis)

This last comment indicated that the fact that youth reporters had to initially grapple with climate change allowed them to relate to the difficulty their audiences have understanding the topic, even if they are affected by it. Most youth reporters admitted not knowing much about the topic before starting to research it "*it was a strange thing (...) Climate change was a stranger to me"* (YR1 Alexandra). The polysemy of the term expresses itself fully in this quote where the respondent finds climate change "strange" and therefore "a stranger", something "foreign", "alien" that he can't relate to.

The youth reporter from Atlantis elaborated on the lack of technical knowledge of the listeners "They don't know the difference between climate and weather, (…) those small things that you need to understand the big things." He then went on to explain "it's the same with anxiety and depression", making once again the connection with other wicked problems and how the radio show aims at providing a "blueprint" to unpack different social issues, not only climate change.

- Overwhelming nature of climate change

Linked to conceptual complexity, the overwhelming nature of the manifestations of climate change is also present in the interviews, and so is the idea that this brings inertia. It is something that's *"too big"* and therefore *"too difficult to actually put energy into"* (CP1 Alexandra).

This finding echoes the literature that brings about the concept of cognitive confusion and climate paralysis that strikes people even when (and often even more so) they have adequate

information. The fact that the radio shows were tackling such complex problems actually came through as a criticism from some listeners, as they perceived it as *"too much"* for a youth show and recommended instead that the reporters focus on giving concrete advise to their peers that they can directly apply in their daily lives: "*they should focus on things that is useful and beneficial to the people (…) like careers that can be interested, how to write a CV and applying for a job, healthy eating and exercise plans"* (CP1 Tlokwe).

- Socio-economic circumstances

"I have tried to talk to people, but they don't engage, it's so hard. For example, we spoke to people who don't have gas to cook, so they make a fire and they don't even know they are polluting the air" (CP2 Emalahleni). This quote brings to mind a recurrent statement that was made by different respondents and summed-up by a youth reporter from Atlantis at the end of the interview: "climate change is not for poor people". By saying that, he draws a clear link between the lack of interest or engagement in the issue and people's socio-economic circumstances, hinting at concepts such as climate justice and equity. If people focus on survival activities that contribute to climate change, their choice would be obvious and therefore climate change is seen as an issue which they cannot engage with.

With this understanding, reporting on climate change came with a moral dilemma for some youth reporters who felt like they were being "unfair" to their listeners by asking them to engage with the issue while being dependent on unsustainable activities for survival. A youth reporter from Emalahleni explained his unease while interacting with community members working in the coal mines: *"I know that coal mining is a negative thing as coal is a fossil fuel and it creates pollution, but (…) these people make money from it, that's how they get income coming in. So in a sense, it's going to be like we are looking down upon what they are living on, what they are using (…) for survival"* (YR2 Emalahleni). This resonated with the current conversation around climate equity according to which economically disadvantaged people can't be asked to engage with the climate crisis and make the same adjustments to their lives as wealthier people; *"So they have an interest in terms of change. But in terms of the hierarchy, it comes after food, shelter, education and so on"* (Radio mentor, Alexandra).

- Lack of direct solution and disconnect between actors

The general lack of reported interest is also explained by an apparent disengagement from the authorities “People just throw their garbage everywhere. That takes me (back) to the services that we are not really receiving. The municipality come only once in a while to collect the dirt, so people just do their own thing” (CP 2 Emalahleni). This argument is balanced by another one that seems to emphasise the power of habitus and the need for ongoing education, on top of functioning infrastructures “The State created dumping sites but they (the inhabitants) don’t dump there. They are littering everywhere” (YR1 Alexandra).

Some respondents acknowledged the obvious difficulty facing authorities in tackling the wicked problem of climate change as well as its lack of obvious answers. The distinction made by Rittel between “tame” and “wicked” problems was often echoed in the interviews especially when a youth reporter from Alexandra was opposing issues that have and don’t have “*direct solutions”.* The respondent took the example of the South African government’s response to COVID-19, considered a tamer problem, to illustrate their point: “*When you look at our government, the minute COVID-19 came in, they were able to start and say, ‘this is what we're doing.’ And because I think it's so easy to shout, ‘we don't want you guys to drink anymore, we want you to stay in your house.’ That's simple. While with more complex issues, it needs people, you know, to look at strategies and tactics. And it’s becomes so difficult to actually put energy into that, especially if you don't know where to begin”* (YR2 Alexandra).

Another youth reporter, also based in Alexandra, echoed this statement about the difficulty to implement a response to a wicked problem regardless of how sound the strategies might feel *“The theory, the black and white, seeing it on paper really makes so much sense and it feels ok, but then comes to the implementation, there's always a block. And I really wish we could figure out what the block is because I really think once we do, then we could see a lot of changes in many different issues affecting our country”* (YR1 Alexandra).

Later in the interview, the same respondent discussed gun violence, an issue her group had also been exploring in their shows. At some point they felt it was relevant to engage with the police to make them aware of the reality of gun violence in the community and share lived experiences they had collected from listeners. *“We had a march where we went to the police station and it was great. We had a petition, they took it. But it literally just ended there. There was no difference in terms of access to the police afterwards. And I don't know if maybe the problem was actually on our end and we just don't know who we should be speaking to, and the fact that*

we spoke to the wrong person, that is what makes us, you know, get nowhere. So it's like the action happened, we knew why we were doing it and the value of it, but nothing came out of it. It takes two to tango. We can come to the party, but if they aren't, then we're just dancing alone" (YR1 Alexandra).

What emerged from analysing respondents' views on climate change was that the topic was deemed non-essential, compared to other wicked problems, and therefore not addressed, despite an overall understanding that many social issues are connected. In this context, it is interesting to observe how media and communication can be used as tools to tackle wicked issues in general, even the most difficult to engage with like climate change, and what characteristics these tools need to feature in order to have an impact on their audience.

4.3 Impact of the radio campaign

When starting to explore what impact the radio campaign had on respondents' lives, I referred back to the original objective of the project which was to influence the individual behaviour of campaign participants. The project adopted a "blended approach" by referencing agency as a determinant of behaviour change and an ultimate long-term objective. In a nutshell, the project aimed at triggering agency (both instrumental and intrinsic), but lacked definition of what type of agency would be provided or how it would be conditioned. In this section, I am going to explore if how agency manifested for the respondents of the sample.

It is important to remember here that data from the campaign participants and reporters and radio mentors has been analysed separately. This was to reflect the respective levels and types of exposure to the campaign that the different groups had, which in turn yielded different types of change (reporters and mentors actively produced the show while campaign participants listened passively or engaged by calling in or participating in outreach activities).

4.3.1 Partial behaviour change

I'll start here by describing the change in behaviour of the campaign participants, before focusing on the reporters and the radio mentors (described as one group). For both groups, I'll follow the intended change pathways that were set in the initial project to see if they were sound and yielded the intended results or not.

4.3.1.1 The knowledge to action gap

What appears clearly in the interviews is that participants' interactions with the campaign increased their knowledge levels, the first necessary step towards behaviour change. An increase in knowledge levels was mentioned in five campaign participants' interviews and in six reporters' interviews (when talking about the change in the campaign participants). This is in line with the results of the external evaluation that states that most listeners (67%) reported a clear increase, the knowledge increase applied almost evenly to the key themes covered (water, waste, deforestation…).

But knowledge acquisition is only a first step towards behaviour change and many respondents described "hitting a wall", encountering the knowledge to behaviour gap widely described in the literature, in which there is often a discrepancy between levels of knowledge acquisition and actual behaviour change. This is particularly evident in the following quote, from a youth reporter from Tlokwe, talking about the listeners of his show: "*I feel that (they) are informed now. But it's difficult to put information into action. They are not able to implement it"* (YR3 Tlokwe).

Only four campaign participants described having changed their behaviour as a result of the campaign. These results are at odds with the final external evaluation of the project's impact, compiled in August 2021. According to the evaluation, 72% of the 240 listeners surveyed reported having changed their attitudes and behaviour since they started listening to the show. Despite using a much smaller sample, the fact that all the people I interviewed were regular listeners, versus the wide-reaching evaluation that might have reached fewer regular listeners, gives some gravitas to these results and indicates a clear knowledge to action gap. Here is the positive behaviour change feedback I gathered:

- "OK, I am no longer littering and my family neither. We found a recycling plant in our neighbourhood and we take all the rubbish that can be recycled there once a week." (CP1 Emalahleni).
- "It changed my ways of doing things and I am no longer wasteful when it comes to water. I use less water and try to take water from the bath tap to water our little garden." (CP2 Alexandra).
- "I stopped dumping nappies and pads in the woods to reduce pollution." (CP2 Tlokwe)

- "I encouraged my mother to buy a solar generator rather than using charcoal. I always turn off taps when I find them running and I always make sure I get rid of waste by putting them outside so that they are collected by waste companies rather than burning them." (CP1 Emalahleni)

The first and the last quotes are particularly interesting as they show some intergenerational influencing, from the youth towards the older family members, addressing the generational gap described above.

Some respondents also spoke about broader behaviour change (not related to climate change) and its direct correlation with knowledge acquisition, which brings upon the concept of "informed decision": "*We lacked knowledge in a lot of stuff, things that we do not think about it at a normal basis. For instance, the topic that stood out for me and changed things for me was gun violence. I am one person who wanted to get a gun. I have come to realise there are other measures I can take. It changed my life. It informed me so that I can make an informed decision about my life"* (CP2 Emalahleni).

Despite these few accounts of clear behaviour change, the resistance from most listeners to change their behaviour was widely noted as illustrated by this quote from a youth reporter in Alexandra: "*People burn rubbish, it just doesn't stop. And then, they just say 'you don't have to tell me what to do about my life'. They know they don't have to do this because it's harmful to their lives. But they say, 'just live your life and we live ours'"* (YR1 Alexandra).

The issue of the legitimacy of the campaign and the youth reporters came up in a couple of interviews, as some of them described the pushback they get from some listeners:

- "Yeah, it is hard. I sometimes you meet someone on the street and they say oh, you are just wasting your time on radio telling us this and that." (YR2 Tlokwe)
- "You are on the radio, you don't know everything. You are just doing your job because you have to do your job." (YR1 Alexandra)

This last quote seems to suggest that there was a sense of disconnect for some listeners who might think that the message is coming from a place of authority with a pre-defined agenda or of entitlement, and therefore reject it.

The fact that listening to radio can be a passive activity and that the reporters don't often know who is listening, and with what intent (as mentioned earlier) shows the limitations of the medium and how these limitations hinder the objectives, especially in terms of behaviour change:

- "There are people who say, it will always be like this (social issues). Maybe they listen because the radio is on, but they don't think that they should make a move." (Radio mentor, Tlokwe)
- "So I don't doubt that the information is getting out there, that there are people listening. But I think the direct engagement with the content or with us even is something that's lacking. So we only hear about it when we do go and talk to people directly and ask them. They tell us that they get it and that then they like that. They do engage with the content. We just never really know because like I said, they don't come back (give feedback)." (YR Atlantis)

This statement is echoed by this question from a youth reporter from Alexandra: *"They listen but they are not really there seeing that they can make a change. How do you make them hear us properly?"* (YR3 Alexandra). This question seems to hint at the fact that one of the first steps towards behaviour change could be "active listening", listening with one's brain rather than only ears, which in turn allows for information retention. The need for more spaces for listeners' engagement on the actual show is noted by different youth reporters, but most are discouraged by the overall low engagement: *"We have tried many times to get them to call, to SMS, to WhatsApp to tell us what they understand, but it's so rare that they do!"* (YR3 Alexandra).

4.3.1.2 Information sharing and dialogue as an intermediary step

Some listeners seem to take an interesting step towards behaviour change by telling other people about the content of the campaign, as mentioned by this youth reporter from Alexandra: *"One of our regular listeners was telling me that at first she didn't know what climate change was and she didn't know what causes it and she didn't know the effects of climate change. And basically, she didn't even know the solution. But because she listened to our show, she got to me and she told me that she started discussing it with her friends, which is a good thing"* (YR1 Alexandra).

Another youth reporter from Alexandra actually explains getting into a dialogue with his listeners through asking for feedback (which shows some variability in the data and counters the previous statement about low engagement): "*I asked and I got a lot of feedback. They come back and say 'you were talking about this thing and I didn't understand, can you please explain.' And I go back to the topic and explain further because they didn't get everything we wanted them to get. We elaborate further and we get more comments"* (YR2 Alexandra).

Accounts from four different youth reporters indicate that, in some cases, listeners come back to them not only with feedback but with more information about the topic, a finding that brings to life the idea of a "network approach" emerging organically where a knowledge sharing and dialogue platform is provided. This was triggered by the youth reporters encouraging the listeners to go and source information themselves as a way to get them involved in the campaign: *"I like how they actually do the research that we give them. They actually go and research more"* (YR2 Alexandra). These newfound information seeking skills seemed to trigger a virtuous cycle for some listeners, such as this listener from Alexandra who expresses how acquiring knowledge in the context of the campaign has led her to want to know more in other areas of her life: "*Now I'm able to see that we should be inquisitive. We should know more about what is happening in our country and our community. Now I want to know what's happening in current affairs. Information in general is important"* (CP1 Alexandra).

In some communities, after hearing the show, listeners report back with new information that complements what was broadcast, as explained by this youth reporter from Alexandra: *"Some of them will come back saying 'I learned this and this' and some will give us information that we didn't have. It means they went and did further research. We started seeing positive results where two or three people are coming and telling us about the environment. That's where I tell myself 'ok we are getting somewhere. These people now are teaching us'! It's this platform where you teach one another. We give and they also give us. We are giving each other information, we are teaching one another"* (YR2 Alexandra). The reciprocity in terms of knowledge sharing, but also of the impact of the dialogue on the youth reporters themselves, who are expending their knowledge through the process, appears clearly in the following two quotes:

- "I always wanted to make a change and help, educate people. In my street there are older people listening to the radio. I often sit with them, older and younger than me and we talk. Through this process, I educate myself." (YR Atlantis)
- "As an individual, I have to learn a lot of things. And I believe that as humans, there are a lot of things that other people know that I don't know. I believe in the circulation of information." (YR2 Emalahleni)

The interactions described above bring an element of accountability to the campaign, whereby the listeners ended up using the platform to advocate for protecting the environment and therefore keeping the reporters answerable: *"It took time for people to get on with it, but now, these people are pushing us and telling us that we should take care of our nature"* (YR1 Alexandra).

It seems that once the platform was identified as a place where social dialogue could take place, listeners utilised it to discuss other social issues, often the other interconnected wicked problems mentioned above, as reported by this youth reporter from Tlokwe: "*They say 'thank you for talking about this difficult topic' and then they share knowledge and personal accounts, about climate change but also about other issues like crime or poverty"* (YR3 Tlokwe). This space for sharing seems to be identified as a valuable one by youth listeners, who in turn wanted to get more involved: "*We see a lot of young people who actually wanted to know how to join the whole project"* (Radio mentor, Emalahleni).

It appears from the qualitative interviews that the intended behaviour change didn't really happen for most of the listeners of the show as the knowledge to action gap was a blatant reality that most respondents couldn't bridge. This reinforces the idea that change pathways are not necessarily linear and causal relations not always as intended or designed.

On the other hand, the information acquisition space (often seen as only a pre-requisite for future behaviour change) became a very vibrant one where dialogue and knowledge co-creation happened, potentially creating a fertile ground for concerted action and change that isn't necessarily conditioned by a pre-determined change in behaviour confined to a specific area of people's life.

4.3.1.3 Critical skills building as path to self-efficacy

Turning now to youth reporters and radio mentors, I am going to explore the change they felt in terms of knowledge and critical skills acquisition. The latter one is particularly interesting to develop, as skills such as confidence, communication and critical thinking are widely perceived as stepping stones, or "psychological assets" (Samman & Santos, 2009, p.3) towards self-efficacy, and indirectly agency.

All nine youth reporters interviewed indicated increased self-confidence as a result of being part of the campaign, especially when they reflected on how they felt before, as described in these two quotes:

- "Before I joined the project I used to be shy, very shy. I was extremely introverted. I used to lack confidence, I used to feel bad about myself. I used to be ashamed about myself." (YR2 Tlokwe)
- "I used to believe that I can't do anything. So I'm just going to stick to school. I thought that I could I wouldn't do anything in life, I wouldn't survive in any type of work environment." (YR1 Alexandra)

A youth reporter from Tlokwe spoke of what she calls an "*unexpected turning point"* she experienced in terms of confidence acquisition the day she agreed to be the presenter of the show about climate change: *"How come did I do that? How did I raise my hand, whereas before you had to call me in and tell me, come and do this?"*

Another youth reporter from Tlokwe talks about a similar life-changing moment that took her by surprise when she hosted an event on World Aids Day: *"I was so impressed because, at first, I had low self-esteem and I couldn't stand in front of more people telling them about what is HIV but then I had confidence to stand up and go. That day I was so impressed about the way I was acting."*

The causal link between the newly found confidence and the feeling that they "believe that they can produce desired effects and forestall undesired ones by their action" (Bandura, 2000, p.75). is clearly outlined in the following quote from the youth reporter from Atlantis "*Now, my level of confidence is extremely high. I can adapt to everything that comes to me. Now that I'm confident and I can adapt, I can thrive in any situation"* (YR Atlantis).

This capacity to adapt and as a result of being able to influence one context and circumstances, seems to also be strengthened by the newly acquired communication skills of the youth reporters:

- "I can go to the platforms (other media) if that opportunity comes and I will be able to stand on my own." (YR2 Alexandra)
- "I can get stand up do an intervention. If the teacher asks something I would be the first go then and talk and then I can sit down and I feel so empowered." (YR1 Alexandra)

Again, the idea of confidence shines strongly through these two quotes, with the two youth both using the term "standing", both literally and metaphorically, as a reflection of a newly acquired "upright" sense of self.

With confidence and communication skills also seems to come a feeling of self-efficacy around the ability to set the agenda and to talk about topics that might create a debate: *"I want to be a journalist later in life, I feel like I have the self-esteem to talk about things that need to be talked about, such as climate change"* (YR3 Emalahleni).

This ability to hold and manage different opinions is confirmed by the youth reporter from Atlantis: "I have been able to educate myself and become a critical thinker. It gave me a confidence boost. Now I am able to just go up to someone and ask (things) as I feel, even if it's going up to people that are very conservative" (YR Atlantis).

Some youth reporters also mention a newly found confidence in their critical thinking and analytical skills in the context of the weekly production of the radio show: "*OK, when I started there was a clear lack of confidence. Now, you can give up everything (information) to me. I'm able to analysis it. I can work under pressure, I can research properly, produce a show"* (YR2 Alexandra).

4.3.1.4 Peer educators and influencers

All nine youth reporters interviewed indicated that thanks to the campaign, they have acquired peer education skills and that they are practising these skills.

- "When I was a child, I always wanted to be one of these people who are speaking in the radio. I realized that it's not only about talking, it's about changing people's mindset." (YR1 Tlokwe)

- “Young people are hard-headed in South Africa but we can influence them. Young people now have the opportunity to impact others.” (YR3 Emalahleni)
- “When she came, she wasn’t outspoken, now one of the most influential.” (YR2 Alexandra, talking about her fellow YR)
- “I am a person who can influence and teach other people.” (YR1 Alexandra)

The use of the term “influencing” refers to behavioural psychology and economics and concepts such as nudging and persuasion and has limitations that I have explored in the literature review. But it is interesting to see how the youth reporters appropriate it as an efficient tool for peer education.

It seems like peer education often starts at home, often shaking up established social roles and expending beyond the peer-to-peer approach to embrace an intergenerational one:

- “When I'm at home, I am able to educate my siblings, now, they are smart.” (YR1 Alexandra)
- “I'm able to also change my family's view. I'm able to reason with my parents, we sit down and reason. I tell them what I think, and they tell me what they think.” (YR 2 Tlokwe)

From these quotes, it also appears that the peer education that the youth reporters engage in is broader than just climate change behaviour influencing and requires that they display overall positive role model qualities. Some of them, like this youth reporter in Emalahleni, acknowledge that the peer educator status comes with ties: *“I came in as somebody who just wanted to become a radio presenter. I know now that becoming a radio presenter comes in with responsibilities as well.”* Some of his fellow youth reporters agree with his statement:

- “Now, I definitely have to practice what I preach. if I tell people that if I talk about substance abuse, it means that I'm also not going to consume alcohol.” (YR Atlantis)
- “Sometimes, in life, you have to live up to what you do. I go on radio preaching to people, I should be the one taking the stand. You need to lead by example so that they can look up to me.” (YR1 Alexandra)
- “I was one of these young people who are not doing enough. Now I just can’t.” (YR2 Alexandra)

Behaviour change for the youth reporters and mentors seems to be more centred around the development of key self-efficacy-related skills, with a strong link between these skills and their newly found capacity to "influence" their peers and families. Overall, it seems like a linear model doesn't apply to all the expressions of behaviour change reported by the respondents, especially when it comes to drawing a clear link between knowledge acquisition and behaviour change. Nonetheless, fostering a sense of self-efficacy seems to be key to further behaviour change as well as influencing other people's behaviour.

4.3.2 Exploration of agency: collective agency as the ultimate power

4.3.2.1 Conceptual framework and general findings

I am now going to focus on the actual manifestations of agency and empowerment (as the process of acquiring power towards achieving agency) that emerged for the different respondents through their participation in the radio campaign. Guided by the literature, I will focus on manifestations of agency that:

- Represent both reflection and action or the "ability to make choices and then to transform those choices into desired actions and outcomes" (Samman & Santos, 2009, p.11)
- Are either individual or collective
- Don't conflate "indicators which reflect preconditions for the exercise of agency with agency itself" (Samman & Santos, 2009, p.11)

I am first going to explore how respondents related to the Rowlands' typology of power and then whether their answers can help answer the following question: "What kind of agency emerges or is needed in the presence of a wicked problem?"

18 out for the 21 respondents indicated a rise in their agency when asked if they felt actual changes in the way they have power in their lives and/or the ability to use this power in relation to the climate change issue as well as in other areas of their lives. To help them anchor their thoughts after their initial answer, I offered Rowlands' typology of power.

In McWhirter's empowerment framework, that helped Rowlands build hers, the four powers are to be seen as each one building on the previous one as "*The process by which people, organisations or groups who are powerless (Power within) become aware of the power*

dynamics at work in their life context, (Power to) develop the skills and capacity for gaining some reasonable control over their lives, (Power over) exercise this control without infringing upon the rights of others and (Power with) support the empowerment of others in the community" (Rowlands, 1995, p.87).

Rowlands also explains that McWhirter "makes a useful distinction between 'the situation of empowerment', where all four of these conditions are met; and 'an empowering situation', where one or more of the conditions is in place or being developed, but where the full requirements are not present" (Rowlands, 1995, p.88).

The table below summarises the answers of the respondents in terms of the type of power they feel they hold.

Respondents	POWER WITHIN	POWER TO	POWER OVER	POWER WITH
Direct reference				
Radio mentor, Emalahleni	x	x		x
Radio mentor, Alexandra			x	x
YR 2 Alexandra	x	x	x	x
CP 1 Alexandra				x
YR 1 Emalahleni	x			x
CP 2 Emalahleni	x			
YR Atlantis				x
Indirect reference				
Radio mentor Tlokwe	x			
CP 1Emalahleni	x			
YR 2 Emalahleni	x			
CP 2 Tlokwe	x			
Radio mentor Atlantis		x		
Youth reporter 2 Tlokwe		x		

Table 5 - Mentions of the power typology in respondents' interviews

As indicated in the table, seven respondents were able to relate to the typology and another six provided answers that relate to the typology without having been prompted, meaning that they didn't need the framework to describe an experience that did fit the typology.

- ***Power with***

It is interesting to note that within the group that found the typology useful to frame the type of agency they felt (direct reference), the "power with", or collective power is overwhelming (6 out of 7), whether it is combined (4 out of 6) or not with another power (2 out of 6). Nonetheless, only one of them seems to have followed a linear process of acquiring all the powers the one after the other ("empowering situation"). Here are the answers of the four respondents who feel they hold "power with", on top of another (or more) power (s):

- "Actually I feel (I have) three 1, 2, 4. These days, I am taking the power to young people. I think we can, you know, help young people to increase their potential to the maximum they can." (Radio mentor Emalahleni)
- "I have power over and power with. I like to be in those spaces where I am listening to people having that platform. It's fulfilling to me because I am hearing opinions I have never heard before, stories I have never engage with. That's the kind of mobilising I like to do." (Radio mentor Alexandra)
- It's all four that I have got. The power within I really achieve that. The power over. It's a deal for us to get that but it's not really a big deal. We've got all the resources around, we just have to tap the resources because they are there, given that we need to find ways to bring them to our community. The power with the people, I am able to do that and have them to support. I am working with communities where different groups think they all deserve better." (YR 2 Alexandra)
- "I do have the power within because that's my own desire for change. But we want to see the change in society then my personal views should be classified because we need to work together, we need to work collectively, hand in hand with all of the other people. So I'm going to go with the power with." (YR1 Emalahleni)

Two more respondents felt that they have achieved power with directly, without having been "through the rungs" of the other powers.

- “I feel like I have the last one, the power with, yeah. I want to be someone that goes and creates change for my community. Someone's going to lead them to the right path. Someone who can bring the light for other people.” (CP1 Alexandra)
- “At the beginning it was about giving a voice to the voiceless. But I realise people have a voice. We have to amplify it. So, I’ll go with the power with.” (YR Atlantis)

From all these quotes, it appears very clearly, all three “process powers” (power within, power to and power over) are important and either achieved or achievable for the respondents. But it seems like for all these respondents, the first three powers are only steppingstones to achieving “power with”, the collective power.

The respondents talk about it either as an equally shared power (“work together, collectively”; “I am able to do that and have them to support”) or a power shared between a leader and followers (“mobilising”; “help young people to increase their potential”; “Someone's going to lead them to the right path”). The last quote from the reporter in Atlantis is interesting to me as he seems to point at a “separation of duties” within “power with”, indicating that, even if the reporters are leading, as they are the ones amplifying the message, without the voice of the people, they wouldn’t have anything to amplify.

The last respondent (listener) feels he doesn’t “*have control”* yet and only reaches “Power within” as for now but also aspires to achieve “Power with”, and possesses the “*understanding”* mentioned by Rowlands (1995, p.88) as a prerequisite to empowerment, as well as clear strategies to achieve it.

- “Well, today I don’t think I have control, I need some help, but I have confidence, power within. So I’ll get some help and I'll do it. I want to be a journalist and talk about social issues. I want to rally my people and try to work together. That’s when I start getting control. Maybe let’s write to Parliament or government about the state of the environment. We submit and we work together as a community.” (CP2 Emalahleni)
- **Power within**

Amongst the respondents who referred indirectly to the typology, four also felt like they held something related to “power within”, epitomised by the third respondent’s reference to the importance *“to will to be the change”.*

- It (being part of the campaign) has really giving me the power to speak about things that are pertinent and sustainable, because in my heart I was convinced it was what I needed to do." (Radio mentor, Tlokwe)
- "Now, I am always at home doing my research. It's kept me busy and informed. I am self-motivated. I am doing it for myself." (CP1 Emalahleni)
- "It's important to will to be the change. I feel we may not be where we want to be. And yet if we continue and persist, we are going to get where we want to be. Only we can just continue, you know, and be persistent in what we are hoping to achieve, then, yes, we are going to see the change that we want to see." (YR2 Emalahleni)
- "It (the show) encourages me a lot and makes me realise that I have to keep on pushing, especially when it comes to school. It's helping me understanding the difference between my life and other people's lives. You must really want it, keep on learning." (CP2 Tlokwe)

These quotes resonate with the inventory of skills described above: communicating well and without fear, setting the agenda of conversations, holding different opinions, adapting to a different situation, processing and analysing information. It seems like the development of these skills allows for self-efficacy the key determinant of agency to develop.

The fact that "Power within" is so overwhelmingly present and that the young people are able to articulate their personal journey ("*understanding the difference between my life and other people's lives"*) and acknowledge the importance of this developmental approach is very inspiring in the context of problems they are trying to tackle.

As wicked problems have "no beginning and no end", it seems that only self-reflective people who are willing to keep learning can be true change leaders. This unspoken developmental way of looking at one's own journey might also be useful to apply in the context of wicked problems as it mirrors the way these issues are forever evolving and therefore require solutions crafted by people who are also "in movement", themselves able to adapt.

- ***Power to***

The last two respondents (both youth reporters), feel that they have the "Power to", described by Kelly as a key power when looking at power from a conventional domination definition: *"I suspect it is "power to" that the term "empowerment" refers to, and it is achieved by increasing*

one's ability to resist and challenge "power over". (Kelly, as cited in Rowlands 1995, p.88) Rowlands describes "Power to" as "e*mpowerment (that) is thus more than simply opening up access to decision-making; it must also include the processes that lead people to perceive themselves as able and entitled to occupy that decision-making space"* (Rowlands, 1995, p.88). It appears that participating in the radio show over the course of three years represented such a transformative process, at least for the youth reporters who were actively involved.

- "I definitely want to see the reality around change because I now I can speak to people, I can I tell (them) that I'm an advocate." (YR2 Tlokwe)
- "I used to be blindsided. I felt like my behaviour couldn't change anything. People are dying, but I don't know them. Now, I know that I can make a difference." (YR Atlantis)
- ***Power over***

It is interesting to note that "Power over", which is the one that relates to a classic definition of power that is based on the conventional definition of domination doesn't feature much in the respondents' answers (two mentions). When it does, it is not perceived as unachievable: "*It's a deal for us to get that but it's not really a big deal"* (YR2 Alexandra) as long as the right strategies are applied, and doesn't involve dominating someone else to be achieved, just "tapping" into the resources and accessing the rights they have as citizens.

Overall, it appears clearly from the respondents' answers that they consider "Power with" or "collective agency" as the ultimate power, whether they feel they hold it or not. Collective agency was one of the key characteristics of agency needed in the context of wicked problems as defined through the literature review, and this exploration comes to validate its value.

4.3.3 Characteristics of collective agency

Next I will further unpack this collective power or agency described, as some potential qualities that are emerging through their application in the lives of respondents could provide pathways to tackling wicked problems.

4.3.3.1 Collective power as activism

While the intended outcome of the project for the youth reporters was to become "active citizens", it appears through their interviews that many of them are taking things a step further to become "activists", taking the project from community radio campaigns to actually campaigning, working in an organised way to tackle complex social issues. By doing so, they

are harnessing "Power with" to act: *"This year, I realized that want to be an activist and not only a journalist, and I know I can. (…) I wanted to be involved in creating change, whether it's climate change, whether it's gun violence, whether it's health. It doesn't matter. It's all social justice. But I want to be more involved and do it with others"* (YR Atlantis).

This quote epitomizes the journey accomplished by this youth reporter in Atlantis in terms of how the campaign has changed her life and put her on the road to activism that she conceives as a collective venture. The fact that she is also able to identify that all the social issues around her are connected and can all be tackled through using the same social justice lens provides an interesting potential framework for future climate change communication campaigns.

4.3.3.2 Collective power as activation

It also seems like various respondents have naturally journeyed beyond being influencers to a higher version of "power with" to become mobilisers or activators. This shift comes out clearly in this quote from a radio mentor in Alexandra who enrolled with a social change organisation that focused on fighting violence in South Africa by reducing access to guns, just after working on the climate change campaign: *"Now, I'm actually involved Gun Free South Africa as a youth mobilizer (…) And so, my job is to basically try mobilizing the different communities that are affected by gun violence and to empower them to be able to be the change they want to see in their communities"* (Radio mentor, Alexandra).

The last sentence of the above quote epitomises her journey while trying to deal with wicked issues in a collective agency setting. It seems like rather than trying to influence others to acquire a pre-determined positive behaviour, she was able to position herself to help others to find their own path.

A youth reporter from Tlokwe explains that having this role requires "*Being able to listen deeply (…) to have compassion"* (YR1 Tlokwe). The radio mentor from Alexandra agrees, as she reflects on the qualities that this shift in positioning has required her to acquire:

"I think I have changed in terms of the type of person I am in the sense that, even in the early days of being a youth reporter, I was like an aggressive communicator. And because you are trying to get your point across and not being questioned, I needed to be loud and aggressive and I wanted my point to be pretty much "it" rather than understanding that it's okay to be questioned, because it makes you think differently. I've been listening to people and talking to

people to be more considered and empathetic. I think it was a gradual thing, so it came with the years, especially as I started teaching the youth reporters. Now, in debates, I am more a reactor than a generator, I don't initiate but I support. In the team, I am the second runner (…) like you're part of the people and before they know it, you help them find their own solutions" (Radio mentor, Alexandra).

Here many references to the process of learning to efface oneself to better guide others: "I was an aggressive communicator"; "loud"; "it's okay to be questioned"; "more considered and empathetic"; "I am more a reactor than a generator"; "I don't initiate but I support"; "I am the second runner"; bring to mind the concept of "servant leadership" common in leadership philosophy and management (Van Dierendonck, 2011), whereby the leader's ultimate goal is to see put the needs and aspirations of the group first.

4.4 Relevance of campaign tools and strategies

With the challenges mentioned above of climate change being so integral to people's life, so integrated with other social issues and yet mostly rejected as an issue of concern and action around which to mobilise, the need to find communication for social change channels and strategies suited to answering these challenges seems paramount. This section particularly addresses the second research question around the characteristics that communication campaigns need to include to foster agency in the context of wicked problems and climate change in particular. Respondents were asked which characteristics they thought the studied campaign had and which they thought it should have included.

4.4.1 Radio as a versatile and strategic communication tool for social change

The literature shows that community radio is considered as a preferred channel to impact change, especially in Africa. This notion of "acceptability" came out strongly when respondents described their relationship to radio and particularly of the radio show. Its versatility was also mentioned. When using the word "radio", they spoke indifferently of radio as a medium, as a message and as a physical place or stakeholder in the community and as a strategy.

4.4.1.1 The different facets of radio

- Radio as a medium

Radio as a medium was often mentioned as "different" to other media, especially internet and social media, by reporters and listeners alike. The appeal of radio as a free channel, even in the age of smartphones and increasingly cheaper internet, was noted: *Here (in this community) there is nothing but there is radio, and it's a is free"* (CP2 Alexandra). The fact that radio retains a strong legitimacy nowadays, came through strongly in the interviews*: "People believe what is said on the radio"* (CP1 Alexandra). Community radio particularly, broadcasting local news in local languages, was mentioned as a very credible source.

- Radio as a message

Respondents also spoke about radio as the content broadcast on the airwaves, as the "message". Often instead of using the actual name of the radio shows about climate change (which have different name in the different targeted communities such as "Bigger than Life" in Alexandra or "Youth Reloaded" in Atlantis), they just mentioned "the radio".

The names of the shows don't change depending on the topic tackled by the youth reporters. During the three years of the campaign, they consistently spoke about climate change (they always had an "Earth corner" in each show) but also tackled other social issues such as gun violence and youth opportunities. This familiarity with the content (often produced in local languages) together with the fact that it addresses under a single "banner" all the issues affecting youth lives, might also influence the credibility of the message.

- **Radio as a place**

  Many respondents also spoke about radio as a physical place, an entity with the studio at its heart "Radio is the only place where I can be myself more, even better. I feel like I can be myself better than when I'm at school or whatever. So being in front of a mic, it makes me feel like this is home" (YR2 Alexandra). This quote strongly positions radio as a "place" for achieving one's potential. Another youth reporter from Atlantis talks about almost having a religious experience when they walk into the radio station "Every time I walk through the door, I think radio is my calling. I am supposed to be in radio." Other youth reporters also mentioned feeling "where I should be" (youth reporter Atlantis); "In the right place" (YR2 Tlokwe). The fact that the place itself is identified as a space for self-realization is striking enough to be mentioned.
- Radio as a community stakeholder

Many amongst the listeners also mentioned how the different community radios involved in the campaign are perceived as important community stakeholders with statements such as *"Alex FM is an influential player in the community"* (Radio mentor Alexandra).

The social mandate of community radio as the voice of all community members was also mentioned by different youth reporters who mentioned it being a *"gathering agent"* across the different segments of the audience " *We've always wanted to see ourselves as a bridge. The majority of people are seniors because they're just loyal to the station. They love the station. But we want to talk to other young people (…) presenting the content in a way that the older people do understand that when they do see the young people in their households and their families, this is like creating room for them to have their own conversation in their own spaces because they've both received this content and (…) engage with it"* (YR Atlantis).

4.4.1.2 Radio as a strategy

Finally, and maybe most importantly, respondents used the word radio to describe the kind of content and experience that, in their opinion, was the most likely to activate engagement around climate change.

It was interesting to hear from respondents everything that they thought worked and didn't work and why there was a gradual realisation of categories of recommendations emerging through the interviews that could be extremely useful for future campaigns. Some recommendations were already part of the strategy when the show was created, and other are completely new. They often highlight variability in the data and contradict one another (these will be presented as diptychs at the beginning: going deeper vs being lighter; Using repetition vs not repeating oneself and being encouraging vs being provocative). These contradictions can't necessarily be resolved because of the qualitative nature of the data and the fact that I won't be able to test them as the campaign is over. They nonetheless provide interesting guidelines in order to engage listeners further with the end goal of achieving the campaign's objectives in terms of behaviour change and potentially, of agency.

- Going deeper versus being lighter

"They go deeper" was a praise about the radio show that came from two different listeners that appreciated the thoroughness with which the issue was tackled, and comparing it with the

shallowness of the information provided by other media *"They go into details, they elaborate very well. It's better than the news (TV) and internet. they go deeper and deeper"* (CP3 Tlokwe)*; " It's important that we continue reporting, elaborating a lot and drilling it down, because we are the ones who are well aware of the ozone layer, which becomes destroyed every single day (…) because of the atmospheric pollution. But we can't really shy away from the fact that we are not really getting to everyone"* (CP1 Alexandra).

The risk of "losing" listeners along the way is not to be underestimated and might be what motivated other respondents to point to the opposite direction. With a complex and serious topic such as climate change, there was a lot of feedback around the need to "lighten" things both from a tone and from a content-perspective. *« Some young people are not into news you know, it may be hard to educate them, so you need to tell them a story"* (Radio mentor Alexandra)*; "We created public service announcements (short skits or fictional scenarios" about an issue) and we started having fun on our shows and made it exciting for young people"* (YR Atlantis). The next quote talks to the need for the content to be "actionable": *"By giving simple information that people can take and digest, make it as relevant as they could, it's easier for the next person to take it and run with it and teach people who don't even listen to radio and that person can change"* (YR2 Emalahleni).

- Repetition versus change

Most of youth reporters interviewed, strongly believe that repetition is key for the message to "land" with their listeners. This is in line with social learning theory and recommendations from communication for development experts in terms of communication campaign. The term "saturation" is used to describe the moment the message actually sinks in "*I feel like it's something that should be recurrent that should continue and it's something that should be invested in. So we get to the peak of everything"* (YR1 Emalahleni). "*I believe in social change and I believe that in a matter of time, we are going to actually have to win the battle against the whole pollution of the world and the actually our using of our resources sustainably, but we must keep at it"* (YR3 Emalahleni). And by "keeping at it", keeping talking about it, the youth reporters are actually showing the way to their listeners, as expressed by this youth reporter from Atlantis *"They will see that these people(the youth reporters) are consistently talking about this, coming back and talking about climate change"* (YR Atlantis). Having identifiable role models in the person of the radio show presenters, came up strongly through

the data, and the fact that in most teams, the presenters rotate every week was perceived as a barrier to optimal engagement from the listeners.

The pendant to repetition – changing topic regularly- was also mentioned as a recommendation from listeners, invoking boredom from always listening to information about climate change *"I'm not saying what they are talking about is not important, but sometimes I feel like, well, the topic should change after a month or so"* (CP2 Alexandra)*; "I turn on the radio and climate change, again?"* (CP1 Tlokwe). Some youth reporters also mentioned that having to "reinvent" themselves every week by finding a new angle on the topic became really hard after a while *"Imagine, having to talk about climate change week after week after week"* (YR Atlantis).

- Encouraging versus scaring

We indicate them and we uplift them at the same time. We do the research and we give it out, but always in an encouraging way, so that they feel they can do something" (YR1 Tlokwe). This quote reflects the importance placed by the youth reporters in having an encouraging tone. I heard expressed a lot amongst the youth reporters, that no matter how dire the topic or the situation is, they need to be cheer leaders for their listeners, and that this is the only attitude that can help them take control of the situation. A youth reporter from Alexandra also emphasises that the tone they use in the show is just as important: "The content we have on the show it's encouraging them, but more than the content, it's our vibe that's encouraging" (YR2, Alexandra).

Nonetheless, a couple of youth reporters admitting using "scaring" tactics to get their peers to engage with the topic of climate change particularly (even if these tactics haven't shown much success) *"So we try to scare them a little bit more awareness. If you don't look after your own country, this is how you are going and how Amazon Brazil burned"* YR3 Emalahleni); "*We need to be as brutal about it as we can and hence try and impact the people that we need to impact"* (YR1 Alexandra).

- Personal stories and homegrown solutions

Sharing personal stories also seems key to the existing model of the campaign, whether they come from interviewees or from the youth reporters themselves, following the principle that "the personal is powerful". A youth reporter from Alexandra shared her personal account of telling her own story as part of the campaign on gun violence" *We were able to find team*

members who had been victims of guns. And they told the story. (…) I personally shared on the show that my dad was a convict, you know, and that I had to live that life. And I was proud to share my story. So people know that you're not speaking from the books and (that) some of you have personal experiences with guns" (YR1 Alexandra).

The acknowledgement that sustainable practices might need to be homegrown to be appropriated is present in different interviews such as this one from the Atlantis listener "*Here, we see lots of people scratching the bins, collecting stuff in open fields. They are part of recycling even though they don't know it. But the word "sustainable living", it doesn't have a lot of traction.".* (CP Atlantis). Featuring and elevating such local practices as "*to make them aware that they are part of the solution"* (CP Atlantis) was recommended by the respondent.

- Solution-based and fact-based approach

The shows adopt a solution-based approach that's key for some reporters and listeners alike:

- "It is important because these issues are affecting our lives and we can come up with a solution and then, yeah, we tried to talk about it and come up with a solution." (YR3 Tlokwe)
- "When they (the youth reporters) talk about things like that (social issues), they talk about youth around them going through the same stuff and they bring solution that make sense for us." (CP2 Alexandra)

It also came up very strongly through the interviewees that listeners (and especially young people) don't want "propaganda" on climate change but also on other social issues such as COVID-19 and sexual reproductive health and rights as mentioned below, and being fed a message, but rather information that will lead them to come to their own conclusions and that this is what drew them to the shows.

- "They explained (things) clearly. After listening, I had answers. They made sure they got opinions from many people. They are not biased." (CP2 Alexandra)
- "Young people don't want to be forced. In terms of COVID-19, young people don't want to follow restriction. They don't want people who have power or authority to force them. They want to see the benefits of the outcome. This is what I got from the show. Back in high school. I also didn't like to follow rules and restrictions. When they showed

us the benefits of social distancing? I started to research why I should wear a mask. I found out that in order to be safe.". (CP1 Alexandra)

- When we speak to young people, I think that they don't want to hear about sexual health and using a condom because they know how they should behave. So becomes very tricky. It's something that they would prefer not talking about because they know that they're not doing it right. So I think it's important for us to kind of find a strategic approach to speak about things that are so important, but in a way that they are able to comprehend it and be able to remember the importance of the things, not only by telling them about the dangers of having the intercourse without a condom, but to actually remind them of the consequences." (YR3, Emalahleni)
- Relatability and community-building

The same youth reporter then mentioned that this "strategic approach" of empowering young listeners in a non-judgmental way can only work if the information is delivered by people their own age. Having youth in the driving seat is a foundational pillar of the campaign model which was praised through the interviews. It was really eye-opening to better understand why this youth-led component and the fact that the show is directed at their peers, concretely mattered for young people. Relatedness makes a show "by young people, for young people" work and, in the present case of the climate change show, potentially make the topic less intimidating as expressed by these listeners: "*So it's more maybe more accessible because it's young people talking to young people in a way. I feel they are also learning"* (CP Atlantis)*; "when you speak to a young person as a young person, it is a boundary that you don't have to break"* (Radio mentor, Alexandra).

There is also a sense in the interviews, that the youth reporters are perceived as role models by some listeners in their age group. *"It's teenagers talking. You're talking to me to make you realize how much effort you have to be getting a life and getting a space in the media as well. The thing is, I think it's more enjoyable and encouraging because we can listen to them more. To see how focused they are, it makes me want to be focused"* (CP1 Alexandra).

Beyond the fact that they can relate to a peer or a role model, the youth-led component seems to create, if not a solidarity, at least a common focus as described by this youth reporter from Emalahleni: *"It is important that it's young people to young people because (...) we are the ones shaping our own future, and we will see the country during a certain era together. It's*

knowing that from a young age that, you know, the next person is there and that you (both) have the responsibility of helping each other. So it should be something that I feel like should know. To help the next person" (YR2, Emalahleni).

This idea of creating a community with a distinct identity that expresses itself as "different" from adults and a special relationship, came up in different interviews, with a common lexicon around the notions of "circle", of a chain made out of individual links made up of the youth reporters and their listeners.

- "For me personally, I was able to have a bond with people by understanding how they think and what they mean." (CP1 Alexandra)
- It's not only about giving out information, we keep our circle tight, our bond tight. We keep the enthusiasm. (…). I know when my team is proud of me, I know when my listeners are proud." (YR2 Alexandra)
- "We try to do that so that they can stand by our side. In front of the adults, we are trying to support each other, trying to build a chain among us. Having the youth on our side, we don't break the chain, we lock the chain. You know your parents can give you this and this, but come on, let's have a pact where we hold each other." (YR1 Alexandra)

While others hinted at it, one youth reporter linked this sense of community directly to the feeling of empowerment or agency, talking about the experience of his younger brother who listens to the show regularly: "F*or him, he said what really matters is that (…) other people, young people are standing by him and that they if he really, you know, put himself at it, he can have agency in his life*" (YR2 Tlokwe).

What is interesting in this "community building" is that while it is a collective exercise with hundreds if not thousands of youth involved in each community, there is also an element of intimacy present and made possible by the medium of radio that is designed for each listener to feel that the message is for their ear only and that might make it even more powerful "*"When I am in studio, I always think about my listeners. Are they listening attentively or what? So I'm always thinking about my relationships. I'm only thinking about my listeners and I'm working on an intimate relationship with them"* (Radio mentor, Alexandra). In a way, radio allows at the same time a "one to many" flow of information flow as well as a "one to one".

While this "intimate" community feels exclusive of adults, some participants hinted at the fact that it might actually be a way to trigger intergenerational dialogue. First, because it seems like a lot of adults are actually listening to the show and using it to learn more about young people and issues affecting them: "*Not every parent talk to their children about sexual health. They find it difficult to sit down with their kids. Radio is simpler for them and they learn a lot because we share a lot about this topic"* (YR2 Tlokwe). Also, because some adult listeners are actually using the youth reporters as "proxy" to figure out how to interact with their own children. One youth reporter from Alexandra reports how a friend of her mum stopped her in the street and asked her "*Can you maybe talk to my daughter or help me advise her"* (YR1 Alexandra).

All these suggestions towards building an optimum communication for social change campaign seem to indicate that radio possesses many of the qualities to help achieve an impact, particularly the fact that it is a highly "relational" medium. It nonetheless appears that it is not necessarily able to do it on its own.

4.4.2 Radio is not enough

Despite radio's assets, acceptability and versatility, the interviews brought to light that it is not enough to bring about change on its own. Hearing about a topic, even via a trusted community, wasn't necessarily enough to empower one to take on a wicked problem such as climate change. As discussed in the literature review, various communication for development experts call for a multiplicity of platforms as well as using interpersonal interactions (Servaes & Lie, 2015) to create efficient communication for social change campaigns. The youth reporters complained about the lack of on-air engagement from their peers and radio being mostly a one-direction mean of communication despite the community building described above. Having other forms of engagement to compliment the radio shows such as social media, listening and dialogue events and community outreach activities that will make up a diverse and multi-facetted campaign finding audiences on different platforms and media seems crucial: "*We know that young people talk about these issues, we know it, we see it. But the direct engagement (with the radio shows) doesn't happen a lot. So when you see them come to the events, the dialogues and online, the support always feels great"* (YR2 Alexandra).

4.3.2.1 Social media

The need for social media to relay the campaign was expressed and justified by the fact one hour of show a week is very little for meaningful engagement, as per these quotes, both from reporters in Emalahleni:

- "Often, they don't get a chance to listen to our show. Having a social media platform is really helpful and our social media platform be able to use see when we have outreaches and quizzes." (YR2 Emalahleni)
- **"**We have a lot of young people participating in our online show. A lot of people who are not listening. Only a few people are listening, so we need to catch them, somewhere else." (YR3 Emalahleni)

4.3.2.2 Community events

Face-to-face outreach activities (the climate change campaign included such quarterly community outreach events) seemed particularly important to bridge the knowledge/action gap mentioned above. When asked what his strategy was to get more young people listening to the show, the youth reporter from Atlantis had this straight forward answer "*You involve them by involving them!"* and involving them means doing things such as "*a silent protest about climate change"*; *a "pick-up campaign" or a "dialogue event with 30 listeners."* He emphasises the fact that *"doing physical work shows people that they are able to make an impact in their communities"* (YR Atlantis). A statement echoed by a youth reporter from Alexandra when talking about the relationship his group built with a high school by hosting all their outreaches at the school: *"By the end they (the high school learners) really decided to change their ways, especially when it came to dumping on the streets. It had a big impact on them and made them change their ways"* (YR1 Alexandra).

The examples of the outreaches organised are various and very creative and the feedback on their impact always positive, reinforcing this stated need from the radio mentor from Alexandra to "*go to the ground. Some other people really need face to face motivation for them to get activated. I think they really need us to come to them"* (Radio mentor Alexandra). I'll develop this concept of "activation" below, but it already gives us a hint that it takes more than remotely nudging someone to help them make meaningful change in their lives and that collective agency

might only be built through meeting people where they are, metaphorically, but also literally, in their communities, schools, homes.

4.5 Conclusion

This chapter displayed the key findings related to how some producers and participants of the climate change and sustainable living radio campaign experienced it and what impact it had on their lives, specifically looking at whether they developed some type of agency and of which nature.

With regards to research question 1 *(What is the potential of communication for social change to trigger agency in the context of a wicked problem like climate change and how are the manifestations and characteristics of this agency perceived?)* the key findings are the following:

- The behaviour change pathways that was set for the different participants didn't materialise as intended, especially in terms of the expected rise in sustainable living behaviours. This was partly explained by the complexity of the socio-environmental context of the participants, and the absence of climate change as a prime issue of concern amidst this landscape. These findings come to comfort the theory that wicked problems require more nuanced and integrated communication interventions than other straightforward issues.
- The respondents experienced a strong rise in their self-efficacy feeling, particularly through the development of critical skills (communication, critical thinking, leadership) and the dialogue and two-way knowledge sharing that organically happened between the producers and the listeners of the radio shows. These activities also fostered self-reflexivity, also considered as a key determinant of agency.
- Most of the respondents (regardless of the sub-group) described an increase in their perceived agency. While some of them described it in terms of Power to (generative power linked to action) and "Power over" (power to influence context and structure), most of them focused on "Power with" (collective power), which was described as the most useful power in a wicked problem context. This is particularly interesting as it resonates with most wicked problems theories that highlight their social nature and the necessity to tackle it with a collective, network lens. Most respondents also declared

feeling a rise in “Power within”, a type of power directly linked to self-efficacy. The quality of “Power within” as a “process power” that is acquired over time was also noted by respondents (mostly youth reporters) who particularly emphasized the journey of self-development they had been through, and how this constant self-learning was key to tackle complex issues such as climate change. It was also interesting to note how respondents identified the acquisition of “Power within” as a key stepping stone to “power with” and how this linked to the self-awareness qualities that were identified as needed for leaders in the context of “Power with”, or collective agency. While many of the respondents referred to the concept of influencing as part of their leadership mandate, the concept of activation, as understood in the context of a group leader helping the group to make emerge their own goals and needs was also present.

- A finer point also brought up by the findings in terms of the type of collective agency that develops (or needs to develop) in the context of wicked problems and the concept of activism emerged. These refers to a collective agency that is oriented specifically towards addressing social issues.

In terms of answering research question 2 *(What characteristics should social change campaigns feature in order to foster agency in the context of wicked problems such as climate change?)* the findings provided the following insights:

- Community radio is a particularly relevant tool to foster the type of collective agency mentioned above as it is widely accepted, locally embedded and versatile in terms of its platforms.
- The dialogic component and the ability to create a sense of community were particularly noted. It was also noted that radio in itself was not enough and that it needed to form part of a much broader apparatus that includes social media and interpersonal interaction, especially in the forms of face-to-face collective activities.
- In terms of the participation to campaign activities of the different groups, the gap between campaign participants that are mostly passive and the producers that are more actively involved was obvious, mirroring the gap observed in the impact. The need to broaden the number of active producers and strategies to more actively involve participants came to the front.

5. Discussion

This chapter discusses the findings of the previous chapter and attempts at relating them to other studies to consolidate their potential value, both in the academic and the practice fields. It focuses on the characteristics of the impact of the studied communication campaign about climate change on the respondents' lives. It further expands on the qualities of the agency unearthed in the findings and investigate its potential usefulness in a wicked problems context.

It also compares the characteristics of the current campaign with existing frameworks and guidance from the communication for development field and draws suggestions about how the findings could be applied to future communication for social change campaign interventions aimed at addressing wicked problems, and particularly climate change-related issues in Africa.

5.1 Climate change as the epitome of wicked problem

5.1.1 Wicked situations and interconnectedness

The relevance of the "context diagnosis" of wicked problems in the various communities studied from the respondents' perspective, that was unpacked through the findings, comes to find some resonance with the emerging criticism of wickedness theory that argues that "the daily experiences of people and their practices are missing from the grand narratives about wickedness". Instead of looking at climate change in a "vacuum", the description of the broader the landscape of social issues the respondents experience, as well as how these issues play out in very specific ways on a daily basis and provide a "situated wickedness" (Noordegraaf, et al., 2019, p.278) that anchors the findings.

"Situated wickedness offers a street-level perspective which is aimed at complementing the high-level understanding of wicked issues (…) This perspective helps to shift the focus from 'wicked problems' or 'issues' to wicked situations, i.e. situations that might 'feel' wicked for the people involved" (Noordegraaf, et al,, 2019, p.293). Noordegraaf et al warn that ignoring how wicked challenges are actually perceived and addressed at the local, individual level hampered one's ability to understand them.

Most of the situations of wickedness described by the respondents feature a perceived interconnectedness of the manifestations and mechanisms of social issues. Such

interconnectedness represents a key criteria for wickedness as described by scholars such as Rittel (1973) and Vogel and Scott (2016).

What is most striking in the context of the study is the very limited and distinct lack of awareness and engagement against climate change noted, and its general absence as an issue of concern in the map of interlinked issues described. This, despite its proven interconnection with the other issues mentioned issues in the South Africa context (Vogel, 2016) and on the Africa continent in general (Niskanen et al., 2021). This very absence, which resonates with the few studies available on climate change perceptions in Africa (González, 2021; Rankoana, 2016) adds even more to its wickedness.

5.1.2 Link to daily realities

The mentioned causes of the inertia described by respondents about climate change and sustainable livelihoods are also in line with the literature that attribute it to a lack of knowledge (Van Der Linden, Chari) and a lack of understanding, echoing Bueren's "cognitive uncertainty" (Bueren et al., 2003, p.193). The observed lack of interest can be linked to Levin's concept of "hyperbolic discounting" according to which people voluntarily underestimate climate-change related risks or the impact of a behaviour to justify immediately rewarding actions rather than more sustainable but less immediately rewarding ones. But the chosen avoidance perceived or experienced by most respondents, goes beyond hyperbolic discounting and the phenomenon of climate denialism that can be widely observed in most global north countries. This avoidance relates to the climate justice and equity conversation by pointing at the fact that the most disadvantaged, who are also often the most affected by climate change, are actually prevented from even engaging with the issue because of their socio-economic circumstances (Müller, 2002). When studying climate change perception across Africa, González and Sanchez explain this phenomenon with a mechanism called "the finite pool of worry" which is assumes the following causal pathway: "worse material conditions limit climate change perception, as they create more urgent and pressing concerns to worry about" (Juan B González, 2021, p.17).

Niskanen et al use the concept of "historical path dependencies" understood as "as the history of a process determining its future development" (2021, p.9) to classify wicked problems in an African context. This concept can help explain how historical inequalities shape engagement with the issue. The related concept of dual wickedness, mentioned in the literature review,

points at the continuing effects of colonialism to explain the lack of a "sense of collective ownership" (Niskanen et al., 2021, p.10) when it comes to addressing wicked problems.

In the lights of these explanations, it seems crucial to bring climate change into the conversation in a way that's is socially relevant to local listeners (Chari, 2016), or as Harvey puts it, in a way that "allows broadcasters to integrate climate change into the range of other interlinked issues that they are already covering, such as poverty, marginalization, and governance, as well as to understand its relationship with their communities, and interests and challenges" (Harvey, 2011, p.2054).

5.2 Manifestations and characteristics of agency in a wicked context

The need mentioned above for a holistic framing of the issue of climate change invokes a broader lens when it comes to framing and measuring the impact of C4D campaigns. As described in the findings, behaviour change, as intended in the initial campaign objectives, was limited for the sample of respondents. What appeared was the emergence of an agency based on a determinant of self-efficacy and that seems to display some specific characteristics. In the next section, I am going to further qualify this agency to try and start shaping what "wicked problem agency" as a concept could be.

5.2.1 A personal development approach in the context of wicked problems

The link between an ongoing personal development process and the development of the kind of agency I am trying to frame here appears in the findings. This comes to echo Bandura's who centres the "influential role of perceived self- efficacy in human adaptation and change" (2000, p.75).

In the case of the sample studied, it included the development of critical skills for the youth reporters (Critical thinking, communication, confidence and leadership) and personal development through dialogue and knowledge co-creation for the listeners as precursors of a perceived self-efficacy feeling, which in turn is linked to the development of agency and ability to adapt. Another intended critical skill developed by the youth reporters particularly seems to be the sense of self-reflectiveness, that Bandura coins as one of the key pillars of agency (Bandura, 2006, p.165).

This is interesting as this process mirrors the constant evolution of wicked problems and resonates particularly with the growing part of the climate change conversation which focuses on adaptation and particularly on individuals "adaptive capacity" (Grothmann & Patt, 2005) and what this adaptation requires in terms of socio-cognitive processes, rather than only focusing on mitigation. This also talks to the notion of empowerment as a process rather than as an end product (Rowlands, 1995).

The importance of such a process for the development of collective agency is highlighted when Bandura debunks the "duality" between altruism and self-efficacy that is too often "misconstrued as a self-centred individualism and selfishness, against communal attachments and civic responsibility (…) A sense of efficacy does not necessarily spawn an individualistic lifestyle, identity, or morality" (2000, p.77). The value of self-development beyond the individual is echoed by Rowlands who describes "Power within" as "the spiritual strength and uniqueness that resides in each one of us and makes us truly human. Its basis is self- acceptance and self-respect which extend, in turn, to respect for and acceptance of others as equals" (1997, p.13).

5.2.2 Characteristics and manifestations of agency in a wicked problem context

From the literature and the findings, it seems like trying to further define what kind of collective self-efficacy and collective agency needs to develop in a wicked problem context might be useful to help foster more sustainable change.

From the findings, it appears clearly that this agency is collective, in line with Bandura's acknowledgement that "as globalization reaches ever deeper into people's lives, a resilient sense of shared efficacy becomes critical to furthering their common interests" (A Bandura, 2000, p.78). This echoes Samman and Santos's definition of empowerment that focuses on *"its relational foundations"* (2009, p.27).

I also confirmed through the findings the link made in the literature between collective self-efficacy and collective agency in line with Bandura findings that "a growing body of research attests to the impact of perceived collective efficacy on group functioning" (2000, p77). But Bandura also warns that "perceived collective efficacy is not simply the sum of the efficacy beliefs of individual members. Rather, it is an emergent group- level property" (2000, p. 76).

From the data collected using the Rowlands typology of power, it appears that collective agency is perceived by the respondents as the ultimate manifestation of power in the context of wicked problems such as climate change, partly because of its multiplying effect or "*a sense of the whole being greater than the sum of the individuals, especially when a group tackles problems together"* (Rowlands, 1997, p.13). Collective agency in the context of wicked problem provides highly social solutions to highly social issues.

The findings also point at a self-efficacy and agency that are intrinsic, in the sense that once they are acquired, they can apply to any area of the respondents' lives. This talks to Bandura's agentic perspective (2006) and the concept of organic growth brought forward by Laverack that doesn't focus on "a single outcome because the competencies that are developed—the skills, knowledge and organisational ability—can be used to address other issues as the circumstances and needs in people's lives change" (2019, p.2). This focus on intrinsic agency allows people to "*reach a point where they can take charge of creating for themselves the options from which they get to choose*" (Rowlands, 1995, p.89).

The emphasis on the need for a collective agency that is moral, or responsible, also comes to the forefront in the findings, echoing Bandura's concept of self-regulation. The bearer of this type of agency is described by Pelenc et al. as a *"responsible person acting so as to generate sustainable human development"* (2013, p.2) and is therefore responsible towards others but also towards the environment, which evokes the concept of ex-ante responsibility (Pelenc & al, 2013, p.86) that reflects the selflessness that some of the youth describe as a key quality of the change they emulate.

This takes us back to a quote from the youth reporter in Atlantis that epitomises for me the "wicked problem agency" I am trying to frame: "*This year, I realized that want to be an activist and not only a journalist, and I know I can. (…) I wanted to be involved in creating change, whether it's climate change, whether it's gun violence, whether it's health. It doesn't matter. It's all social justice. But I want to be more involved and do it with others."* This quote includes the key characteristics of agency I identified in the literature review and the findings as essential to tackle wicked problems: collective ("*with others")* moral ("*social justice")* and intrinsic *("it doesn't matter").*

This lived experience of active citizenship and its connection with activism finds some resonance in the work of Papa and Milioni, who study the *"upsurge in mobilization and*

collective action" (2013, p.21) in the last 30 years and explain that *"In the face of new challenges experienced by democratic societies today, we need to consider not the "received dimension" of citizenship, based on a state-centred vision, but rather the "achieved dimension" of the civic, based on the achievement of agency through specific practices"* (2013, p.21).

This "achieved dimension" of citizenship experienced by different youth reporters comprises all the characteristics of agency in a wicked problems context mentioned above. It is also illustrated through the example of the role of the "servant leaders" described in the findings, these leaders who exerts *"the kind of leadership that comes from the wish to see a group achieve what it is capable of, where there is no conflict of interests and the group sets its own collective agenda*" (Rowlands, 1995, p.87).

An agency that is collective, moral and intrinsic and triggered by self-efficacy is acknowledged in the literature as conducive for decision-making at the local level and promotes sustainable change. In the context of a communication for development campaign, it is interesting to see how the strategies to foster this type of agency described in the findings resonate with the current discourse.

5.3 The need for an integrated approach to communication for social change

I noted in the literature and in the findings the need for communication for social change to adopt a more " integrated and holistic dimension" (Mefalopulos, 2005, p.253) to avoid "failing to span the last mile and (…)limit the potential for lasting change" (Harvey, 2011, p.2036). This section will explore the different facets of this integration in terms of themes, platforms and most importantly in terms of people: who participate and how in what different scholars describe as a "social process" (Mefalopulos, 2005; Servaes & Lie, 2015; Shahzalal & Hassan, 2019).

5.3.1 Thematic integration

Directly linked to the discussion of findings around the interconnected of social issues above, a thematic integration in communication for social change seems crucial to foster some form of "wicked problem" agency. This allows to go past the variabilities mentioned in the findings between the need of repetition and the need for change in the choice of themes for the campaign, to focus on climate change and sustainable living within the context of all the interconnected

other social issues present in the lives of the respondents and "consider the root causes that are based on a systemic understanding" (Lehtonen, Salonen, Cantell, & Riuttanen, 2018, p.2). This thematic integration needs to be done in a very context -specific manner adopting a "situated wickedness", (Noordegraaf et al., 2019) that embed them in the local context and make them more relevant for the audience. This is where featuring personal stories and homegrown solution might reinforce a sense of acceptance of the message.

5.3.2 Platform integration

The need for more integration between platforms or channels echoes the broadly expressed need in the literature to enter the "age of multiplicity" (Servaes, 2008, p.17) in terms of communication for social change strategies.

The suitability of radio as a versatile catalyser of debate and potentially of agency in the context of climate change issues was comforted by the findings, in line with Shahzalal and Hassan's concepts of "unique media characteristics" (2019, p.12) and high "level of acceptability" (2019, p.4). The literature and the findings nonetheless show the need for a multifaceted and multimedia approach. Internet (Gilberds and Myers), and social media in particular (Atkinson et al., 2016) appears as an impactful extension of radio to promote sustainable change.

Beyond traditional media platforms, the need for interpersonal interaction to foster engagement is broadly acknowledged in the literature (Katz, 2001; Kraidy, 2002; Servaes & Lie, 2015). It is where the concept of campaign really takes its full scope. The concept of outreach also extends the definition of campaign beyond **"**an array of mediated messages in multiple channels" (Atkin as cited by Atkinson et al., 2016) to actual face to face events and collective activities. Its relevance is corroborated by the findings and the literature (Harvey, 2011b) that focuses on the importance of joint experiences, that are relevant and useful for the members (such as a tree planting or cleaning campaign) and that "build upon ongoing activities and social spheres" (Harvey, 2011, p. 2036).

5.3.3 Creating a community and fostering ownership

Beyond the actual channels chosen, the literature and the findings call for a redefinition of the relationship between producers and broadcasters of information and knowledge, and recipients, and eventually, the creation of a community.

One of the key highlights of the findings was the emergence of dialogue and knowledge-sharing and the refining of information, beyond what was originally planned in the design of the campaign. The youth reporters particularly noted the value of such exchanges as learning opportunities for both parties, reinforcing Howley's concept of "knowable communities" (2010, p.16).

In the context of communication for social change, these types of exchanges can be more intentionally structured and take different forms such as focus groups, listening groups, open lines to listeners (Manyozo, 2010) when they look at discussing existing content, but they can also place the listeners in the driving seat by shaping the actual content of upcoming shows or messages by using approaches such as social learning (Ensor & Harvey, 2015), Coproduction of Knowledge (Vogel, 2016) or community dialogues (Hoxie, Berkebile, & Todd, 2012). This resonates with Harvey's call for applying approaches such as constructivist learning to communication for social change with the assumption that involving receivers in the process of shaping the information helps improve their understanding of the issue (Harvey, 2011).

The data highlights the need for active participation of the recipients in the creation of the campaign content and messages, as it shows the difference in impact in the two groups of the youth reporter/mentors on the one hand and the campaign participants on the other, in terms of agency building. This ongoing dialogue and knowledge-sharing, that Harvey et al. calls "iterative learning processes" (2012, p.32) is particularly interesting in the context of wicked problems, where understanding and formulating the problem is the most important component in the journey towards findings its solution (Rittel & Webber, 1973, p.136) The value of this local, community-specific knowledge production process is also validated by concepts such as "custom designed" (Conklin, 2005, p.8) and "clumsy solutions" (Perry, 2015, p.1).

It is understood that "blurring the lines" in terms of level of engagement of the listeners in the shaping of the information might not always be practical and require a broader focus on developing knowledge and skills of a broader pool of people moved by common values of serving the common good. The concept of citizen journalism as a "form of journalistic communication (that) would seek to privilege a deeper, more participatory form of democracy in which communities influence the news-media agenda" (Banda, 2010, p.9) is useful to harness in this context. It would nonetheless require a core team of researchers and producers or

"knowledge intermediaries" (Harvey, 2011b), but also allows for a more horizontal structure in terms of contributions from the broader public.

This active participation in the content-shaping of the campaign can also be applied to its actual design through workshops and community consultations, as widely described in the literature about C4D campaign and development projects in general. (Harvey et al., 2012; Mefalopulos, 2005; Servaes & Lie, 2015). This creates a feeling of ownership that could help counter the perceived lack of legitimacy and the sense of "an external agenda setting" described in the findings. It can also help foster this sense of community and belonging, this need for a "chain" to be created between all the participants in the campaign as mentioned in the findings. Replacing the campaign in the community and positioning community radio (and associated media channels) as vehicle for this campaign, further asserts its social change mandate (Bailey et al cited in Manyozo, 2010). In that sense, the initiative doesn't belong to an NGO (local or remotely based) or even to the radio station, but to the community itself.

5.4 Limitations

The main limitation that appeared when working through the data analysis is that the conversation around agency with the respondents would have benefited from being expanded, and more questions asked to further tease out from the respondent the nature of the agency they were experiencing. In that sense, a more iterative approach that could have drawn from technics such as coproduction of knowledge (CPK) could have been useful. Asking them to give more concrete life examples of the manifestations of the agency they felt could have help further qualify it. Working with a bigger sample and possibly using the Rowlands typology in a more systematic way might also have allowed for richer data collection. As a result, the theory-building around the concept of "wicked problem agency" doesn't feel complete, but rather provides some potential hints of direction for future studies.

The lack of homogeneity of the sample, with intrinsic differences in the way the different respondents are engaging with the content represented a challenge in terms of presenting the data. But considering them all as beneficiaries of the campaign might have potential in pointing at a new model of engagement that is intrinsically interactive and participatory.

5.5 Conclusion

This research study aimed at interacting with the producers and beneficiaries of a climate change communication campaign to understand the impact it had on their lives, the value of this impact in a wicked problems context, and the characteristics and manifestations of this impact. It also looked at the characteristics such campaign should include to context of wicked problems and climate change in particular.

Through this discussion section, using existing literature, I tested my findings by putting them in perspective, especially when it comes to informing recommendations that could be used in practice and to expanding on existing concepts or even developing new ones. The emerging concept of "wicked problem agency" as a further qualification of collective agency in a wicked problem setting, while still very much still in development, can provide potential avenues for future research.

Critical approaches allowed me to identify and focus on practical kernels of learning. In terms of the social behaviour change model in communication for social change, the development of the concept of wicked problem agency and its apparent intrinsic value made a clear argument for the development of campaign that have its development as an end goal, rather than just an intermediate goal. In terms of wicked problems theory, the work of Noordegraaf et al. allowed to go beyond theoretical concepts. Amongst the practical learnings is the importance of "situated wickedness" which is key to produce information and knowledge in the specific day-to-day reality of the audience. Another one is to avoid the tempting pitfalls of "nice solutions such as trust and learning" by focusing of "performing activities, together, on a daily basis" (Noordegraaf et al., 2019, p.282) such as the production of the radio programme, the hosting of outreach activities or dialogue events as a prerequisite for meaningful engagement.

These practical solutions are useful for the development of the praxis model taking the form of a community engagement framework using community radio.

6. Conclusion and future directions

This last chapter provides a summary of the research findings considering the initial problem statement, outlines their potential theoretical and practical significance and provides recommendations for future research.

6.1 Problem statement and key findings

The current trend in communication for development to use a dominant impact model mostly focusing on behaviour change may miss the potential for more holistic and sustainable change among recipients. This seems particularly problematic in a context affected by super wicked problems like climate change, where the development of self-efficacy and agency are key to ensuring sustained individual and collective engagement.

This study aimed to answer two research questions:

1: What is the potential of communication for social change to trigger agency in the context of a wicked problem like climate change and how are the manifestations and characteristics of this agency perceived?

2: What characteristics should social change campaigns feature in order to foster agency in the context of wicked problems such as climate change?

In the context of the "blended" communication for social change campaign studied, it was clear that while only some respondents experienced a change in behaviour, most experienced increased agency. The behaviour change displayed wasn't necessarily always the behaviour the campaign intended to change; the behaviour change model revealed gaps in terms of knowledge to action, information sharing and dialogue as an intermediary step—an interesting outcome on its own. The findings in terms of agency showed the development of clear sense of self-efficacy and agency among participants. The example of the type of agency described by respondents displayed emergent collective, moral and intrinsic characteristics.

In terms of the framing and campaign characteristics in a context where climate change is overshadowed by other interconnected social issues, the current campaign displayed some flaws that prevented complete adhesion from both beneficiaries and key stakeholders. The need for communication strategies that feature integrated themes and platforms, are inclusive of

various stakeholders in both the actual design and production of the campaign, and create a sense of belonging, relatability and ownership came strongly from the findings. For this ownership to happen, the need to "broaden the pool" of active producers of information and knowledge in the campaign was noted and therefore, strategies to involve more people in the actual crafting of messaging as well as in ongoing conversations and debates surrounding the campaign. This way, the sense of belonging to a community and ownership over the message could be shared amongst more people and therefore achieve broader acceptability of the campaign.

From these insights some elements of significance can be drawn to apply to the practice and academic fields.

6.2 Significance and recommendations

6.2.1 Theoretical significance

While numerous theoretical studies exist on the normative evolution of cognitive models used to understand and influence human behaviour on the one hand and how they are applied to communication for social change as a discipline on the other (and climate change communication as a sub-discipline) few focus on looking at the effectiveness of these approaches, and even fewer on the actual qualitative experience of the recipients, especially in the Global South. This focus on the micro-level of experience, together with a component of a participatory approach through the sharing of Rowlands' typology, allowed respondents to engage with the concepts of empowerment and agency themselves rather having their agency measured through proxy indicators. This informed what characteristics agency can take in a wicked setting as collective, moral, and intrinsic, with further qualities of collective agency that fosters activism, social action, and sees leaders activate rather than influence others.

6.2.2 Recommendations for future studies

To take this inquiry further, it would be useful to conduct a systematic review of communication for social change campaigns (including grey literature) in their entirety—from proposals highlighting the approach (behavioural, empowerment, blended), associated objectives and outcome indicators—to evaluations that gauge effectiveness. This would provide Communication for Development practitioners a more comprehensive evidence-based database

than the reports and case studies available that are often internally produced and miss academic rigor and objectivity.

In the study of agency development, a longitudinal approach would also be beneficial to be able to observe the long-term consequences of the rise in agency at the individual and the community levels. In that context, the case for the empowerment approach (having agency as an end goal of such campaigns) could then be motivated from an evidence-based rather than from only an ethical standpoint.

6.2.3 Practical significance

The main significance of this study concerns the communication for social change and international development community. Practitioners from these fields could benefit from:

1. Considering collective self-efficacy and agency as relevant change outcomes for communication for social change campaign, and design campaigns that aim at developing them for themselves or to strengthen behaviour-change communication campaigns, rather than as solely determinants of behaviour change (instrumental self-efficacy and agency). This could include designing activities as part of campaigns aimed at developing critical life skills linked to developing self-efficacy, such as critical thinking, confidence and communication skills.
2. Developing indicators and tools that allow for such outcomes to be measured or adapt pre-existing measurements tools such as the Rowlands' typology, the general self-efficacy scale (Schwarzer & Jerusalem, 1995) or the new general self-efficacy scale (Chen, Gully, & Eden, 2001).

These reflections would to be integrated in the context of a consultative and participatory approach with practitioners in the field, including radio station producers, local NGOs, stakeholder groups and community members concerned by the issue. The growing civil society climate movement in Africa should harness communication for development tools and approaches, drawing on community media and community radio station networks in particular to bring awareness, engage and mobilise communities around how they can contribute to sustainable change.

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8. Appendices

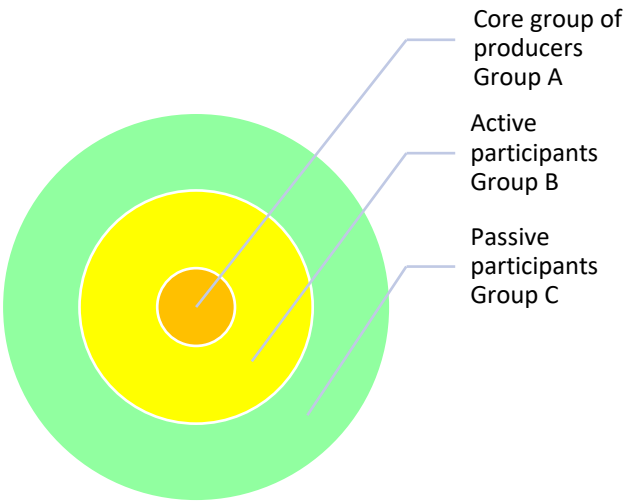
Appendix 1: Praxis model

This appendix provides the prototype of a tool called the "agency activation framework". The draft framework comprises a set of activities to be undertaken as part of a Communication for Development campaign (see standard phases of Communication for Development campaign below) that aim specifically at developing the self-efficacy and the collective efficacy of the campaign producers and of their audience.

Standard phases of Communication for Development campaigns (USAID, 2017)

This framework is aimed at NGOs (local, national or international) undertaking communication for development initiatives, civil society groups that want to promote community empowerment using media or community radio stations themselves. It is developed with community media (especially community radio) envisioned as the ideal primary channel for the campaign, but mentions other potential channels of dissemination. It can be used as a stand-alone "efficacy-focused" intervention or as a plug-in for a broader campaign, regardless of the issue tackled. It answered the socio-ecological challenge explored in the study through two axes:

1.By providing examples of activities that develop key life skills directly linked to the development of efficacy for the producers (Group A) as well as for the "active" (Group B) and "passive" (Group C) participants of the campaign. Following the recommendations of the study, these activities aim at being inclusive of as many audience members as possible in the active making of the campaign.



Campaign participants groups

By including a diverse range of channels (mass-media, interpersonal, community media) into an integrated approach

This prototype takes is based on Bandura's definition of self-efficacy (Bandura, 2006). According to Bandura, self-efficacy and collective efficacy believes have four main sources: Mastery experiences (past performance and particularly how obstacles were overcome)

- Vicarious experiences (observing others perform)
- Verbal persuasion
- Emotional and physiological states

In the context of the development of this prototype that is aimed at being embedded in communication for development campaigns, only sources 1, 2 and 3 (mastery experiences, vicarious experiences and verbal persuasion) are relevant to be activated.

The perceived collective efficacy of the group for the leader is also noted by Bandura as key to the actual collective efficacy of the group. In our context, the "core group of producers" are considered as the leaders, and it is recommended that some of the members of this group at least belong to the community where the campaign is implemented to allow for peer identification to develop. These leaders will need to be trained professionals who are able to harness and adapt the strategies mentioned in the last column of the table, which were

developed using primarily the “Improving Self-Efficacy and Motivation” framework (McCabe & Margolis, 2006) and other social learning tools.

The list of activities mentioned below is not exhaustive and aimed at displaying examples of activities for each of the key phases of a campaign, as well as the related strategies used to foster self-efficacy. It includes a “meta” component (yellow row labelled “communication on impact”) that includes activities related to discussing the actual progress of the campaign through its various channels while it is running. This “feedback loop” is aimed at fostering accountability and collective self-efficacy through vicarious experience, following Bandura’s social learning theory that includes media a valid source of knowledge acquisition and behaviour change.

Agency activation framework

Type of activities	Example of activities	Groups targeted (A, B, C)	Self-efficacy source activated	Strategy used
Planning and strategizing	Themes mapping Example: Collaborative assets mapping workshop linked to the theme chosen	A and B	Mastery experiences	Capitalizing on relevance (audience choice and interest) “Validation of voice “ through peer dialogue
Design	Collaborative campaign identity building Example: Competition through WhatsApp and radio to find campaign name and tagline	A, B and C	Mastery experiences	Capitalizing on relevance (audience choice and interest) “Validation of voice “ through peer dialogue

Training	Technical skills development Examples: Peer-led "citizen journalism" workshop	A and B	Mastery experiences (group A) Vicarious experiences (group B)	Practice-based, iterative learning Peer modelling (mastery or coping models) Using moderately challenging tasks
Training	Key life skills development Example: Public speaking/radio presenting workshop	A and B	Mastery experiences Vicarious experiences	Practice-based, iterative learning Peer modelling (mastery or coping models) Using moderately challenging tasks
Production	Content generation Example: On going collecting positive stories of change related to the theme in the community by teams including members from groups A and B	A and B	Mastery experiences Vicarious experiences	Practice-based, iterative learning
Dissemination	Community engagement Example: face to face dialogue events or open line during radio show,	A, B and C	Vicarious experiences	"Validation of voice " through peer dialogue

	where the producers and the audience are able to exchange views around the topic at stake		Social persuasion	
Dissemination	Content diffusion Example: Broadcast of series of positive stories of change	A, B and C	Vicarious experiences Social persuasion	"Validation of voice " through peer dialogue
Impact monitoring and evaluation	Monitoring and evaluation Example: Community impact survey led by teams including members from groups A and B	A and B	Vicarious experiences	Practice-based, iterative learning
Communication on impact (meta level)	Community feedback loops Example: Special show about impact of the campaign, inviting feedback from audience	A, B and C	Vicarious experiences	Stress recent successes Give frequent feedback

Appendix 2. Participants consent forms

MASTER OF PHILOSOPHY IN INCLUSIVE INNOVATION

INTERVIEW CONSENT FORM:

Participant name: ……

I volunteer to participate in a research project conducted by Clémence Petit-Perrot as fulfilment of the requirements for the MPhil Degree at the Graduate School of Business. I understand that the research is designed to gather information about the use of community radio to empower people faced with complex issues such as climate change, and that I will be one of approximately 30 people being interviewed for this research.

Background and purpose of the research

This research intends to explore the potential community-based radio to help address complex issues by serving as a tool to empower /create agency in communities in general, and for listeners in particular. This will be achieved through studying a specific climate change and sustainable living radio show, its impact at four radio stations where it is broadcast, and if and how agency manifests itself in these contexts.

Ethics approval

Ethical consent for the study has been approved by the *UCT Commerce Faculty Ethics in Research Committee*

Participation and confidentiality

I understand that my participation in this research is voluntary, that I will not be compensated and that I may withdraw at any time. The interview will take approximately 60 minutes to complete and will be audio recorded.

I understand that I will not be identified by name in any reports using information obtained from this interview and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect

the anonymity of individuals and institutions. Should you have any questions or concerns please contact me on 0761702510 or clemencepp@mgail.com.

Consent

I consent to participate in this interview, based on the terms outlined above and subject to the following additional condition of my own (if any).

---------- ----------

Signed by interviewee Date

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Signed by Student Date

Appendix 3. Semi-structured interview questionnaires

MASTER OF PHILOSOPHY IN INCLUSIVE INNOVATION

SEMI-STRUCTURED INTERVIEW QUESTIONNAIRE

Introduction:

Hi, my name is Clémence and I am a Masters student at UCT/GSB. I am doing my research on the youth radio project about climate change and adaptation that is being ran in your community and on its impact. I am particularly interested in knowing whether people have been feeling empowered as a result and what this empowerment looks/feels like.

- For this reason, we are interested in getting information from key stakeholders/youth reporters/radio mentors/listeners who are willing to share open and honestly.
- There are no 'right' or 'wrong' answers. I would like you to share your experiences, views, knowledge and opinions with me.
- The information gathered will be reported on in my dissertation but you will not be singled out in the findings, nor will your identity be disclosed. Your participation is not remunerated and you can withdraw at any point.
- I will be audio recording the session but only for purposes of capturing the information accurately. The recording will not be shared.
- Any questions?
- The interview will take approximately one hour. Are you happy to proceed?

Questions

1. Tell me about your background?
2. Tell me about life for young people in [insert name of community]?
   PROMPTS: Challenges, opportunities, ability to be active citizens and to have control over their lives)
3. Can you describe the radio project to me and your role in it?
4. Can you describe what you see as the key environmental or climate change issues here? Any broader social issues that affect you?

5. What has making or listening to the radio show meant to you and your life? Can you give an example of something that has changed in your life as a result of the radio show?
6. Is it more about actual changes in the way you think, what you know or how you behave or actual changes in the way you feel you have the ability to do things in your life?
7. How much do you feel your desire/motivation for change has grown?
8. Do you feel your ability to change things if you want to has grown? If so, can you describe how?
9. Do you feel your levels of control over your environment have changed? If so, can you describe how?
10. Do you feel you are able to get together with other people around environmental issues/other issues? Has this changed since the beginning of the project? If so, can you describe how?

Appendix 4. Data structure

1st order concepts	Sub-concepts	2nd order themes
Key social issues in young people's lives	Manifestations • Crime • Teenage pregnancy • Gender-based violence Mechanisms • Historical inequalities • Lack of resources and opportunities • Disconnect between generations • Self-sabotage	Interconnectedness of wicked problems Climate change as "non-essential" wicked problem
Climate change	Visible manifestations Lack of awareness • Lack of knowledge and understanding • Lack of access to information • Conceptual complexity Lack of interest/engagement • Perceived lack of direct experience • Overwhelming nature the issue • Socio-economic circumstances	

	• Lack of direct solution and disconnect between actors Seeds of awareness and action	
Radio campaign	As a place As a channel As a message As a strategy • by youth for youth • going deeper, putting a bait out, edutainment, being accessible, solution-based, recurrent but not talking about the same thing always, explaining the why, tone) **Is not enough** (social media, physical face-to-face activities)	Integrated strategy
Impact on campaign participants and reporters/mentors	• Knowledge acquisition • *The knowledge to action gap* • *Information sharing and dialogue as an intermediary step* • Critical skills building (Confidence, Communication, self-esteem) • Reflexivity • Leadership and influencing	• Insufficiency of behaviour change • Self-reflexivity Personal development and wicked problems • Collective agency as ultimate agency • Collective agency as activism • Collective agency as activation