THE POTENTIAL BENEFITS OF USING DESIGN RESEARCH METHODS IN SOCIAL SCIENCE RESEARCH

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Abstract

Given the constant demands for social science research to provide non-academic results in a world of complex challenges, this master's thesis zooms in on the potential benefits of adding design research methods to social science research. Design research methods have been chosen, given its recent hype within business studies, which may imply that it could prove valuable in other types of research as well.

The main objective of this thesis is then to gain an understanding of which kinds of value design research methods might add to social science research, and whether design research methods can prove valuable in assisting to address the multidisciplinary societal challenges of today.

The study engages in an analysis of the potential benefits of adding design research methods to social science research by introducing two separate analyses of the same case, based on each their kind of research methods. The case study of the South African township Soweto has been chosen given its relevance as an example of a major social challenge. Within the case study, I investigate the internal research question: "*What is home to you, and how can home be improved*?" The research question is answered through the two frameworks: the social change matrix and the social sustainability model. By exploring the answers to the research question provided by data collected using respectively social science research methods and design research methods, I am able to initiate a discussion of the differences in the data as well as the potential complementarity.

Overall, I am therefore engaging in an exploratory case study to answer my two research questions. The study takes on an interpretivist research philosophy and uses inductive logic in order to generate new understandings, both in terms of the overall question and the internal question.

The main findings for the overall research question are that design research methods generated value for social science research in three ways: First, design research methods enhanced creativity, sensitivity and thoroughness within the researcher throughout the entire research process, primarily given the design of the methods and the complexity of the data. As these factors also improve overall understanding, they have a positive effect on validity. Other benefits were that the design research methods enhanced exemplification and often complemented social science research findings with specific suggestions or examples. Finally, design research methods decreased language barriers due to the focus on visual language. Combined, these benefits suggest that design research methods may assist social science research in addressing societal challenges.

In terms of the internal research question, the overall findings suggested that the residents perceived home to a place of family, community and historical pride. The main areas for improvement identified were the need for basic necessities, the creation of a well-functioning local economy as well as increasing involvement and increasing connectivity.

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1.0 Introduction

Social science research is increasing being met with demands of generating non-academic research impact, often from salient political and financial stakeholders (Davies, Nutley, & Walter, 2005; Ravetz & Ravetz, 2016). With the complexity of today's societal challenges, however, the structure of academia provides an obstacle to firmly addressing these multidisciplinary concerns (Ravetz & Ravetz, 2016). In their recently published paper, Ravetz & Ravetz (2016) proposes that visual methods, including design, may assist in addressing these societal challenges through its ability to create synthesis between various social scientific findings as well as enhance understanding of knowledge and provide a link to more practice-oriented knowledge. In this thesis, I focus my investigation on how design research methods might assist areas of social science research in their attempt to address today's societal issues due to design research methods' focus on creating value through generating new knowledge and non-academic impact (Barab & Squire, 2004). Hence, my research question becomes:

"*What are the potential benefits of applying design research methods to social science research?*"

The thesis will provide an answer to the research question via engaging in a case study focused on understanding the perception of home and the needs for improvement in the South African township, Soweto. Two analyses, using the same frameworks, will be initiated, of which one uses social science methods to reach its conclusion and one uses design research methods. By comparing the two analyses, the study finds that design research methods enhance the sensitivity, thoroughness and creativity of the researcher, thereby allowing for a more in-depth

understanding and increasing the overall validity of the thesis (Whittemore, Chase, & Mandle, 2001). Furthermore, it is found that design research methods decrease language barriers, while also complementing social science research in practice through motivating exemplification.

Initially, the study will introduce social science research and design research methods and investigate how existing theory imply these may benefit from each other. Then, the empirical chapter will elaborate on the case study and introduce my empirical data. The methods chapter follows, which reflects over my methodological choices and their impact on my findings, after which I present my analyses based on respectively the social science research methods and the design research methods. Afterwards, I present a comparison of the findings and initiate a discussion of the potential benefits of adding design research methods to social science research. Then, an overall conclusion on the findings of the study is made and future opportunities for research are briefly discussed.

2.0 Theory section

2.1 Introduction to theory

Given the lack of existing theory on the matter, the aim of this chapter is first and foremost to introduce the existing methodologies within social scientific research and design research and discuss potential complementarity. Hence, the section starts by introducing the main areas within design research and their methods as well as discuss how these may enhance understanding in social science research. Next, social science research, its overall research strategies and methods as well as paradigms are introduced, followed by an elaboration of how design research methods may complement some of the most common paradigms in social science. Based on my review of current theory, I identify the hermeneutic paradigm to be complementary with design research methods in general, whereas critical theory is identified as being complementary with critical design, participatory design and user-centered design. The constructivist paradigm is considered mainly compatible with participatory design, which enables researchers to gain a new understanding of social constructions through visual tools (Nygaard, 2012). Furthermore, I argue that the positivistic paradigm may benefit from the use of design emotion, although researchers should be aware of potential obstacles as identified.

2.2 Introduction to design research methods

Design research is the study of people's interactions with what has been designed for them, whether an environment, goods or a service (Sanders & Stappers, 2013; Veen, Lugt, & Lille, 2015). Studies conducted within design research are generally very user-focused with an aim to create non-academic value (Barab & Squire,

2004). It should, however, be noted that there is a difference between design research in the United States, which is mainly conducted by practitioners, and in Europe, which is mainly conducted by researchers (Sanders, 2006).

In terms of overall methodology, design researchers have long included mainly qualitative scientific research methods such as ethnographic methods and interviews in their studies (Veen, Lugt, & Lille, 2015). At the same time, however, design research has been developing its own tools with roots in design practice (Veen, Lugt, & Lille, 2015). After years of knowledge transfer mostly from social science research to design research, it would appear that the knowledge transfer might increasingly go both ways due to the advancement of design research methods and their potential ability to assist in addressing societal challenges (Veen, Lugt, & Lille, 2015; Ravetz & Ravetz, 2016).

By accepting the survey perspective, which allows one to perceive the entire design research field with all its details at once, rather than perceiving it through a route perspective, in which details change throughout the route or the gazing perspective, in which things are perceived from one perspective only, one can distinguish between three general fields within design research methods. These fields are measured through two dimensions: Horizontally, the expert mindset versus participatory mindset and vertically, the design-led versus research-led (Sanders, 2006). The expert mindset versus participatory mindset is evaluating the degree of involvement of end-users in the design project, with the expert mindset focusing on the researcher's interpretations as in user-centered design research or ideas for inspiration as in critical design; and the participatory mindset, in which the end-user is made an expert and co-designer as in participatory design (Sanders, 2006). The dimension of design-led or research-led simply measures whether the starting point of the field is within design or research, with critical design and design emotion being design-led, participatory design being a combination and user-centered design research being largely research-led (Sanders, 2006). These fields may arguably be combined in a research process, in which an exploratory phase focus on the user-centered and critical design research fields, a generative phase focus on the participatory field and an evaluative phase focus on the design and emotion field (Hanington, 2007). With this being stated, I will now provide an elaborative overview of the different research fields within design research and their potential compatibility with social science research.

2.2.1 Critical design

In critical design, the aim is to question status quo and bring forward new alternatives (Dunne & Raby, 2001). Here, the designer is considered the expert and as a contrast to the user-centered design field, it has less of a focus on usability (Dunne, 2005; Sanders, 2006). Instead, the focus is on gathering inspiration from the research participants as well as provoke their way of thinking (Gaver, Dunne, & Pacenti, 1999).

A popular research method within critical design is probes (Gaver, Dunne, & Pacenti, 1999; Sanders, 2006). Probes are materials designed to awake a response from the research in order to inspire the designer and allow her to understand the local culture (Gaver, Dunne, & Pacenti, 1999). As the main objective is inspiration, there is a larger focus on controlling aesthetics than methods, and putting a focus on design is more important than doing an accurate analysis (Gaver, Dunne, & Pacenti, 1999).

A lot of thought goes into the design of the probe, which should be abstract enough for research participants to not get attached, yet feel personal enough for them to make use of it (Gaver, Dunne, & Pacenti, 1999). Once designed, the probes are given to the research participants with the hopes of them being returned eventually (Gaver, Dunne, & Pacenti, 1999). Examples of probes could be a postcard with questions written on it for the research participant to answer, a map where the research participant should indicate locations or logs of activity (Gaver, Dunne, & Pacenti, 1999). Photos may also be used as probes by e.g. asking research participants to answer questions through taking photos or through sharing already-made photos (Gaver, Dunne, & Pacenti, 1999).

As a result, critical design methods may add value to social science research, which aims to create an impact, such as action research or the critical theory paradigm. Whereas critical design methods do not allow for a deeper understanding of a given problem, they do provide effective tools, which enables researchers to share their thoughts with their research participants and thereby potentially creating an impact (Gaver, Dunne, & Pacenti, 1999). When adapting these tools to social science, however, the focus in the development phase might shift from aesthetics to more impact-oriented.

2.2.2 User-centered design

User-centered design is the biggest research area within design and studies people and design, with the researcher being the expert (Sanders, 2006). It is research-led, rather than design-led as critical design above, and applies science in order to reach its findings (Sanders, 2006). User-centered design research is typically conducted in order to either i) study human behavior around a given object of study; ii) understand a given culture and iii) for usability testing purposes (Sanders, 2006, p. 5).

User-centered design generally utilizes a number of social science methods, including ethnological methods (Rosenthal & Capper, 2006). An important method in user-centered design is observation of research participants (Wasson, 2000). Observation can be explicit or disguised and does not necessarily require the research team to physically be at the same place as their participants, as video cameras may be mounted either

on the participants or in a place which allows the researcher to observe the behavior of their participants (Rosenthal & Capper, 2006; Wasson, 2000). Furthermore, ethnological methods in user-centered design include the use of interviews to gain more details on the usage of a given object (Wasson, 2000). Given the importance placed on behavior in this methodology, research participants in interviews are often video-taped and the aim of interviews is often to receive narratives from them (Wasson, 2000). Alongside these methods, researchers may use methods such as narratives, sketches, metaphors and drawings to gain a deeper understanding of the feelings of the research participants (Rosenthal & Capper, 2006, p. 221). Finally, photo narratives may be used to get people to photograph their interactions with a given object and thereby sharing their habits with the researchers (Wasson, 2000).

Much like its methodology, data analysis in user-centered design is inspired by social science research and perhaps especially ethnology, as it is examining behavior to understand habits and single interactions in the context of local culture and context (Rosenthal & Capper, 2006; Wasson, 2000). By analyzing these practices, design researchers may gain an understanding of meanings of design or unexpected applications of the design as well as become inspired to create new designs (Rosenthal & Capper, 2006; Wasson, 2000).

As is evident, user-centered design provides a strong example of a design research field, which incorporates social science research (Rosenthal & Capper, 2006). The development of certain ethnological tools in design research methods may then be of interest to ethnologists and anthropologists and provide them with new tools for gaining a deeper understanding of their cultural study.

2.2.3 Participatory design

Participatory design uses design research methods to include end-users in the design and product development process (Sanders, 2006). Here, the focus is on fulfilling the needs of users and the customer is considered the expert at understanding how that is done (Sanders, 2006).

Sanders & Stappers (2008) argue that design research is seeing a gradual shift from a user-centered approach to the co-design approach within participatory design. Co-design can be described as "*collective creativity*" (Sanders & Stappers, 2008, p. 6). In short, it is understood as a design process in which people with and without formal design training are designing together (Sanders & Stappers, 2008). A distinction can be made between co-creation and co-design, as co-creation is arguably an umbrella-term covering many types of collaboration with users, with co-design being collaboration between these actors within the design process (Sanders & Stappers, 2008). Co-design is best known for its usage within corporations rather than amongst designers, but could

arguably also be used to solve larger, societal challenges (Sanders & Stappers, 2008).

Interestingly, the inclusion of the user in the design process has a large impact on the roles of the people involved in the process (Sanders & Stappers, 2008). Although participatory design would state that everyone has a creative mind, the role of the user in the design process will depend on his/her level of creativity in the particular area of design (Sanders & Stappers, 2008). For the researcher, (s)he will be to facilitate the creativity of the users rather than to simply translate between users and designers (Sanders & Stappers, 2008). The role of the designer will be the role of an expert, as the skills and knowledge of the designer allows him/her to see the design solution in its full complexity and scope (Sanders & Stappers, 2008).

Co-creation provides different benefits to the project itself, the end-user and the organization (Steen, Manschot, & De Koning, 2011). For the project itself, co-creation makes it easier to manage and continuously improve on a product, just as new and better ideas may emerge as a result of knowing the end-user (Steen, Manschot, & De Koning, 2011). For the end-user, (s)he will get a product or service, which is tailor-made to his/her needs and (s)he will feel more loyal to the product, knowing that her/his inputs were considered throughout the development process (Steen, Manschot, & De Koning, 2011). At last, for the organization, the inclusion of co-creation may lead to an overall increase in customer satisfaction focus and level of creativity, improve internal collaboration and innovativeness and improve the public image of the company (Steen, Manschot, & De Koning, 2011).

Lead user innovation is a type of co-design, which combines co-design with user-centered design
In lead user innovation, an 'elite' of users who have experience with innovation, are included in the design process and seen as experts (Sanders, 2006; Sanders & Stappers, 2008; von Hippel, 1988; von Hippel, 2005). Whether the use of an elite of users is better than a variety of users in co-design, as the elite may not be able to properly represent and understand other users (Sanders & Stappers, 2008).

Another popular method within participatory design is to allow end-users to express themselves through generative tools (Sleeswijk Visser, Stappers, van der Lugt, & Sanders, 2005; Sanders, 2000).
The generative tools are used to directly involve the end-user in the process and take their needs into account (Sanders E. , 2006). With the generative tools method, research participants are provided with a toolkit consisting of a background, which can either be blank or be defined by a shape, and a number of elements such as 3D forms or sketches (Sanders, 2000). Moreover, the kit includes tools such as pens for further expression needs (Sanders, 2000). Along with the toolkit, research participants are getting instructions to express emotions or ideas

on a given matter (Sanders, 2000). Any instructions are very flexible in order for the research participant to express herself freely, and the output from the research participant can then be in the form of for example a map, a collage or a story (Sanders, 2000). Whereas the research participant is doing a design research process through the generative tools, the design of the toolkit is its own design process, as it has to be tailored to the aim of the design research (Sanders, 2000).

A new usage of the generative tools has emerged in recent years with group workshops called Strategic Visioning Workshops (Sanders, 2000). In these workshops, groups collaborate to visually express their ideas and dreams through a toolkit larger than otherwise used within generative tools (Sanders, 2000). Overall, the Strategic Visioning Workshops provide an interesting perspective to collaboration and the potential scope of generative tools (Sanders, 2000).

To sum it up, participatory design offers tools for social science researchers to engage in a new and more 'equal' way with research participants, as the research participants become collaborators (Sanders, 2006). Moreover, the usage of generative tools may allow for a deeper understanding of the subjective perspectives given their ability to address ideas and emotions in a very different way (Sanders, 2006).

2.2.4 Design emotion
Design emotion is an emerging field within design research, which borrows from all of the existing design research methods (Sanders, 2006). Design emotion studies design's emotional impact on people, including the emotional response research participants have to a specific design and how knowledge on design and emotion can be incorporated into future designs in order to create the desired emotional response (Hekkert & McDonagh, 2003).

In design emotion, the experience prototyping methodology is helpful given its focus on actively experiencing prototypes (Buchenau & Suri, 2000). A prototype is an early representation of a given design created for testing purposes and is a commonly used design tool, especially when manufacturing of the final product is expensive and/or advanced (Buchenau & Suri, 2000). Prototypes can represent a design idea in many ways - from a sketch to a physical early version of a product (Buchenau & Suri, 2000). When an experience prototype differentiates itself from other types of prototypes, it is because it was made with the purpose of designers and end-users experiencing it (Buchenau & Suri, 2000). As a result, an experience prototype can give designers important information on the usability of the current design as well as test or communicate new design ideas to end-users (Buchenau & Suri, 2000). Often, design researchers may want to add complementary design research methods,

such as participatory design research methods, to their experience prototyping research as well as investigate multiple experience prototypes as a part of the study (Buchenau & Suri, 2000).

For social science researchers, then, design emotion offers tools for a deeper understanding of how people feel about a given object or idea; something that can prove valuable in fields such as psychology and anthropology (Hekkert & McDonagh, 2003).

2.2.5 Conclusion on design research methods

To conclude, design research methods enables us as social science researchers to gain a deeper understanding of our research participants perspectives and to share ideas with research participants and hence potentially influence them (Gaver, Dunne, & Pacenti, 1999; Sanders, 2006). Researchers have identified different fields or phases within design research methods with slightly different capabilities: Critical design provides tools for researchers to share their ideas with research participants; user-centered design enables researchers to gain a deeper understanding of people and cultures through the use of ethnological tools which have been adapted to fit with the design practice field; participatory design provides methods for visual expression and for cooperation with research participants and design and emotion enables researchers to gain a better understanding of how people feel about certain ideas or objects through experience prototypes (Sanders, 2006). It is, however, important to note that some researchers point to their complementary effect, hence using them separately may create limitations (Buchenau & Suri, 2000; Hanington, 2007).

2.3 Introduction to social science research

Social scientific research is research focused on groups of people, including, but not limited to societies and institutions (Nygaard, 2012). There are number of different approaches - in terms of research philosophies as well as methodologies - in social science research, and it is therefore salient that social science studies include reflections over their chosen research philosophies and methodologies and how these affect the final result (Nygaard, 2012). Below, I will first provide an introduction to some of the most common research strategies and methods, then present an overview of the main paradigms within social science and reflect over their level of complementarity with design research methods. The findings are that there is a strong complementarity between design research methods and the hermeneutic and critical theory paradigms. There is also complementarity between some methods in generative tools and constructivism. Finally, there is to some extent complementarity between design emotion methods and positivism.

2.3.1 Overall research strategies and their methods

The field of social science may conduct its research in a number of ways. Saunders, Lewis & Thornhill (2016, p. 178) points to 8 common research strategies within social science research: i) experiment, ii) survey, iii) archival and documentary research, iv) case study, v) ethnography, vi) action research, vii) grounded theory and viii) narrative inquiry.

An experiment tests the relation between two variables through two opposing hypotheses, hence experiments are relevant only when aiming to test for a relation between variables, which is expected to exist (Saunders, Lewis, & Thornhill, 2016). The experiment uses quantitative methods to analyze its results, whereas the survey research strategy, which includes questionnaires and structured interviews, applies quantitative methods in order to gain an overview of a high amount data, and analysis is done through descriptive or inferential statistics (Saunders, Lewis, & Thornhill, 2016).

The archival and documentary research strategy focuses on analyzing secondary sources in the form of documents such as analysis of the communicative tools used within the document (Saunders, Lewis, & Thornhill, 2016). The case study, on the other hand, is a study of a given phenomenon and the context surrounding it and may use both quantitative and qualitative methods (Saunders, Lewis, & Thornhill, 2016). The ethnological study is a study of a social group's culture, mainly through fieldwork, in which observation and detailed notes make for an important part of data collection (Saunders, Lewis, & Thornhill, 2016). Next, the action research uses a participatory and collaborative approach to problem-solving in organizations (Saunders, Lewis, & Thornhill, 2016). The action research process is iterative, however, but generally consists of phases of identifying issues, planning strategic solutions, implementing the solutions and evaluation (Saunders, Lewis, & Thornhill, 2016).

Grounded theory is not simply a research strategy, but also a method and a research process output, in which reality is perceived as constructed and codes are used to classify data (Saunders, Lewis & Thornhill, 2016). Data is analyzed concurrently, and self-memos and codes are created simultaneously to develop a theory (Saunders, Lewis, & Thornhill, 2016). A narrative inquiry is a study of a narrative rather than raw data and is generally associated with qualitative methods, in which the research participants may be the narrators, but the researcher is the interpreter (Saunders, Lewis, & Thornhill, 2016). As the vast diversity of these research strategies illustrate, social science research is a very broad field encompassing a number of perspectives and methodologies. Hence, I will introduce Kuhn's (1962) paradigm theory below in order to gain a better understanding of whether and if so how different categories of social science might benefit from the inclusion of design research methods.

2.3.2 Social science paradigms

In 1962, Thomas S. Kuhn made the famous introduction of paradigms (Kuhn, 1962). A paradigm is a collection of values, basic assumptions and methodologies, which aims to unite scientists within a given academic field (Fox, 2014; Nickles, 2002). Along with the idea of paradigms, Kuhn (1962) presented the idea that science was not progressing at the time due to its fragmented size. The paradigm theory, then, introduced a way of uniting the fragmented research to strengthen it (Kuhn, 1962; Nygaard, 2012). Moreover, Kuhn (1962) put a focus on scientific methodology rather than scientific theory, which, again is of great importance in field such as social science research with such diversity in research philosophies and approaches (Nygaard, 2012).

Nygaard (2012) argues that Kuhn's paradigm theory is perhaps particular useful in social science research due to its ability to provide an overview over the various ways in which social science researchers may apply their methodology on a given matter. Due to the level of diversity within the social scientific research methodology, I will now introduce the four overall paradigms in social science research according to Nygaard (2012) in order to give an overview of social scientific research methods and discuss how each of these paradigms may work alongside design research methods The four paradigms are: Positivism, hermeneutics, critical theory and constructivism (Nygaard, 2012, p. 26).

2.3.2.1 The positivistic paradigm

The positivistic paradigm, famous for its usage in natural science, gained popularity amongst social science researchers around 1850 (Nygaard, 2012). Within the positivistic paradigm, the ontology is realistic, meaning that the world is seen as the material manifestation directly observable to the eye, implying an objective epistemology, where objective truths can be found through the correct data collection methods (Nygaard, 2012).

Positivistic research is focused on testing existing hypotheses to gain an understanding of the relations between different variables (Nygaard, 2012). That is either done through experiments or quantitative methods such as statistics, regardless of the academic discipline (Nygaard, 2012).

Given its realistic ontology and choice of methods, the positivist paradigm could arguably benefit from the inclusion of design and emotion research methods. The design and emotion research methods could provide new ways for positivists to study reality by providing them with the toolkit to design prototypes in instances, where the use of the intended object for experimentation is for some reason impossible or very requiring of resources. Moreover, the addition of design and emotion research methods allows for a new perspective on how to study existing objects, by offering experiments focused on the research participants' reactions. Given its aim for

objectivity through quantifiable data or objective observations, the positivist paradigm is however perhaps the most challenging paradigm in which to introduce design research methods (Nygaard, 2012).

2.3.2.2 The hermeneutic paradigm

The hermeneutic paradigm has become increasingly popular amongst social scientific researchers throughout the 20th century due to the influence of sociologist Max Weber and philosopher Hans-Georg Gadamer (Nygaard, 2012). Unlike positivism, hermeneutics has a subjective epistemology, meaning it believes in subjective truths and studies those through the use of qualitative methods along with an ontology that is limited realism as it believes in advancing closer to a truth through the understanding of different people's perspectives (Nygaard, 2012).

Aside from aiming to understand people, hermeneutics is also concerned about the matter of how to do hermeneutic research in the best manner possible (Nygaard, 2012). As the researcher in hermeneutics has a pre-understanding, which will affect how she analyses her research object's perception, she is inevitably a part of the research project in hermeneutics and should reflect over her ones pre-understanding (Nygaard, 2012).

As the hermeneutic paradigm is interested in understanding others world perceptions, it is a great fit with all of the design research methods discussed in the paragraph on these. User-centered design methods such as that of ethnological methods alongside participatory research methods such as generative tools may be used to complement in-depth interviews, providing a further understanding of someone's perceptions. Methods within critical design and design and emotion such as experience prototypes and probes are also compatible with hermeneutics, provided that the study aims to understand research participants' feelings toward something in a tangible form.

2.3.2.3 The critical theoretical paradigm

The critical theoretical paradigm's founding can be attributed to the infamous Karl Marx, who in his works on capitalism had a focus on changing reality (Nygaard, 2012). In this paradigm, the truth is then only as important as the ways of changing it (Nygaard, 2012). Critical theory has a limited realistic ontology and a modified objective epistemology, believing in objective truth and in the material reality, yet that these are often shaded by power structures, meaning that critique of these becomes an important part of it (Nygaard, 2012). This means, that there are actually two levels of reality in critical theory as there's is an objective reality along with a false reality on the individual level forced upon individuals by the power structures of society (Nygaard, 2012). Hence, the usage of both quantitative methods to understand the objective reality and qualitative methods to understand

the subjective reality (Nygaard, 2012).

With critical theory's focus on change, the main field of design research methods of relevance is critical design, which also aims to make research participants think in new and alternative ways (Dunne & Raby, 2001). Similarly, critical theory may use participatory design tools for action research purposes, in which the main purpose is to create the change that is studied (Saunders, Lewis, & Thornhill, 2016). Finally, user-centered design, alongside participatory design, may be used to complement classic qualitative methods in gaining an understanding of the subjective reality.

2.3.2.4 The constructivist paradigm

The constructivist paradigm has no interest in finding an objective truth, as it states there is no truth - only constructions of reality (Nygaard, 2012). As a result, constructivism has a relativistic ontology, as reality depends on perspective and a subjective epistemology, as the truth is subjective (Nygaard, 2012).

Constructivism has two overall objectives: i) to engage in studies, which validate the thesis that reality is made of social constructions and ii) to study how these constructions are accepted by a group of people as a reality (Nygaard, 2012). To the constructivist, data collection is focused on qualitative methods and lingual and discourse analyses, as the constructions most easily come to show through the use of language (Nygaard, 2012). This is due to the fact that when we do not recognize something as reality, and how we speak of it may help understand what it is (Nygaard, 2012).

Just like lingual and discourse analyses offers a way of understanding constructions, so does generative tools as they may visualize these constructions. By adding generative tools and potentially other types of participatory design research methods, the constructivist paradigm could gain new, and potentially more concrete, insights on social constructions.

2.3.3 Conclusion on social science research methods

To conclude, social science research consists of a number of different research strategies and methods and hence the potential benefits of design research methods differ based on the given research strategy and methodology. Kuhn (1962) presented the paradigm theory, which is being used to provide an overview of the different types of overall values and methods within social science research. Here, it is emphasized that design research methods are highly compatible with the hermeneutic paradigm, as they allow for gaining a deeper understanding of

others' perceptions, whereas critical theory can benefit from especially critical design and participatory design in order to plant new thoughts in the minds of research participants and constructivism may use generative tools to gain a deeper, more concretized understanding of the social constructions (Nygaard, 2012; Gaver, Dunne, & Pacenti, 1999). Finally, positivism may to some extent make use of design and emotion to study people's expressions and reactions to a given object, however, the interpretation of data is bound to create some obstacles, given positivism's realistic ontology (Nygaard, 2012).

2.4 Overall conclusion on theory chapter

The overall findings of this chapter is that there are some missed opportunities for using design research methods in social science research. Critical design tools offer researchers a way of creating change by sharing their ideas, hence it is useful to use for researchers within the critical theory paradigm (Dunne & Raby, 2001). User-centered design offers a deeper understanding of people and cultures and may therefore be of special relevance to researchers within the hermeneutic and critical theory paradigms, and especially ethnologists and anthropologists given the methodology (Sanders, 2006; Rosenthal & Capper, 2006). Given its focus on including research participants through e.g. generative tools, participatory design might be particularly relevant within critical theory, where it can function as action research, as well as within the hermeneutic and constructivist paradigms, where it may enhance understanding based on the research participants' visual expressions of their viewpoints (Sanders & Stappers, 2008; Sanders, 2006). At last, design emotion may be particular relevant in the positivistic paradigm, as it enables positivists to recreate precious object as experience prototypes and focuses on discovering reactions and expressions (Buchenau & Suri, 2000; Hekkert & McDonagh, 2003). At the same time, its usability in positivism is limited by the differences in data interpretation (Nygaard, 2012). When using design research methods in social science research, one should however reflect over whether to stick with one type of design research field or use these methods in different phases (Hanington, 2007).

3.0 Empirical section

3.1 Case introduction: Residents of Soweto

Having argued in the theoretical discussion for the potential benefits of applying design research methods to social science research, I will now introduce my case study and my empirical data, which I generated via both social science and design research methods. My case study is the township Soweto, and my research question was "*What is home to you, and how can home be improved?*"

In this chapter, I will first present my case study using secondary source materials. Given that the case study research question was an internal research question within the overall study of the benefits of design research

methods in social science research, I will then present both my empirical data findings for the internal and the overall research question.

3.2. Case background

Soweto is a township in the South-Western part of Johannesburg, located 40 kilometers from Sandton, the main business hub of South Africa as well as Africa (ICLEI, 2015; City of Johannesburg, 2011). Soweto in its current form was established in the 1930s, when the apartheid regime enforced racially separated residencies and people forced out of the cities and into the townships, as they were perceived to be workforce (SA History, n.d.). During this era, Soweto became the epicenter for opponents to the regime, hosting residents such as Nelson Mandela and with famous protests such as the Soweto Uprising, commonly regarded as one of the defining events leading to the global creation of trade barriers towards South Africa, which eventually ended apartheid (Ramchander, 2007; Sesay & Tutton, 2010).

3.2.1 Soweto today

Today, has been incorporated into the Johannesburg municipality, referred to as a 'suburb' (Krige, 2011). In reality, however, Soweto is today the largest slum in terms of population on the African continent and the access to basic necessities such as water remains limited (Ramchander, 2007; Kooy, Magee, & Lansley, 2015; TTRI, 2007). As a result of lacking urban planning and management, the townships continue to mainly attract poor, unemployed residents, although the recent years have seen some middle and even upper-income housing appearing in certain areas of Soweto (TTRI, 2007; Pabale, 2011). Soweto's population is officially 1.3 million people, with unofficial estimates being much higher at 2.5 - 4 million people due to the number of illegal immigrants and former rural residents living there (City of Johannesburg, 2011). This makes Soweto the most populous South African urban area, with 43% of the Johannesburg population based in this area, which constitutes only 9% of the total area of Johannesburg (City of Johannesburg, 2011; City of Johannesburg, n.d.).

3.2.3 Local economy

In spite of the number of residents, only 4% of the Johannesburg economy is generated in Soweto, and of the official estimate of 1.3 million people in Soweto, between 600,000 and 1 million are estimated to live in extreme poverty (City of Johannesburg, 2011). Soweto has an unemployment rate of 52%, and studies show that the average income in Soweto was almost 4 times lower than Johannesburg in 2004, compared to 2,5 times lower in 1996 (TTRI, 2007; Dludla, 2015).

There is therefore a need to develop a well-functioning local economy, as evident when one of the main mayoral candidates prior to this year's election went to Soweto to debate the issue (Sithole, 2016).   As of now, the local business environment is tough with a few malls and a few small, but established businesses running (Mail & Guardian , 2011). Established industries include the tourism sector, which generates about R143m annually, as well as transportation services and trade (Dludla, 2015; TTRI, 2007, p. 11). Threats to establishing a well-functioning local economy include crime, lack of basic infrastructure and supply exceeding demand (Kooy, Magee, & Lansley, 2015; Dludla, 2015; TTRI, 2007).

3.2.4 Education in Soweto

In spite of the large governmental spending on education, the South African Minister of Education has recently stated that the country is facing an educational crisis due to the number of students failing their courses, with the problem being largest in poverty-stricken areas where commutes are often lengthy (Nkosi, 2016; Mcgroarty & Parkinson, 2016). With 60 underperforming schools, the average pass rate for high school graduates in Soweto is at 63% compared to a 79% provincial average, and third grade students in Soweto performed 11% worse than the provincial average in math and 10% worse in literacy on average (SA News, 2011).

3.2.5 Crime and safety

Crime is a challenge, as it is all over South Africa. Yet, crime statistics cannot be considered a relevant measurement, as it is estimated that 52% of all criminal activities, include on average three daily murders, are not being reported (Roane, 2013). The national police commissioner previously highlighting Soweto as a place in need of more police stations does however suggests that crime is a challenge (Radebe, 2013).

3.2.5 Health

Health services in Soweto are limited, with only two hospitals to service the population (Aljazeera, 2009; Mkhize, 2014). There are, to my knowledge, no absolute statistics on disease prevalence in Soweto, but it may be assumed that it is affected by the same disease burden as the rest of South Africa, however, potentially to a higher extent due to the densely populated primarily low-income residents. A recent study amongst young people in Soweto on health care shows a large level of dissatisfaction, with complaints including extensive waiting times, poorly stocked medicine cabinets and inadequate equipment for diagnostics (Schriver, Meagley, Norris, Geary, & Stein, 2014)

3.2.6 Future strategies

The newest published municipal objectives are, to my knowledge, from a 2011 report. Here, six objectives with the aim to further improve quality of life in Soweto was presented: i) to maintenance and further improve infrastructure; ii) create further development in the local economy; iii) creating stronger links between newly invested entertainment centers; iv) capitalizing more from tourism; v) to a higher extent giving young people access to education and jobs and vi) increasing usage of the public transportation busses Rea Vaya (City of Johannesburg, 2011). On governmental level, the South African government's 2030 strategy mentions townships, stating that it is a priority to create jobs nearby or within densely populated townships (National Planning Commission , n.d.).

3.3 Presentation of empirical data

Following the case introduction, I will now present the generated empirical data, which provides a new dimension of understanding of the case study. I will first present the data in the following order: i) empirical data using quantitative social science methods, ii) empirical data using qualitative social science methods, iii) empirical data using qualitative design research methods and iv) empirical data findings for the overall research question. Demographic information on the research participants alongside my methodological considerations will be provided in the following section on methods, whereas findings will be presented in the analysis sections.

3.3.1 Presentation of quantitative data using social science research methods

Social science quantitative data were collected through a survey, which consisted of a number of statements to which research participants were asked to rate their level of agreeability. The full survey, with the most common response highlighted in yellow, can be found below.

Table 1: Overall results

	Completely agree	Partly agree	Maybe	Partly disagree	Completely disagree
You are overall happy with staying in Soweto and do not consider moving	60 %	20 %			20 %
You grew up here	80 %	20 %			
Your family/friends are here	80 %	20 %			

Your work is here	40 %	20 %			40 %
You feel attached to Soweto	60 %	20 %	20 %		
You think Soweto has something unique no other place has	60 %	40 %			
Your neighbourhood is changing for the better	40 %		20 %	20 %	20 %
You have not been the victim of any bad incidents while living in Soweto	80 %		20 %		
You have not heard of others being the victims of bad incidents while living in Soweto	20 %	20 %		20 %	40 %
You believe the short-term living costs are smaller in Soweto	40 %	20 %		20 %	20 %
You believe the long-term living costs are smaller in Soweto	40 %		40 %		20 %
You don't think there are better alternatives available at the same price	40 %		20 %	20 %	20 %
There are too many housing options, so now you have made a decision and will stick to it	20 %			40 %	40 %

You think you will also want to live in Soweto in the long-term future	40 %		20 %		40 %
You have already spent a lot of time building your place in Soweto	40 %	20 %			40 %
You are helping to build a new community	20 %	20 %	20 %	40 %	
You work too hard to have time to look for accommodation	20 %			40 %	40 %

Overall, the results from the survey is that the majority of people (60%) enjoy staying in Soweto, with 20% however, disagreeing completely. 80% of survey participants grew up in Soweto, have family and friends there, and have not been the victim of any bad incidents. All participants agree, at least to some extent, that Soweto has something unique to offer, with 80% feeling attached to Soweto. Although 60% have at least to some extent spent time on building their home in Soweto, only 40% wants to stay in Soweto in the long-term future. This may relate to only 40% believing that their neighborhood is developing in a good direction and 40% partially disagreeing with the statement that they are assisting in building a new community. Opinions seem to be very split on whether Soweto is the most affordable housing option, yet at least 40% agree it is the cheapest in a short-term perspective.

3.3.2 Presentation of qualitative data using social science research methods

The qualitative social science data were collected in the form of structured interviews. Please find the prepared questions and the transcripts in Appendix 3 & 4. Below, the findings are introduced through classifying statements into themes to gain an overview of perceptions on Soweto.

Table 2: Qualitative data

Home is…	Percentage stating similar views in interview	Percentage stating opposite views in interview	Percentage doing neither
Family	**100 %** *"It's full of silly children (laughs). My grandchildren."* Cameriae, F, 76		
Community	**100 %** *"If I need food for example, I can go to my neighbor. One, she was here. She give me food, because I am not working."* Cynthia, 39, F		
Respect	**40 %** *"(…) I love the respect, I love how we all know whose older, whose not, whose the youngest and then, we still respect each other."* Momaagi, F, 30		60 %
Substance abuse	**60 %** *"A lot of people drink a lot just to, you know, cover up their real problems. I mean, there's not much to around here other than to drink, you know?"* Thabo, M, 23 *"As soon as they get to grade 9, 10, they start doing drugs."* Momaagi, F, 30		40 %
Historical background	**20 %**		80 %

	"Uhm, the struggle that we had from the start, those days, and the peace we are having now. Now it's peaceful, now." Boitumelo, M, 28 (on what makes Soweto home)		
Crime	**40 %** *"Every year we get robbed"* Momaagi, F, 30		60 %
Sports facilities	**20 %** *"(…) I will go to the gym (…) People who go there - sometimes you will go out to other places, gym with other neighborhoods and you get to see other neighborhoods as well, so that I love."* Momaagi, F, 30	**20 %** *"There's not enough sports facilities and places, there's not enough cultural activities, you know?"* Thabo, M, 23	60 %
Cultural activities		**40 %** *"(…)I think, if we had more of those other cultures, where they have dramas and things like that, I think then it would make it better, because they would have something recreational to do, better than doing drugs."* Momaagi, F, 30	60 %
Material surroundings	**20 %** *"Our houses are small ma'am. Too small."* Cynthia, F, 39	**40 %** *"(…) as much as the houses are very small and everything, but everyone seems to know each other and there's just like a nice*	40 %

		friendly kind of atmosphere here." Thabo, M, 23	
Ambitions		**40** % *"No one really knows what they want, I don't know what is changed, but there's no ambition"* Momaagi, F, 30	60 %
Opportunities		**40 %** *"(…)most youth here, they don't work. Most of them just drop out, they are drop-outs. Just to create more jobs and more opportunities."* Boitumelo, M, 28	60 %

As Table 2 suggests, all of the research participants had family in Soweto and thought there was a local community. Moreover, some research participants mentioned that there was a lot of respect for one another. Concerns voiced included substance abuse, crime, lack of cultural activities, as well as lack of opportunities and ambitions. Perceptions on the material surroundings were divided.

3.3.3 Presentation of data collected using design research methods

The data collection applying design research methods were divided into three: A photo, drawings and a graphic survey.

3.3.3.1 Photographs

Initially, research participants were asked to show something they had on them which reminded them of home. The results are shown below:

Boisy, M, 31 showing respectively a tattoo; Mathapelo, F, 60 showing an outfit, Chantelle, F, 24 showing a complexion

Ali, M, 27 showing a hairstyle, Khotso, M, 30 showing a sweater

As these photos illustrate, research participants both considered physical features as well as physical possessions to be associated with home.

3.3.3.2 Drawings

Next, the research participants were asked to draw two drawings. One showing what they liked about their home and one showing what they would like to have there, but which was not there yet.

Boisy, M, 31: Respectively what he has and what he would like to have
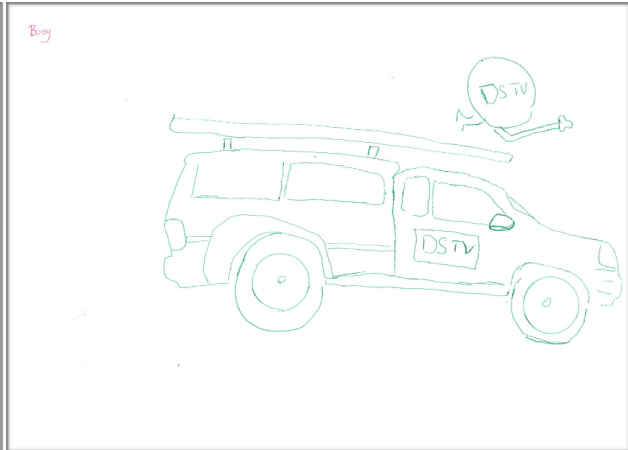
Drawing 1   Drawing 2

Drawing 1 depicts a man with a bottle doing the thumbs up signal, a female and a car. Drawing 2 depicts a DSTV TV services car.

Mathapelo, F, 60: Respectively what she has and what she would like to have
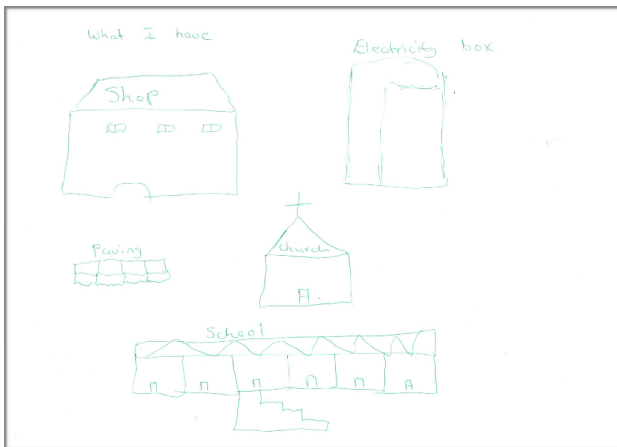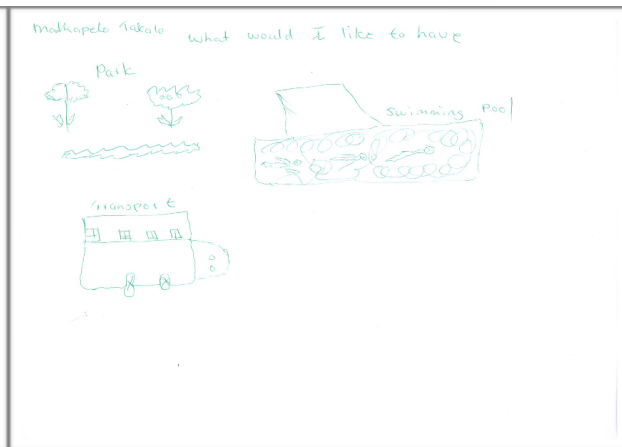
Drawing 1   Drawing 2

Drawing 1 depicts a shop, an electricity box, paving, a church and a school. Drawing 2 depicts a park, transportation and a swimming pool.

Chantelle, F, 24: Respectively what she has and what she would like to have
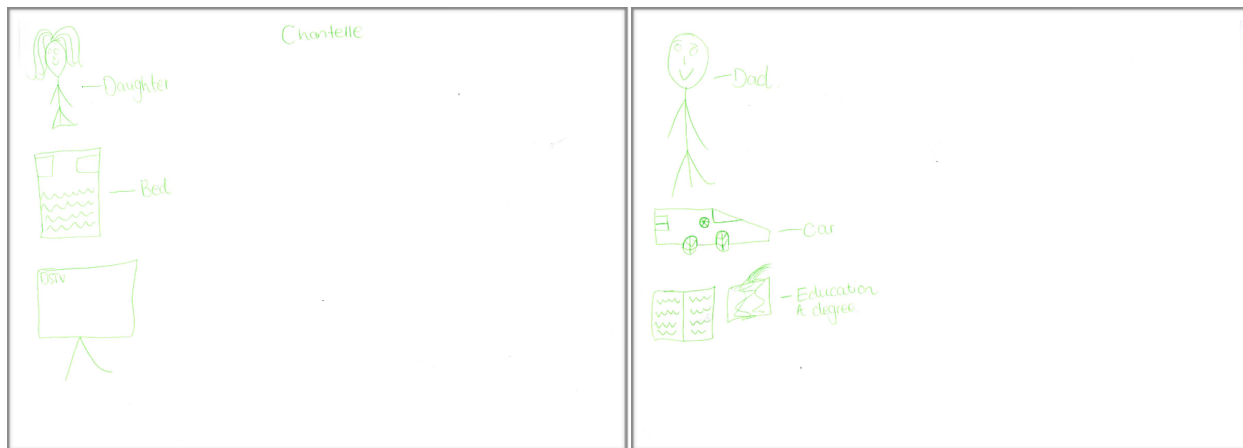
Drawing 1   Drawing 2

Drawing 1 depicts a daughter, bed and DSTV tv services. Drawing 2 depicts a father, a car and education.

Ali, M, 27: Respectively what he has and what he would like to have
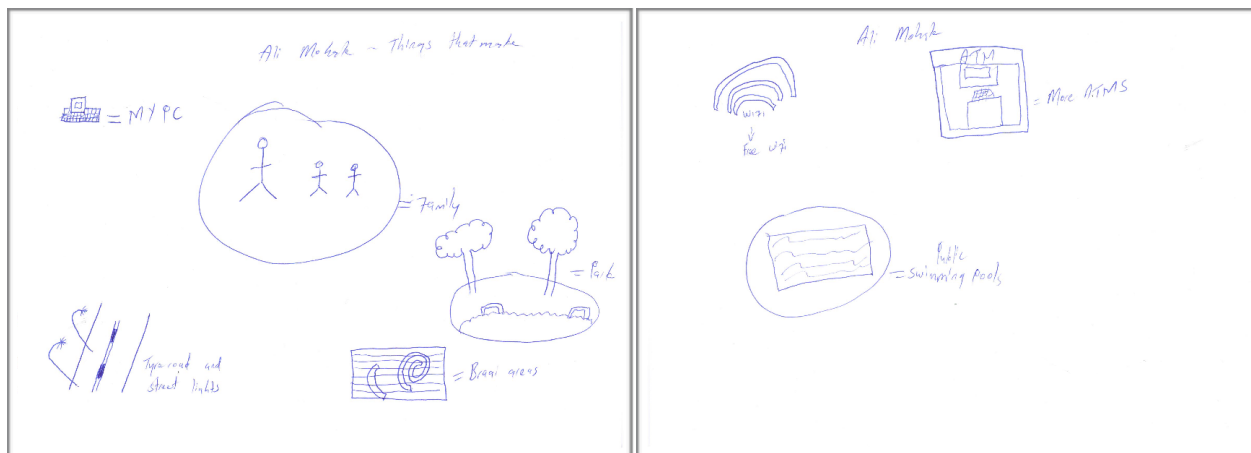
Drawing 1   Drawing 2

Drawing 1 depicts a PC, family, a park, braai (South African for barbeque) areas and tyre roads (ed. note: potentially pavement) and street lights. Drawing 2 depicts free Wi-Fi, more ATMs and a public swimming pool.

Khotso, M, 33: Respectively what he has and what he would like to have
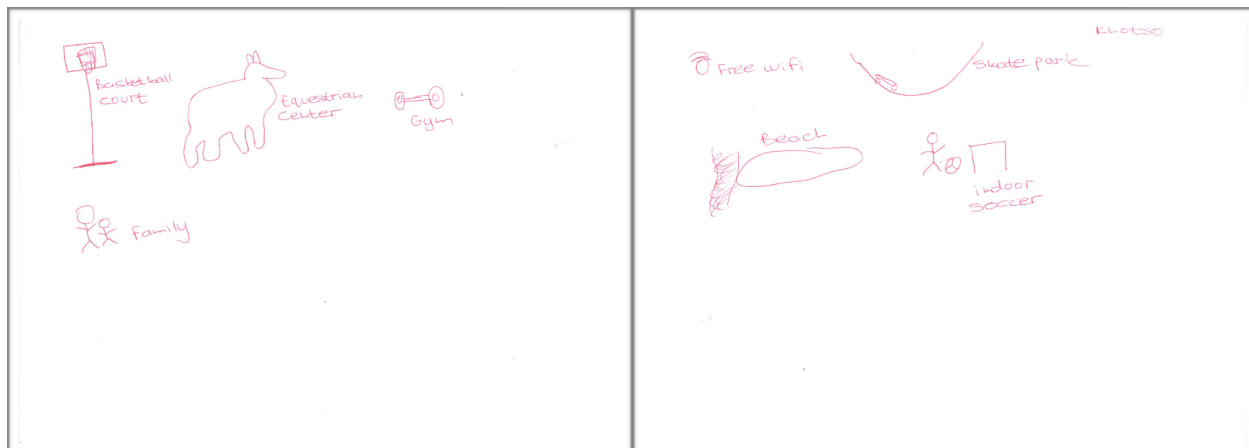
Drawing 1   Drawing 2

Drawing 1 depicts a basketball court, an equestrian center, a gym and family. Drawing 2 depicts free Wi-Fi, a skate park, a beach and indoor soccer.

Overall, the research participants appreciated the people in the life, basic infrastructure such as electricity and paving and any non-basic good they may own or have access to. The items they were requesting were majorly related to objects created from a structural level such as transport, education, internet and more public spaces.

3.3.3.3 Graphic survey

The graphic survey asked research participants to circle symbols they associated with home. Please find the graphic survey as shown to the research participants in Appendix 2. Below are the results of the survey:

Table 3: Results from the graphic survey

Graphic	Percentage of research participants circling the symbol
Doll on strings	20 %
African woman	20 %
Toddler sleeping with teddy bear	60 %
Cross tunnel	20 %
Man standing alone	20 %
Graffiti	20 %
Mansion	60 %
Balloon	20 %

Beggar	40 %
Birds leaving the cage	60 %
Modern architecture (Soweto Theatre)	40 %
Mouth mounted	0 %
South African nature	40 %
Slum	80 %
Shadow of man with knife	60 %
People holding hands	40 %
Gold barres	20 %
Statue crying	20 %

As evident above, the vast majority identified with the graphic of a slum, with 60% however also identifying with the picture of a mansion. Other common symbols were the toddler sleeping with a teddy bear, birds leaving the cage and the shadow of a man with a knife.

3.4 Empirical data findings for the overall research question

Comparing the data from the different types of data collection, it is clear that there is a major difference between the outputs given from each type of data collection. Table 4 below summarizes the differences:

Table 4: Empirical data comparison

	Survey	Interview	User-centered tool	Generative tool	Probe
Type of data	Survey responses	Quotes	Photos	Drawings	Survey responses
Positive perceptions of home	Majority happy staying there, family and friends in Soweto, uniqueness, feeling attached, cheapest accommodation in the short-term perspective, haven't had any bad incidents.	Family, community, respect, material surroundings (partially), helping each other, perspective (historical and on those poorer), parties, going on		Man with bottle and thumbs up, a female, a car. Shop, electricity box, paving, church, school. Daughter, bed, DSTV (tv	Mansion, toddler sleeping with teddy bear, birds leaving the cage.

		trips with the gym and meeting people.		services). PC, Family, park, braai barbeque areas, tyre roads and street lights. Basketball court, equestrian center, gym, family	
Negative perceptions of home	Know victims of bad incidents, divided opinions on costs, does not want to stay in Soweto long-term, not involved in building a new community, divided opinions on whether Soweto is developing in a positive direction.	Substance abuse, crime, teenage pregnancies, material surroundings (partially), lack of cultural activities and sports facilities, lack of jobs, opportunities and ambitions, nothing to do, lack of security of housing.		Lack of: DSTV TV services car. Park, transport, public swimming pool. Dad, car, education (degree). Free Wi-Fi, more ATMs, public swimming pool. Free Wi-Fi, skate park, beach, indoor soccer.	Slum, the shadow of a man with a knife.
Neither positive or negative	Grew up in Soweto, spent time building their home.	Being content.	Tattoo, clothes, complexion, hair style, sweater.		

As evident in Table 4, there is a major difference in data complexity, with some data collection generally producing more direct meanings, such as the survey data showing that majority not having been the victim of a bad incident, whereas other types of data collection provide more complex data, such as user-centered tools presenting data such as clothes. Whereas many themes reappear in the different data samples, there are also

major differences in the data sets. For instance, whereas both the survey, interview and generative tools found an association between home and family, only the user-centered tool identified physical features as an association with home, and only probes associated home with a picture of birds flying away. Looking at the negative aspects, the interview identified a need for more cultural activities and sports facilities, with generative tools then supplementing this through concrete suggestions of what residents would like to have. In the analysis and discussion chapter, I will delve deeper into the discussion of my findings, but the overall empirical data results are that the data is complementary with design research methods providing additional insights and suggestions.

### 3.5 Overall conclusion for empirical section

Combined, the primary and secondary data paints a picture of Soweto as place, where many basic requirements for a neighborhood such as education, electricity and infrastructure remain unfulfilled. What the primary data provides in terms of new information is the strong feeling of community and the appreciation of even basic goods such as electricity. The data seem to suggest that people generally wish for more public spaces, leisure time activities, educational opportunities and job opportunities. On the other hand, people do not seem to be as troubled by their living conditions as I as a researcher would expect.

4.0 Methods section

4.1 Introduction

Below, I will enter a discussion and reflection of the use of methods within the thesis, hence providing readers with an understanding of any limitations of the research work as well as the overall reliability and validity of the work (Rampino, 2012). As the focus of the thesis is the study of the potential benefits associated using design research methods in social science research, the reflections within this chapter are of particular importance to the final conclusion of the study. In order to answer the research question, a study is conducted which evaluates the potential benefits of using design research methods as a part of social science research. Hence, the thesis also has an internal research question in the form of the question "what is home to you?", which is answered with the purpose of answering the overall research question. Where necessary, I have therefore included separate methodological reflections for each of the research questions.

Furthermore, a methodological reflection is perhaps especially salient as the thesis is concentrated on design - a study area considered by some to be a form of art rather than a science (Rampino, 2012; Borja de Mozota, 2003). This thesis acknowledges design as both an art form and a science, but focuses on the methodology as it is used in design research.

Figure 1: The research onion diagram
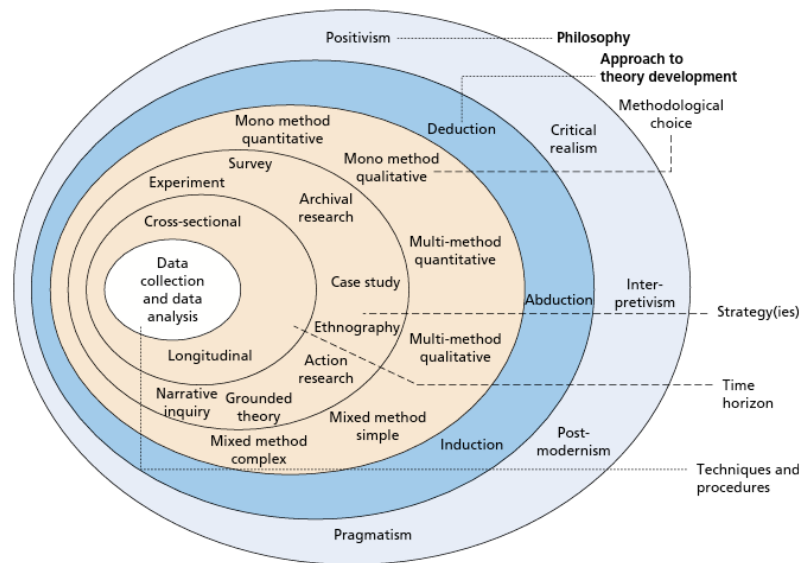
Source: (Saunders, Lewis & Thornhill, 2016, p. 124)

In order to provide the reader with a clear overview of my reflections, I have chosen to structure this part through the application of the onion model as suggested by Saunders, Lewis & Thornhill (2016, p. 124). As evident above, my methodological reflections have been divided into the areas: research philosophy, approach to theory development, methodological choice, research strategy, time horizons and techniques and procedures (Saunders, Lewis & Thornhill, 2016, p. 124).

4.2 Research philosophy

The research philosophy is focused on the values and assumptions a researcher has, which may affect the way research is conducted as well as the final result and is a crucial part of validating a given piece of research. (Saunders, Lewis, & Thornhill, 2016)

Saunders, Lewis and Thornhill (2016, p. 137) differentiates between five major research philosophies: i) positivism, ii) critical realism, iii) interpretivism, iv) postmodernism and v) pragmatism. This thesis has been shaped by an interpretivist research philosophy in both research questions as I as a researcher perceive reality to be complex, but that design research methods may help us understand subjective perceptions of the truth

(Saunders, Lewis, & Thornhill, 2016). Going back to Kuhn's (1962) paradigm theory introduced in the theory chapter, the study would qualify as a study within the hermeneutic paradigm, with an overall focus on how to enhance the researcher's understanding and thereby the overall validity of a study (Nygaard, 2012).

There are three overall elements within a research philosophy: i) the ontology, ii) the epistemology and iii) the axiology (Saunders, Lewis & Thornhill, 2016, p. 124). The ontology describes the assumptions a researcher makes about reality (Saunders, Lewis & Thornhill, 2016). As an interpretivist, reality is considered to be complex, since there are many interpretations of a given reality (Saunders, Lewis & Thornhill, 2016). As a result, the epistemology, or assumptions made by the researcher on the definition of acceptable knowledge, is focused on the research bringing forward new perceptions (Saunders, Lewis & Thornhill, 2016). This fits my overall research question, which was focused on exploring potentially missed opportunities within social science, as well as my internal research question, which I answered using mixed methods and which I designed to in many places actively oppose my own biases.

Finally, axiology is the reflections of values and beliefs of the researcher, which could affect her research (Saunders, Lewis & Thornhill, 2016). Given that I am looking to bring forward other people's understanding, a large part on my research is based on my interpretations of my test subjects' worldviews (Saunders, Lewis & Thornhill, 2016). My values and beliefs are therefore to a high extent evident throughout my research, which makes it crucial to reflect over their impact (Saunders, Lewis & Thornhill, 2016).

Axiological considerations of relevance include that my academic background is from a business school and that I was living in South Africa, the location of the case study, throughout most of the thesis writing period. My academic background as a master student in social science at a business school may be an obstacle toward doing design research, as this is not what I am trained in and may furthermore bring along limitations to my abilities to perform valid social science research from a perspective other than the private sector perspective. In order to limit the meaning of my background, I have chosen a case study, which could be a part of a market survey for a company, hence the corporate perspective is also relevant. Furthermore, I have taken on a number of readings in order to gain a better understanding of the diversity of both research fields. I do not claim that I as a business student can design and implement a design research process as well as a designer. However, for the purpose of applying the findings of the thesis in a real life scenario, I find that the results understood and created by a student of my background may prove useful in understanding how design research methods can be applied by others than design researchers. In terms of the fact that I lived in the country of the case study, this may potentially affect the way I perceive something differently than someone who has not lived in South Africa. In

order to limit the impact of my personal experience with South Africa, I have designed my data collection methods to include things that are opposite to my biases and have been very reflective about my own interpretations.

4.3 Approaches to theory development

Overall, researchers use one of three ways of reasoning to develop their research: i) deductive, in which you build your research strategy on existing theory in order to test it on a specific phenomenon; ii) inductive where you collect data and generate theory based on that, and iii) abductive, where you aim to generate plausible theory on how a given phenomenon might have occurred, hence abduction combines deductive and inductive reasoning is combined (Suddaby, 2006; Saunders, Lewis, & Thornhill, 2016). Reflections of theory development are salient, as they help the researcher design a study in a way, which suits her reasoning the best and which is aware of any shortfalls of her reasoning (Easterby-Smith, 2012). This study makes use of inductive reasoning, which is also the norm as an interpretivist, as it is generating insights based on the empirical data (Saunders, Lewis, & Thornhill, 2016).

4.4 Methodological choice

My research philosophy and way of reasoning also affect how my study has been designed, including the methodological choices (Saunders, Lewis, & Thornhill, 2016). Reflections on the design of the study are important, as the choices made throughout the process of designing the study are salient to the final output (Saunders, Lewis, & Thornhill, 2016).

In terms of methodologies, I apply mixed methods, as my aim is to understand if different methods may generate different types of understanding (Saunders, Lewis, & Thornhill, 2016). Yet, the majority of the methods used are qualitative, which fits with the interpretivist research philosophy (Saunders, Lewis, & Thornhill, 2016).

There are different ways to combine methods, as they can be applied concurrently, that is separately within the same phase of data collection and analysis; sequentially, with methods being applied separately over several phases of data collection and analysis; or embedded, meaning one type of methods is embedded directly in the other in the same data collection process (Saunders, Lewis & Thornhill, 2016). My research uses concurrent method as the data was collected around the same time, which allows for triangulation (Saunders, Lewis & Thornhill, 2016).

4.5 Research strategy

Another major element of the research design is the strategy behind the research (Saunders, Lewis & Thornhill, 2016). Both research questions are exploratory as I am exploring i) potential benefits of adding design research methods to social science research and ii) what home is to a given population.

The research strategy, or plan of the research linking methods with research philosophy, is a case study. A case study is the study of a phenomenon and the dynamics and structures surrounding it in real-life while determining the boundaries associated with the case in question (Eisenhardt K. M., 1989; Eisenhardt & Graebner, 2007; Flyvberg, 2011; Yin, 2014). The case study puts a larger role on context than other types of research strategies and is frequently used when it is difficult to distinguish a phenomenon from its context (Yin, 2014). A study can include one or several case studies, with this research focused on one case study (Yin, 2014). Furthermore, it can focus on the phenomenon as an overall unit or divided into different units, with this study focusing on an overall, holistic case study (Yin, 2014). As in this research paper, a case study often applies mixed methods (Saunders, Lewis & Thornhill, 2016). Furthermore, a case study may include elements from other research strategies, which is also evident in this study, as it includes elements of an interpretive ethnological research strategy for the internal research question (Saunders, Lewis & Thornhill, 2016). The elements from the interpretive ethnological research strategy are evident as I am trying to understand the perceptions of people in a specific location and have a focus on their meaning-making (Saunders, Lewis & Thornhill, 2016).

4.6 Time horizons

A study may take on either a cross-sectional time horizon providing details of the studied phenomenon at the given time or a longitudinal time horizon providing details on development over time (Saunders, Lewis, & Thornhill, 2016). This paper takes on a cross-sectional time horizon, which has been chosen for several reasons (Saunders, Lewis, & Thornhill, 2016). First, the pre-defined time period of the thesis limits the opportunities for a longitudinal time horizon. Furthermore, the location of the case study, in a remote, unsafe area at a different continent would have created several obstacles to a longitudinal study. Finally, with the main focus of the thesis being to study the potential complementarity of methods, a long-term time perspective becomes less important to the study. As a result, the main disadvantage to using a cross-sectional time horizon, the potential impact of external factors, becomes less relevant to this study (Saunders, Lewis, & Thornhill, 2016).

4.7 Techniques & procedures

As my research question focused on testing the potential benefits of adding one type of methods to a different kind of research, I decided early on that the analysis should have two layers, with one providing an exercise

ground for me to test my overall research question. I decided to do a mixture of quantitative and qualitative social science research methods along with three different types of design research methods to gain a broader perspective of the potential benefits. I also decided to formulate a research question, which would be applicable in both social science and design research.

Using the three methods, I engaged in data collection for my internal research question in Soweto. Given that I was in a very poor neighborhood, where many live for less than $1 a day and are in desperate circumstances, I decided to offer a small reward of R50 (approx. DKK23 or $3) or bottles of mineral water in order to get them motivated to answer my questions as well as a token of my gratitude. Furthermore, due to the location of my case study, I decided to hire a local companion, who primarily functioned as a bodyguard and a driver. Given his role as a resident in a community in which I was an outsider, he was also able to assist with establishing contact to the locals I wanted to talk to and translating words for my participants when needed.

I aimed to get a similar representation of participants for each type of data collection. Below, please find the statistics on the participants, based on gender and age brackets.

Table 5: Gender of participants

	Number of female participants	Female participants in percentage	Number of male participants	Male participants in percentage
Survey	3	60 %	2	40 %
Interview	3	60 %	2	40 %
Design	2	40 %	3	60 %
Total	**8**	**53,3 %**	**7**	**46,7 %**

As seen above, the gender divide is split as equally as possible with an unequal number of total participants. The split is 8 females and 7 males participating in the data collection. When establishing contact with potential participants, I always offered them the options of the three different methods. An interesting observation was that most of the women approached explicitly stated that they did not want to participate in the design research data collection given that they had to draw. Moreover, most of the approached women immediately choose an interview as something they would like to do. On the other hand, the approached males were much less opposed to the idea of drawing and a few even seemed to prefer the design research method data collection to the other

methods available.

Table 6: Age brackets of participants

	Age 20-29 (number)	Age 20-29 (percentage)	Age 30-39 (number)	Age 30-39 (percentage)	Age 55+(number)	Age 55+(percentage)
Survey	2	40 %	2	40 %	1	20 %
Interview	2	40 %	2	40 %	1	20 %
Design	2	40 %	2	40 %	1	20 %
Total	**6**	**40 %**	**6**	**40 %**	**3**	**20 %**

I decided to focus my research on three age groups: An equal number of people in their twenties and thirties because I assumed these were most likely to not have put down roots yet or only recently have put down roots in Soweto; as well as a smaller percentage of people age 55 and above, as these had more experience with Soweto during apartheid days and may therefore think differently.

4.7.1 The survey

Quantitative methods were used in the form of a survey constituting of 17 statements to which research participants should rank their level of agreeableness. Demographic information on the research participants may be found in Tables 5 & 6. The survey may be found in Table 1.

A benefit of the survey method was that research participants were generally much less disturbed by others than in the other forms of data collection, which might increase reliability of their answers. They generally also answered faster, which could indicate them sharing their initial thoughts, but could also indicate lacking reflection. A strong drawback to the survey method was, however, the evident language barrier. Several survey participants would ask for word explanations and in a few cases, my local companion even had to translate words into local language in order for them to understand the meaning. This was of course an issue, as I do not understand the Southern African tribe languages and therefore cannot be certain of the accuracy of his translations. Furthermore, I cannot be sure that all participants felt comfortable voicing when they did not understand the meaning of something, meaning that the error margin might potentially be larger than anticipated. Another drawback of the survey is how it fails to gain a more detailed understanding of the participants' responses, hence creating a potential threat of priming research participants to cross the 'appropriate' answer.

4.7.2 The interview

To elaborate on my quantitative findings, I also included qualitative methods in my social science research in the form of structured interviews. The interviews were between 4 and 8 minutes long and participants were chosen under the same circumstances and from the same requirements as is described above in the survey part. Again, demographic information can be found in Table 5 and 6.

Given that I did not know the research participants prior to interviewing them, I did not have the opportunity to prepare individual questions. Instead, I had written a list of general questions beforehand, which were focused on gaining an understanding of how the research participants perceive home. The qualitative methods were beneficial in that they provided a better platform for understanding each other, as I could ask follow up questions. Furthermore, asking questions face to face made it easier to detect when research participants struggled to understand my language, which diminished the language barrier. The main disadvantage from the qualitative interview was that it was difficult to prevent family members and friends from listening and sometimes even disrupting the interviews. Furthermore, it was, if not a disadvantage, then an interesting factor that people were very descriptive when answering the questions.

4.7.3 The design research methods

The design research methods combined several types of design research in order to give a more valid picture of the potential benefits and downfalls of applying this methodology. The types of design research included in this research were user-centered design, generative design research and probes in the form of a graphic survey.

The first part of the design research data collection was focused on user-centered design research. Here, research participants were asked to identify something on them, whether of their physical appearance or an item, they had on them, which reminded them of their Soweto home, which I as a researcher then photographed. Since I was taking the photo and given that I was trying to learn about them and their culture, this would classify as user-centered design research (Sanders, 2006).

The second part of the design research process made use of participatory design through generative tools, in which research participants were asked to draw things they like about their home on one page and then make a drawing of things they would like to have at their home. This is arguably participatory design, as research participants are invited to freely share their ideas on how to improve their home using generative tools (Sleeswijk Visser, Stappers, van der Lugt, & Sanders, 2005).

The third and final part of the design research process was focused on the symbolic meaning of graphics. In the form of a survey of graphics, participants were asked to circle the graphics, they felt represented feelings about their home. This is arguably a probe, as I as a researcher had designed something I wanted their reaction of. I deliberately chose to include polar opposites to minimize my own biases (Gaver, Dunne, & Pacenti, 1999). Furthermore, I aimed to pick images, which I considered to have more of a universal meaning, although in my analysis chapter I did identify an example of a photo of a toddler with a teddy bear, which I assumed to symbolize calmness and peace, but which may to others symbolize childhood or family.

When developing the methods for use in my research, it became very clear to me that many of the methods may belong in more than one 'field' of design research methods, supporting the argument that these different fields may indeed be highly compatible (Hanington, 2007). For instance, the photo could arguably also have been considered a probe, if the objective had been different. Overall reflections on design research methods benefits will be provided in the discussion section, but what was evident during the data collection was that design research methods allowed research participants to exemplify their perceptions and to express themselves with less disturbance than in the interview. It also decreased language barriers by presenting a more visual language, but given the symbol interpretation, it may in turn have increased cultural barriers. The main downside to these methods were the outputs, which were far more complex and difficult to interpret than the data from the social science research methods.

4.7.4 The analysis of the methodology findings

In order to answer my overall research question, I applied the same framework to both the social science research data and the design research data. Then, I engaged in an analysis of the differences between these two types of data, followed by a discussion of the potential benefits and challenges of adding design research methods to social science research.

4.8 Other methodological reflections

Aside from the elements of the research onion, I have decided to also include reflections over two other aspects of my research design: the ethics of my research as well as the reliability and validity of my research (Saunders, Lewis, & Thornhill, 2016). These reflections are elaborated below.

4.8.1 Ethical reflections

When engaging in data collection in a poverty-struck neighborhood, it is perhaps especially important to reflect

over the ethics of the research project. Overall, Schüklenk (2000) argues that power imbalances between researchers and the participants of their study is a regular occurrence in research. In South Africa, lacking literacy skills, unmet basic needs and a strong authority acceptance makes for some of the challenges faced by researchers (Louw & Delport, 2006). As a result, I have had to ask myself how to conduct my research in the most ethically suitable way.

The Nuffield Council of Bioethics (n.d.) provides four principles on how to conduct research in developing countries in a ethical way. Although meant for researchers within the field of healthcare, Louw & Delport (2006) argues that the principles can also be applied in social science research. The Nuffield Council of Bioethics duties for the researcher in developing countries are focused on suffering alleviation, showing respect, awareness of cultural differences and avoiding exploitation of research participants ((Nuffield Council on Bioethics, n.d.). As these are very general principles, I used them in the design of my study to the extent possible.

The duty of alleviating suffering is clearly targeted at medical research. As a social science researcher, I may not be able to help with suffering in a similar manner. However, what I decided to do, was to clearly define a research question, which would allow my research to potentially assist in alleviating suffering by investigating how to improve the living surroundings for township residents.

The second duty of showing respect was embedded in several phases of the research. In the design of my data collection methods, I tried my best not to prime my research participants' perception of something, e.g. by asking broad questions in the qualitative data collection or designing options directly opposed to my assumptions for the quantitative data collection.

The duty of showing respect was however even more crucial when I was in the field doing my research. In order to diminish the potential power imbalance between myself and the research participants, including me being perceived as a figure of authority, I decided to dress modestly and approach potential research participants walking rather than from a car.

Furthermore, when approaching a potential research participant, I made sure to not only inform them of my research, but, perhaps more importantly, I described the three different types of data collection I was doing before asking them if they would like to participate in either kind of research. My objective with giving them a choice was to make them feel involved in the research project and increase their motivation to help me with my project, as they themselves had chosen what they wanted to do.

Finally, when receiving replies from research participants, I made sure to respect their views and not challenge them. As is clear in the transcripts of my interviews attached, many of the research participants did not consider themselves poor, in spite of how they might hold up to international standards. This was also clear in their lexical choices, wherein many referred to their small shack as a "house" or to different parts of the shack as "rooms" in spite of being in the same room.

The next principle, the duty of being aware of cultural differences is in the case of South Africa very much related to the importance of showing respect, due to the past divide of cultures in the country (Nuffield Council on Bioethics, n.d.). Yet, an element in my research design, which was directly focused on respecting and being aware of local culture, was the involvement of a local companion. According to Nama & Swartz (2002), the only way researchers successfully can conduct studies on low-income households in South Africa today is through the use of an assessor due to the common perception of white researchers exploiting the locals. An assessor is a local with the ability to introduce and establish credibility about a project in a local community (Nama & Swartz, 2002, p. 289). My experiences also suggested the idea that hiring a local companion helped establish credibility, as it was relatively easy for me to find research participants.

The final duty of not exploiting the research participants was perhaps the most challenging to live up to, since participating in my research would not provide any immediate benefits to them and given the previously described challenges of researching in a South African township, they might feel obliged to participate. The decision to compensate my research participants in order to give them something in return is arguably controversial from an ethical perspective. Compensating participants living in poverty can be considered disrespectful or unjust and highlight the unequal relation between the researcher and research participant (Ansell, 2001; (Louw & Delport, 2006; Ansell, 2001). Moreover, compensation may have an impact on the motivation to participate or the answers provided by research participants (Meth & Malaza, 2003). On the other hand, one could argue that the power relation has been established already regardless of compensation, and that compensation is a way ensure that research participants, who take time to help with a research project, at least get a small benefit out of it in the form of a compensation (Meth & Malaza, 2003). Given the latter arguments by Meth & Malaza (2003) and the historical context of the case as previously described, I decided to compensate my research participants in order to show my appreciation for their help. In order for the compensation to have as little an influence as possible for the data collection, I did not mention any compensation upfront and discreetly rewarded them after the data collection to avoid attracting potential research participants, whose only motivation might be the compensation.

4.8.2 Reliability and validity

Another crucial reflection to make on the methodological choices and research design is the validity and reliability of the study and its results (Saunders, Lewis, & Thornhill, 2016). Hesse-Biber (2010) argues that the use of mixed methods may lead to increased validity as the inclusion of qualitative methods increases the level of understanding. Yet, at the same time, reliability is decreased, as the study's usage of different methods makes it more difficult for other researchers to repeat (Hesse-Biber, 2010). In this specific instance of combining social science research methods with design research methods, I would argue that validity overall is increased due to the method and data diversity, which increases the multiplicity of understanding. By adding design research methods to social science research, I as a researcher increased my level of empathy and creativity within the entire research process, which I believe had a positive impact on the validity of my study. The use of iterative processes in design research methods may further increase validity, as it allows for data improvements and elaborations (Barab & Squire, 2004). With the complex nature of design research methods data, the addition of this type of methods might however decrease reliability given the difficulty of reaching similar interpretations. Although few researchers have attempted to create a framework on validity in mixed methods, experts remain skeptical of the frameworks developed thus far (Curry, Nembhard, & Bradley, 2009). As a result, I will consider the reliability and validity of each method separately, with design research methods being classified as qualitative methods.

4.8.2.1 Reliability and validity in quantitative studies

Reliability concerns the degree to which research design can be replicated within the study (internal reliability) and in new studies (external reliability) (Saunders, Lewis, & Thornhill, 2016). The fact that I am working alone could challenge the internal reliability, as I am not forced to replicate an exact research design every time I collect data, the same way I would have if I was a part of a research team and as an individual researcher arguably might be less prone to spotting her own biases and/or errors (Saunders, Lewis & Thornhill, 2016). To make up for my biases, I decided to include statements in the survey, which deliberately were opposed to my expectations. For instance, I did not expect people to work in Soweto, nor did I expect them to not know anyone who had been the victim of a bad incident.

Speaking of the external reliability, the cross-sectional time horizon may affect the reliability of the results due to external factors (Saunders, Lewis, & Thornhill, 2016). Additionally, the choices of a local companion and compensating research participants, as discussed in my ethical reflections, may also have an impact on the answers from my research participants (Meth & Malaza, 2003).

Validity can also be divided into internal and external validity, with internal validity focusing on validating a causal relation between specified variables, and external validity focused on the overall generalizability of a study (Saunders, Lewis & Thornhill, 2016).

Internal validity is mostly used in positivistic, explanatory studies and hence not relevant to elaborate on in this paper (Saunders, Lewis & Thornhill, 2016). Whereas the cross-sectional time horizon could damage the external validity as a result of current circumstances, it could arguably also improve it as research participants were unlikely to experience any major life changing circumstances or withdrawing from the data collection throughout the short time of data collecting.

4.8.2.2 Reliability and validity in qualitative studies

Applying the measurements of reliability and validity used for quantitative methods above in qualitative research provides challenges and may not even be appropriate due to the focus on subjectivity and creativity in qualitative studies (Hammersley, 1992; Johnson, 1999). As reliability is arguably impossible to achieve in a qualitative study, which involves the subjective mind of the researcher, I will instead focus on the validity aspects of qualitative research. Whittemore, Chase & Mandle (2001) proposes a different framework for measuring validity in qualitative research divided into the measurements of criteria and techniques. Criteria consists of the standards for validity within qualitative research, with the primary criteria for every qualitative study being: Credibility, authencity, criticality and integrity (Whittemore, Chase & Mandle, 2001, p. 529). These standards should be supported by the relevant secondary criteria, which includes explitcness, vividness, creativity, thoroughness, congruence and sensitivity (Whittemore, Chase & Mandle, 2001, p. 529). At last, the element of techniques prompts the researcher to reflect over the choice of methods and the validity of these methods in this study (Whittemore, Chase, & Mandle, 2001).

Credibility and authenticity focuses on remaining truthful to sources and present them in honest, unbiased ways (Whittemore, Chase, & Mandle, 2001). In order to fulfil this standard, I focused on providing as detailed and descriptive a case study as possible. Furthermore, I did not confront my research participants' lexical words, either during my data collection or afterwards, even when the lexical choices were directly misrepresenting, as mentioned in the paragraph on ethical choices.

Next, criticality and integrity focuses on the researcher's ability to critique her own analysis and identify her own assumptions (Whittemore, Chase, & Mandle, 2001). The choice of using different methods meant that I was

confronted with a number of perspectives and, as a result, made it easier for me to identify and limit biases and assumptions. Furthermore, as I was living in the country of the case study for a year, I was regularly confronted with different perceptions on my case study, with many in my circle of acquaintances having a very negative perception of Soweto and being worried about my research there, whereas drivers, cashiers and others I briefly encountered were generally speaking warmly of the place. These perceptions again increased my level of self-critique and awareness of biases.

In terms of secondary validation criteria, the methodology chapter along with the data included in the appendix provides an explicitness to the work allowing the reader to understand the data behind the interpretation of the author (Whittemore, Chase, & Mandle, 2001). Vividness is to some extent included within the analysis and the case study in the form of detailed descriptions (Whittemore, Chase, & Mandle, 2001). Creativity is evident within the design of data collection methods and the analysis of data, which is aimed to test new ways of collecting data (Whittemore, Chase, & Mandle, 2001). Thoroughness in this study is mainly done through the usage of different methods to gain different data along with a focus on the links between methods and findings (Whittemore, Chase, & Mandle, 2001). I have aimed to make congruence evident both within the thesis as well as in other studies, as made a focus in my discussion (Whittemore, Chase, & Mandle, 2001). Last, sensitivity has been an important part of my study due to my choice of case, which I also reflect over in the ethical reflections. The elements of creativity, thoroughness and sensitivity were particularly relevant in the use of design research methods, given the need to design and adapt the form of the methods, as well as the need to interpret complex data, hence, it could be argued that by adding design research methods to social science research, validity is increased via the increased level of creativity, thoroughness and empathy (Whittemore, Chase, & Mandle, 2001).

Looking into my techniques within qualitative methods, my diverse methodological choices provided a platform for triangulation and allowed for different perspectives to surface (Whittemore, Chase, & Mandle, 2001). Additionally, I included reflections over my research design, methodology and the impact of my own assumptions and biases as a researcher (Whittemore, Chase, & Mandle, 2001). I could, however, have further improved the validity of my techniques by including a larger sample size and providing a higher degree of thick descriptions (Whittemore, Chase, & Mandle, 2001).

4.8.3 Limitations

Before presenting the analysis, I would like to point out the study's limitations. While appropriate for exploring my thesis research question of understanding of design research methods may contribute to social science research, the sample size of 15 research participants may be limited for addressing the internal research question

on what home means to this population. Furthermore, I have made methodological choices, which limits the scope of the thesis. As a result, other methods within social science and within design research methods must be tested as well to gain a better understanding of which methods may work best together. In the description of the case and the analysis, I am limited by the research and data published about Soweto, with data often being aged. The lack of updated data is not ideal, yet serves as a perfect example of the lack of proper focus.

Finally, I would like to note that I as a researcher am limited by my cultural background and lack of local tribe language skills. These limitations may prevent me from identifying potential cultural- or language-bound meanings associated with my data collection. Moreover, as I am studying a different culture than my own, I run the risk of being biased. Reading through the questions developed for my data collection, I realized that some of these questions were biased and work directly to minimize the impact of the biases in my analysis by not over-interpreting. Yet, it might be helpful to look for more information on development in Soweto in studies from researchers with the same cultural background as the research participants.

4.9 Conclusion on methodological reflections

To conclude, this study consists of two research questions, an overall and an internal, which both make use of an interpretivist research philosophy given their attempt to use design research methods to gain a deeper understanding of subjective perceptions (Saunders, Lewis, & Thornhill, 2016). It therefore also falls under the hermeneutic paradigm, aiming to improve the researcher's understanding, with the ontology that reality is complex and the epistemology oriented towards new understandings (Nygaard, 2012). Axiological considerations include my academic background and my previous residency in South Africa, but I have aimed to limit these through the design of methods and secondary source literature. The study uses inductive logic to generate new insights and apply mixed methods concurrently to create triangulation (Saunders, Lewis, & Thornhill, 2016). It has an overall exploratory research strategy focused on a case study (Saunders, Lewis, & Thornhill, 2016). Overall, I find that the validity of the study was enhanced through design research methods, as these effectively increased my creativity, sensitivity and thoroughness (Whittemore, Chase, & Mandle, 2001). Future studies should include other methods within these two types of research.

5.0 Analysis using social science research data
5.1 Introduction

With the methodological considerations in mind, I will now present my findings on in what ways social science research may benefit from the application of design research methods. The analysis is divided into several parts. It will start by introducing the two frameworks I will apply to the analysis of my data in order to determine how

design research methods may add valuable data to an analysis within social science research. Then, findings from the social science data collection will be analyzed and afterwards applied to the two frameworks, following a conclusion. Similarly, I will then introduce findings from design research data collection and apply these to the same frameworks. Finally, a comparison of the data differences and level of complementarity in design research methods and social science research methods will be introduced.

5.2. Frameworks for analysis

In order to interpret the data samples, I have chosen two frameworks to investigate the variety of the data: The social change matrix and the social sustainability framework. These models will be introduced separately below. Following the introduction to the two frameworks, I will reflect over how different types of design researcher might have applied the data before moving on to the actual application of data into the models.

5.2.1 Social change matrix

The first framework I will use to interpret the data samples is the social change matrix - a tool originally developed for researchers to analyze the social aspects of social entrepreneurship. The overall aim of the social change matrix is to identify the social aspects of a given challenge in order to understand which to target to solve the challenge of a given societal problem (Barinaga, 2012). Hence, I find it is a strong model to use for the purpose of investigating the insights generated by different research methods, as it is attempting to understand societal problems from different perspectives, even if it was originally created for the study of social entrepreneurship.

Figure 2: Social change matrix
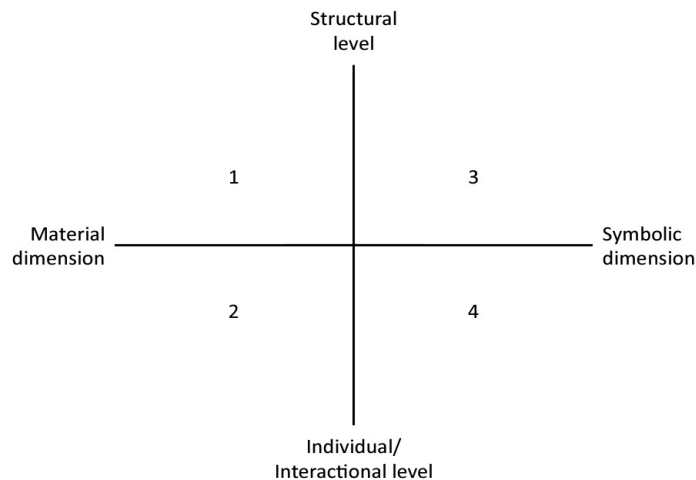
According to Barinaga (2012), the sociological theory on how society is organized is a good starting point for understanding these social aspects. She points to the two distinct perspectives within sociology of objectivism and subjectivism and claims that one must take both into account (Barinaga, 2012). Hence, the vertical line in the matrix, which distinguishes between the structural level and the individual/interactional level (Barinaga, 2012). The structural level studies the overall social structures in society and how these define the behavior of people, as seen in e.g. structural functionalism and marxism (Barinaga, 2012). On the other hand, the individual/interactional level, known from phenomenology and ethnomethodology, focuses on the individual construction of the world and the individual's interactions with others (Barinaga, 2012). Furthermore, Barinaga (2012) argues for the inclusion of a horizontal line, which distinguishes between a material and a symbolic dimension of a given societal challenge. The material dimension is understood as reality in its material manifestation, whereas the symbolic dimension are the assumptions or symbols connected to a given material manifestation (Barinaga, 2012). Together, these four dimension present an interesting framework to test different methods upon, as each dimension brings forward its own kind of assumptions (Barinaga, 2012).

5.2.2 Social sustainability framework

In order to gain a richer basis for comparison of the different research methods, I have chosen to include the social sustainability framework by the Young Foundation (2011) in my analysis. Whereas the social change matrix has its starting point in sociological theory, the social sustainability framework is more practice-oriented.

Hence, the combination of these two frameworks provide a way for me to strengthen the overall exploration of methods.

The social sustainability framework is focused on creating a sustainable way of well-being in a given place through analyzing the four dimensions: amenities and social infrastructure, social and cultural life, voice and influence and space to grow (Young Foundation, 2001, p. 21). Below, I will elaborate on each dimension.

Amenities and social infrastructure focuses on the local services needed in a town such as public transport, education and retail stores (Young Foundation, 2011). When social infrastructure is not present from the beginning of the establishment of a neighborhood, it can have a negative impact on the establishment of a local community, which may in turn lead to a decrease in general well-being as residents do not feel safe or included (Young Foundation, 2011).

Next, social and cultural life focuses on the creation of relations within the neighborhood (Young Foundation, 2011). Here, the focus is on understanding if there is a local community and of the level and kind of social capital (Putnam, 2000). Research shows that these relations affect everything from health and well-being to residential status and career (Young Foundation, 2011)

Voice and influence focuses on making the local community feel involved in developments within the neighborhood (Young Foundation, 2011). Well-being is proven to be higher in neighborhoods, where residents feel they have influence on the development of their neighborhood (Young Foundation, 2011). Additionally, a failure to recognize the residents as people with an important opinion may lead to resistance and other obstacles for the urban planners (Young Foundation, 2011).

Finally, the space to grow means that the neighborhood has to be able to adapt to the external environment over time (Young Foundation, 2011). This means avoiding any strict planning of what the neighborhood should be in the future and being flexible (Young Foundation, 2011).

5.2 Presentation of findings from the survey

Due to the number of questions within the survey, I have decided to divide the presentation of findings into total findings, gender-based findings and age-based findings. Please see an elaboration of the findings below.

5.2.1 Total findings

As presented in Table 1, all research participants had close ties to Soweto in the form of it being their childhood home and having their friends or family live there. The fact that an additional 80% at least partially agree that they feel attached to Soweto and 100% feeling at least partly that Soweto has something unique to offer, suggests that the research participants have very strong emotional ties to Soweto. This is further backed up by 80% of the participants being at least partially happy to live in Soweto.

Interestingly enough, the perception of Soweto's development is more divided, with 40% partly or completely disagreeing with the statement that their neighborhood is changing towards the better, and 40% partly disagreeing that they are helping to build a new community. As only 40% of residents sees themselves live in Soweto in the long-term future, with another 40% definitely not, it would appear that there is room for improvement in Soweto.

The data does not identify any major obstacles to moving, as 80% states that the number of accommodation options would not prevent them from looking for other options, and that 80% again disagree with the statement that they are working too hard to look for other accommodation. 60% of research participants does however state that they spent time building their home and that they work in Soweto, but considering the unemployment rate in Soweto, the latter statement should be viewed critically.

Looking into safety concerns, the vast majority (80%) state that they have not been the victim of any bad incidents, although 60% know others who have, suggesting lack of perceived safety. Finally, the research participants were asked about their perception of living costs in Soweto compared to other places. Overall, there was a great divide in opinions on whether Soweto was cheap, except for perceived long-term costs on which only 20% disagreed that Soweto had lower costs.

The quantitative data hence suggest that in spite of feeling emotionally attached to Soweto and being overall happy to stay in Soweto, almost half of the research participants were actually thinking of moving, with the same percentage being skeptical of Soweto's development. There appeared to be no major obstacles to finding accommodation elsewhere, although a majority did state they had a job in Soweto and had spent time building their home. Reasons for wanting to move could be found in the majority knowing someone who was the victim of a bad incident or the disagreement on costs, with a fairly high percentage thinking that Soweto was not that cheap.

5.2.3 Total findings for females

Females generally did not reply that they had a job or family and friends in Soweto to the same extent as their male counterparts. This may also explain why only 33% of females stated that they completely agreed with the statement of feeling happy in Soweto, whereas 33% stated they partly agreed and 33% stated they completely disagreed. Only 33% of females did also agree that Soweto is developing to become a better place and no female agreeing that she was helping to build a new community (compared with 40% of total research participants). Overall, then, the responses of the female research participants suggest that they are less happy in Soweto compared to their male counterparts and also less willing to stay in Soweto in the long-term future. This could reflect in the fact that many of them did not have a job in Soweto and that they were skeptical of Soweto improving.

5.2.4 Total findings for males

As opposed to the female participants, the male participants generally were happy staying in Soweto and agreed that they planned to stay there in the long-term future, hence making their score higher than average. The male participants all had work in Soweto and perceived Soweto as something unique. They felt that they were contributing to building a new community and at least to some extent felt attached to Soweto. Overall, the survey however suggests that males were more likely to be happy to stay in Soweto, feeling they were contributing to the building of a community. Furthermore, they were more likely to work in Soweto and to see themselves live there in the long-term future.

5.2.5 Total findings for age group 1

Age group 1 is defined as survey participants in the age range 20-29 years. Overall, the results indicated that the age group 1 participants were happier to live in Soweto than the average resident, as 100% either completely or partly agreed that they were happy to stay there. 100% of participants also had a job, compared to 40% of all research participants. Remarkably, none of the age group 1 participants had been the victim of a bad incident or knew anyone who had been the victim of a bad incident. To conclude, age group 1 scored higher than average on well-being in the neighborhood, given their indications of safety, happiness and being employed.

5.2.6 Total findings for age group 2

Research participants of age group 2 (30-39 years old) generally felt more attached to Soweto than other research participants, with 100% stating they 'completely agreed' with the statement of feeling attached to the neighborhood compared to 60% in total, yet the same amount of people also stated that they did not want to

stay there long-term and did not feel involved in building a new community. Moreover, 100% of the age group did not have a job in Soweto and had heard of others being victims of bad incidents. Overall, age group 2 participants felt more attached to Soweto than the average respondent, yet had less of a desire to stay in Soweto long-term than other age brackets. They were also less likely to have a job in Soweto and to feel that they were helping to create a community in Soweto.

5.2.7 Total findings for age group 3

Age group 3, which is age 55+, was generally happier in Soweto than the overall responses, with a positive outlook for Soweto's future and feeling involved in building a new community. The age group representative was working, perceived costs to be smaller in Soweto, yet thought there might be cheaper alternatives available. To conclude, age group 3 was happier than average to stay in Soweto and had a more positive perception of Soweto's future than the average respondent. Age group 3 respondents also perceived the costs of staying in Soweto lower than other age groups and to a higher extent than other groups felt involved in building a new community.

5.2.8 Conclusion on survey

To sum up the findings from the survey, the majority of research participants were happy to stay in Soweto. All of the research participants had at least partly grown up in Soweto and the majority felt attached to it as well as considered it unique. Most of the research participants worked in Soweto and had not been the victim of bad incidents, however knew others who had been. In terms of the future direction of Soweto, 40% of the research participants did not want to stay in Soweto long-term and many felt the township was not developing in a good direction. Many also did not feel included in building a new community. Hence, whereas most are fairly comfortable in Soweto now, it appears there is a want amongst many to move away eventually.

5.3 Presentation of findings from the interviews

Having provided a numerical overview of the themes surrounding the perceptions of home as found within the qualitative data collection, this part aims to introduce findings, that is, interpretations of the data from the interviews and thereby elaborate on the data as presented in the empirical chapter. In order to gain an easy overview of the data, I have chosen to organize the qualitative data within themes. The themes are: i) The decision to live there, ii) material surroundings, iii)
what makes it home?, iv) the community, v) professional development, iv) leisure time offerings and vi) perceived challenges.

5.3.1 The decision to stay in Soweto

Clearly, the subject of the decision to stay in Soweto is controversial, as many Soweto residents were forced there by the government during apartheid. However, as apartheid officially ended in 1994, most of the research participants in this data collection were children then and now have an age, where it is interesting to understand why they are still there.

When asking about why they were staying there, a pattern, however, quickly emerged, as all of the research participants were staying due to family reasons. Of the five research participants, the two eldest explained they were staying in Soweto, as they were responsible for the household due to the deaths of respectively their brother and their daughter.

"It's at home. So my brother passed away, 2008, so I am the one responsible here."

Cynthia, F, 39

With the overview of the current situation in Soweto provided in the empirical section in mind, it would appear that some residents have not actively chosen to stay in Soweto, external circumstances have simply made them "responsible" for others, hence making it difficult to consider leaving. It should be noted, however, that the younger research participants were staying in Soweto, either because they were living with their parents or was now a housekeeper. Hence, those living with their parents were more flexible in terms of moving. These statements also pin-point an assumption from the researcher that everyone has the same ability to move, which these statements however contests.

5.3.2 The housing

Referring to Table 2, there appears to be disagreement on the housing, as three of the research participants stated the houses were small, but only one identified it as an issue, which should be addressed.

I'm too old to change and have maybe a big house (…) I don't want to change, I just want to improve a little bit, paint maybe. Just that.

Cameriae, F, 76

As is evident in the sample quote above as well as the two provided in Table 2 on housing, there appears to be different perceptions of the houses, with one wanting a larger home; one seemingly placing more value on the community than on the material dimensions, and one appearing to want things to stay familiar. Overall, though,

the fact that only one fifth requests changes in housing would suggest an overall contentment with the current housing.

5.3.3 What makes it home?

Linked to the final argument above is the fact that almost all research participants associate Soweto with home due to their relations to others in their neighborhood. When being questioned on what makes Soweto feel like home, one stated:

It's the environment you know, living with the people you know, people that you grow up with. See how they succeed, if they do get ahead in life.

Momaagi, F, 30

This statement, alongside the statement on the historical background by Boitumelo in Table 2 suggest there is a feeling of connectivity amongst the residents, as the residents focus on their common history and seeing others succeed. Other statements, such as the statement on family in Table 2 by Cameriae and the one below offer different outlooks on what makes Soweto home:

I feel because of these other people, they don't even have shelter, their teeny houses is so.. I see that I'm better than the others.

Cynthia, 39, F

Cameriae's statement offers a very common explanation for what makes it home - that it is where her family are. Yet, it is interesting with a participant who apparently does not see home as the entire community. The second statement is interesting, since it offers the explanation that it is home, simply because it offers shelter and therefore is more comfortable than where others are staying. This perspective of relativity suggests that this person's main concerns is to have her basic needs met, as she mentions shelter as an argument for it being her home. For a person, whose main concerns are to have her basic needs met, these would have to be fulfilled before any improvements to the neighborhood would have major effects on her well-being and perception of the neighborhood. Overall, residents associate home with their community or with their family. One research participant also acknowledges her home based on it being better than not having a shelter, suggesting that she is focused on her basic needs.

5.3.4 The community

All but one of the research participants stated that they are a part of a community. As the example below highlight, community to these people is perceived as a place, where the residents know and helps each other.

(…) I'd wake up in the morning and I'm walking to the shops and at least five people greet me. If ever I'm at the shops and I'm short on some money, they'll give me some. Uhm, I get a lot of lifts so maybe if it's far to walk somewhere and a friend drives past, I can easily stop him and then he'll drop me off somewhere. So yeah, there's some nice community around here, yeah.
Thabo, M, 23

This claim is further supported by Momaagi's comment on respect and Cynthia's comment on community in Table 2. Although these statements suggest the existence of a very close-knit community, in which people help each other, not all research participants feel as strongly about the community feeling.

Uh, I've got very little communication with them. I greet them, it's fine, but you know, I don't just go into their homes if there's no need. I only go there if there's a funeral or a party and I'm invited, but… I don't intrude.
Cameriae, F, 76

This would suggest that in spite of the majority of research participants feeling part of a community, not everyone feels equally involved in the community with this research participant stating that she 'don't intrude'.

5.3.5 Professional development and career opportunities

In terms of professional development and career opportunities, the previously described lack of jobs and a local business is clearly a challenge, as evident in Boitumelo's quote on opportunities in Table 2 as well as in the statement below by Momaagi:

(…) the children that are growing up now are all going to be thugs and our children are going to learn from them and they are also going to be thugs (…)Because you can teach them so much at home but truly speaking, when they get out and they see people, they are always going to think that's the right thing. Very few of them actually go back to home to say okay this is what I was taught to do. Because the surroundings doesn't tell them that.
Momaagi, F, 30

The lack of jobs, according to the research participants, have a large impact on how the youth spend their days, with Momaagi worrying that her kids will become thugs, or criminals, as a result of what they see other children doing. The lack of a well-developed private sector in Soweto is, however, only part of the problem. Judging from the quotes below, it is suggested that children of Soweto are almost also set up to fail, with parents and the educational sector expecting them to aim to become either doctors or lawyers, instead of exposing them to a wider range of career opportunities, so that they instead can aim for something they find interesting and potentially also is easier to achieve.

(…) they don't have the ambition that we used to have. At first, you know, children will tell you "I want to be a doctor, I want to be a lawyer". Nowadays there's nothing like that. No one really knows what they want, I don't know what is changed, but there's no

ambition that we used to have
Momaagi, F, 30

I think, I think because now we all think the same way, we think "oh it's either I want to be a lawyer or a doctor" or I mean, we don't think of arts as career paths, you know? So I think that will actually open people's eyes to more avenues that they probably weren't exposed to.
Thabo, 23 M

This brings forward the interesting idea that maybe the youth of Soweto are not necessarily unambitious, instead they are only being exposed to career choices, which, given their lack of funding and schooling, can be almost impossible for them to achieve. To sum it up then, the lack of local business is a major factor in the unemployment levels. However, another factor in the problem appears to be the lack of information on career opportunities.

5.3.6 Leisure time offerings

Taking into account the sample quotes provided in Table 2, the research participants mentioning sports facilities and cultural offerings seem to agree on a lack of cultural offerings, but disagree on the state of sports facilities. According to one research participant's quote on sports facilities in Table 2, she loved to go to the gym, especially when being offered to gym with other neighborhoods. Given her statement, it appeared to be a way for her to explore her geographic area and be social. Another research participant, however, complained about the lack of sports facilities and cultural activities in Table 2. Differences in age and gender may be factors in the perception of whether there are adequate opportunities for sports.

What both of these research participants suggested, however, was a possible correlation between the lack of leisure time activities and substance abuse, as evident below and in Momaagi's quote on cultural offerings in Table 2:

A lot of people drink a lot just to, you know, cover up their real problems. I mean, there's not much to do around here other than to drink, you know?
Thabo, 23 M

Overall, then, whereas there are different opinions on the number of sports facilities, there appears to be a need for more cultural activities, with plays being specified as an option. Furthermore, the statements suggest a potential correlation between substance abuse and lack of leisure time activities.

5.3.7 Perceived challenges

This section focuses on some of the specific challenges the research participants mentioned during their

interview. The challenges addressed are crime, substance abuse, teenage pregnancy and contentment.

Every year we get robbed (…) you can't even live in your house, you can't even leave and not have someone in the house because you don't know what's going to happen.
Momaagi, F, 30

Momaagi was the only of the research participants to clearly state crime as an issue. However, her statement on crime seems to suggest that she does not feel safe in her neighborhood, as she is even afraid to live in and to leave her home.

There are some, like, uhm people taking drugs. Yeah, we can change that. Uhm, what else? Teenage pregnancy, yeah. Boitumelo, M, 28 (On what he would like to change)

Instead of having to drink all day like I was telling you about. Rather go do something else outside of Soweto.
Thabo, 23 M

As was also mentioned in the part on leisure time activities, the lack of activities seems to be a salient factor in substance abuse within the neighborhood, and given the various statements identifying it, it appears to be a problem which troubles a number of Sowetans.

I wouldn't like to change the neighbourhood. It suits me fine (…) Uh, I don't think there's much I like about it. It's just that, you know, I'm used to it.
Cameriae, F, 76

Finally, I included the above citation as an illustration of how some residents may be content with what is familiar even though they dislike it and may then prefer the familiar, but disliked over changes.

To sum it up, the challenges that a given development should address include crime, drugs and contentment with what is unappreciated, according to the research participants.

5.3.8 Future expectations

The future expectations, or where they think, they will stay years from now, varies a lot from person to person. As evident below, there does not appear to be a relation between age or gender and whether the research participants wish to stay in Soweto.

I don't think at this age I'll move (…) Because I have lost my daughter already here. So I don't think I really can move. Even if I- I lose them all, I think, I'm okay. I'm used to the people here and they're used to me.
Cameriae, F, 76

Q: Okay, alright. And if you couldn't stay here, where would you like to stay?
A: Like Maboneng, I would like to go there. But it's fine here, ne? I would rather stay here.
Q: Okay, but you would rather stay here?
A: Yeah, that's where my aunt and sisters are and everybody around me I grew up with. Yeah, they are here.
Boitumelo, M, 28

The two research participants who state they wish to stay in Soweto do so based on their family and neighbor relations. Furthermore, their statements suggest that they prefer Soweto, because they know it and its people. The statement from Boitumelo is strongly connected to the idea of a community or, as he says "everybody around me". That he uses Maboneng as an example of where to go is perhaps particularly interesting, as that was one of the options I thought of as preferable to Soweto, given the low-income neighborhood's central location.

But I am planning to leave eventually, let's say, if I get a stable job, I wouldn't mind leaving because I'm not happy about the surrounding. I don't want my kids to grow up here, so…
Momaagi, F, 30

I wouldn't mind staying in Soweto, but for me, I think I want to move out of Soweto, because I think I can do more business outside of Soweto.
Thabo, M, 23

On the other hand, the people who wish to leave, appear to do so due to external factors, not seeing Soweto as an environment to raise kids in or to start a career in. Thabo's statement, especially, is very straight-forward. He sees the career opportunities outside of Soweto and is willing to move for them. Later on in the interview, he, however brings forward arguments that might make him reconsider staying in Soweto.

(…) we used to have load shedding quite often, but now they said that there wouldn't be any load shedding this winter. So I guess if that carries on and they keep fixing the streets, keep making more cultural and fun events, I think yeah that would definitely make me want to stay.
Thabo, M, 23

It appears that the previously mentioned challenges of lacking basic infrastructure and an insufficient amount of cultural initiatives could actually be enough to make someone with ambitions such as Thabo decide to settle in Soweto, again something worth noting in the future urban planning of the city. To sum up the findings, there appear to be a divide between the people who want to stay in Soweto due to social relations and the people who want to leave in order to have the best future prospects.

5.3.9 Conclusion

The interviews gave an insight in why people were staying in Soweto, with all of them doing so because of family relations. All but one felt strongly part of a community, but the majority still wanted to leave eventually due to better opportunities elsewhere. This is related to the lack of jobs and knowledge on career opportunities. The housing itself did not appear to be an issue for most.

5.4 Application of the social change matrix

Having presented my findings generated through the social science research methods, I will now apply the social change matrix to gain an understanding of the perceptions of Soweto as well as understand what might be improved. First, each dimension is analyzed separately, then a conclusion is made based on the findings from each dimension.

5.4.1 Findings related to the material-structural dimension

When viewing the data samples from the material-structural dimension, the lack of a well-functioning local business environment becomes evident. The research participants generally identified lack of jobs and opportunities as challenges within their neighborhood, with two of them even stating that as their main reason for wanting to leave Soweto in the future. Additionally, several of the research participants stated that there was a lack of cultural activities and sports facilities, with drama being mentioned as an activity, they would like to have in Soweto. One also suggested that security was inadequate, and that she did not want to leave her house due to a fear of what might become of it. In the data set, it is, however, suggested, that the material-structural level is currently engaged in enhancing basic necessities such as paved roads and stable electricity as well as cultural activities. The data hence overall suggests that the material-structural dimension has not only failed to successfully address the need for local economic activity and the need for cultural offerings within the neighborhood, but also that Soweto is not perceived to be safe.

5.4.2 Findings related to the material-individual dimension

The identified shortcomings in the material-structural dimension affects the material-individual dimension, as research participants suggests a correlation between crime and the lack of a local business environment, with research participants mentioning lack of ambitions and environmental influences as the reasons for children growing up to become criminals. This, in turn, leads some to feel insecure about leaving their home due to fears of crime. Moreover, the material-individual dimension is affected by the lack of cultural offerings, seeing as there is "(…) *not much to do around here other than to drink*", as one research participant puts it. On a positive note, research participants did not seem to mind their housing standards very much, with only one research participant wishing for a bigger home. This could of course be due to research participants associating familiarity with contentment,

but it could also be due to them placing higher value on other aspects of Soweto. Overall, the data suggests that Soweto is perceived as a place with limited leisure time offerings and possibilities in general, however, the challenges defined through the material-individual dimension are caused by those within the material-structural dimension, thereby enhancing the importance of addressing these challenges.

5.4.3 Findings related to the symbolic-structural dimension

Looking at the data through the symbolic-structural dimension, a very different picture emerges. Whereas the perception of Soweto as a place with a lack of opportunities and furthermore an uncertain future persists, the symbolic-structural dimension also suggests a perception of Soweto as place of historical pride given the struggles its residents have been through. Moreover, with its history, the place is perceived to be very unique. Hence, it would appear that the symbolic-structural dimension has been addressed more successfully than the material-structural dimension, as the research participants seem proud of what their hometown symbolizes in spite of the material-structural shortcomings.

5.4.4 Findings related to the symbolic-individual dimension

The symbolic-individual dimension is well-addressed, with the majority of research participants being happy to stay in Soweto and having friends and family there. Many feel attached to Soweto and acknowledge the existence of a local community. Moreover, the residents did not appear to perceive themselves as poor, with one referring to others being without shelter, and the housing situation seemingly not being a major concern for the majority of the participants. Although they spoke of the challenges with a lack of local business environment, many did not appear to think it affected them personally. Overall, then, this dimension suggests that Soweto is perceived as a place of community and not of poverty, and should not be addressed in terms of improvements.

5.4.5 Conclusion on the social change matrix

The findings from the social change matrix suggests that the current challenges in Soweto, the lack of cultural offerings and of a well-functioning local economy are rooted within the material-structural dimension. It is suggested that if these were targeted from a structural level, e.g. municipal level, they would positively impact multiple local challenges such as crime and drug abuse. Moreover, the findings suggest that in spite of the identified shortcomings, residents perceive their home as a place of historical pride, community and uniqueness, and do not associate themselves with poverty. It is therefore suggested that further development in Soweto should be addressed via the material-structural dimension.

5.5 Application of the social sustainability model

Following the social change matrix analysis, I will now apply the social sustainability model in order to richen my comparison of design research methods and social science research methods. The social sustainability model investigates the level to which a neighborhood addresses sustainable well-being amongst its residents and might therefore bring new perspectives to the perception of Soweto as well as potential areas in need of improvement.

5.5.1 Amenities and social infrastructure

Amenities and social infrastructure covers the overall structures in a neighborhood aside from the housing itself (Young Foundation, 2011). As identified in the material-structural dimension of the social change matrix, some of the challenges faced in Soweto are the lacking local business environment as well as the lack of cultural offerings. The Youth Foundation (2011) claims that these types of structures are salient to ensure sustainable well-being amongst residents of a neighborhood, hence these needs should be addressed.

5.5.2 Social and cultural life

The factor of social and cultural life concerns the social networks in the neighborhood. Elements of building a community includes developing unique characteristics in a given neighborhood, sharing experiences within the neighborhood and residents generally staying for lengthy periods of time ((Clare & Powell, 2009). With the unique history of Soweto, the research participants all having stayed in Soweto for a number of years if not their entire life and the majority considering Soweto to be unique, the theory suggests a perceived community. In the data samples, the research participants also confirm the existence of a community, which is described as a place where they know and respect each other, where they help one another and where they have a genuine interest in the well-being of the other community members. Another element of social and cultural life is that of social capital, where people form groups in order to pursue common goals (Putnam, 2000). The data supports the idea of strong social capital within Soweto, for instance given the statement of a wish for others in the community to succeed in life (Putnam, 2000).

5.5.3 Voice and influence

Although the research participants generally feel attached to the neighborhood, less than half of the participants think their neighborhood is moving in a positive direction and only 40% feel involved in the development of a new community. This points to a crucial distinction between community and involvement. Even though the research participants perceive Soweto as a place with a community and appear to place high value on the community, this could be challenged in the long-term perspective if residents do not feel a part of the future

development of their neighborhood. To ensure a sustainable community, the data sample then suggests there is a need to address the residents' level of involvement in the development of their neighborhood.

5.5.4 Space to grow

To allow Soweto to prosper in the future, the development of main amenities and social infrastructure should be put in focus. This would also attract new residents, who may otherwise struggle to fit into the current community and who may not even consider an option due to the lack of employment opportunities. To create a space, which can adapt to future scenarios, the data also suggests a focus on involving the current residents in the development of Soweto.

5.5.5 Conclusion on social sustainability model

To conclude, the main findings of the social sustainability model were that even though research participants associated their home with community, they did not perceive themselves as involved, which may damage their sense of community in the future. The data suggests that lack of involvement and of main amenities and social infrastructure are currently the main challenges for social sustainability in Soweto.

5.6 Conclusion on chapter

Overall, the analysis using the two frameworks suggest that the research participants perceive Soweto as a place of community, uniqueness and historical pride and do not perceive themselves as poor. Main areas of improvement are suggested to be the development of a well-functioning local business environment, the feeling of involvement to ensure a strong community in the future as well as increasing the cultural offerings.

6.0 Analysis - design research methods
6.1 Introduction of design research methods analysis

Below, I will start by discussing potential frameworks a design researcher might use, before introducing the findings from the design research method data collection in the order photographs, drawings and the graphic survey. I will then apply the two frameworks introduced in the previous section and make a conclusion based on my findings.

6.2 Potential frameworks for design researcher

The two previously presented frameworks for the analysis were primarily focused on how social science might apply the generated data samples. However, in this part I will aim to turn the argument around, reflecting over

how a design researcher might use the data before beginning my design research analysis.

Looking at the four previously mentioned design research perspectives or phases, these being user-centered, participatory, critical design and design and emotion, these would likely make use of the data in very different ways. The user-centered approach would, in high similarity with social science research, aim to analyze the data to gain a better understanding of the user, yet within the user-centered design research approach, focus would clearly be on the urban planning or urban design of Soweto and how this is perceived and might be improved (Sanders, 2006). Hence, the main difference would lie in the narrower focus. The participatory design research approach would actively use data provided in the future urban design within Soweto and would likely pick research participants to join them as co-designers for the project (Sanders & Stappers, 2008).

Within critical design, the data would merely be used as inspiration for further design purposes (Gaver, Dunne, & Pacenti, 1999). Hence, it would not be analyzed in any way, and the data collection would be considered to be an effort to inspire research participants as much as it is inspiration for the data collectors (Gaver, Dunne, & Pacenti, 1999). In design and emotion, the focus would be on studying the emotional contributions within the data collection in order to gain a stronger understanding of how current design is affecting people's well-being within the neighborhood (Hekkert & McDonagh, 2003). These examples illustrate the differences in perspectives in design research versus social science research and bring forward the suggestion that future considerations may also include new interpretations of how social science research methods might be used in novel ways in design research methods.

6.3 Presentation of findings from photos

Looking at the pictures taken, three of five research participants chose a physical feature to represent home, e.g. complexion, hair style and tattoo. This may suggest a holistic understanding of home being a part of their materialized self. The two other participants focused more on material aspects, choosing clothes as their symbol of home. The clothes could for example symbolize home in the form of relations (e.g. item being a gift or hand-me-down), community (e.g. having the same item) or status.

6.4 Presentation of findings from generative tools

The drawings made way for a number of interesting interpretations. First, 4 out of 5 research participants chose to draw other people when describing their home, suggesting the value of relations in a neighborhood. Other than directly drawing people, the drawings included symbols of public recreational areas including sports facilities, a park, a braai barbeque area and an equestrian center, once again underlining the idea of a

community. Drawings of a church, a shop and a school suggest very common symbols in most other cities, that are not taken for granted here. Moreover, many of the symbols were linked with absolute necessities and the choice of drawing them to symbolize home clearly show the lack of needs fulfilment. These include items such as electricity, paving, a bed and street lights. There were however also items arguably considered local status symbols such as a car, a PC and DSTV tv services.

Looking at the drawings of what people would like to have, a few objects are repeatedly shown for several of the research participants. These include transport, free Wi-Fi and swimming opportunities. With the lack of proper logistics, transport options are one of the challenges previously discussed in the empirical data, and it is hence interesting that it is being confirmed by the research participants to be something, they are lacking. The want for free Wi-Fi may be understood as the want for connectivity of the rest of the world, including other nearby townships and cities. This is an interesting want, showing that the residents are actually interested in others and not too content with their current situation. At last, the need for swimming options can be related both to previously expressed want for more sports activities, as well as a want for more public areas and simply a place to cool down when the shacks become too hot to be in, which they likely are a lot of the time.

To conclude, the generative tools provided insights on a lack of basic necessities and public spaces, however, some also owned local status symbols. The research participants were requesting transport, Wi-Fi and swimming pools, suggesting a desire for more connectivity with others, and the swimming pool perhaps also referring to the state of the housing.

6.5 Presentation of findings from graphic survey

Overall, the graphic survey offered a variety of viewpoints, with many graphics only being circled by one research participants. The most relatable graphic amongst the research participants was the slum, which to me symbolizes poverty, but may simply be perceived as normal housing in Soweto. The fact that 60% of research participants also circled a picture of the middle-class housing options in Soweto, however, suggests that the research participants do not see their neighborhood as a mix of classes and are aware of the current housing 'upgrades' in parts of their neighborhood. The graphic of the toddler sleeping with a teddy bear, which to me was a symbol of peace and calmness, was chosen by three out of five research participants. However, this graphic could arguably also symbolize childhood or family. Another graphic circled by three out of five research participants was the graphic of the shadow of a man with a knife, to me symbolizing crime. This may be interpreted as the research participants being aware and taking serious the crime levels in their neighborhood. Finally, three out of five research participants also circled the graphic of birds leaving the cage, to me a symbol of

freedom. I interpret this to mean that the research participants also think of themselves as free people. Reflecting over the data now, I wish I would have followed up with these research participants to understand their interpretation of the graphics. What I may conclude based on my interpretations are that the research participants appeared to be aware of the development in their neighborhood and moreover associated crime, calmness and/or family and freedom with their neighborhood.

6.6 Analysis using social change matrix

With the findings from the design research methods having been presented, I will now apply the data collected through these methods to the same frameworks as used for the classic social science analysis, hence starting with the social change matrix.

6.6.1 Analysis of the material-structural dimension

Perceiving the design research data samples from the material-structural dimension the perhaps most noticeable element is the appreciation of basic necessities such as a bed and electricity. This suggests that the research participants are focused on satisfying the most basic needs, which then again suggests that the material-structural dimension has failed to properly attend to these basic needs. This argument is further supported by the suggestions that education and transportation needs are not properly attended to. At the same time, the data suggests an appreciation for public spaces and cultural offerings. Hence, the data suggests that the state of Soweto may be partially due to the lack of structurally addressing basic necessities, but that the material-structural dimension has more successfully addressed the needs for public spaces and cultural offerings.

6.6.2 Analysis of the material-individual dimension

Looking beyond the appreciation of basic goods, the material-individual dimension identifies the appreciation of any non-basic good, with a car, TV service and a computer being amongst the examples. These examples, alongside the research participants wish for free Wi-Fi, suggests a need of feeling connected with people outside of Soweto, which may be limited by the previously identified lack of transport options. The data however also show appreciation for people within the neighborhood, with family, public spaces and cultural offerings being valued and being requested more of. The requests for a public swimming pool may be related to the housing, which are often shacks and therefore very warm to stay in during the day, addressing potential housing needs. Overall then, the data suggests an appreciation of the local people, but a desire to connect more with the outside world and suggests potential needs in terms of housing and basic necessities.

6.6.3 Analysis of the symbolic-structural dimension

On the symbolic-structural dimension, the data suggests that Soweto is perceived as a place of poverty and crime, but also a place of development and symbolizing freedom. This would suggest a mixed symbolic-structural perception of Soweto, which on one hand recognizes the current challenges in Soweto, but at the same time is optimistic about the future and showing historical pride.

6.6.4 Analysis of the symbolic-individual dimension

The data samples illustrate how many of the research participants appear to identify their own physical features with their home, suggesting a very strong connection to home, with Soweto being a part of them and their identity. Furthermore, the data suggests a historical pride associated with having gained their freedom. In terms of negative symbolism, the lack of education and of connectivity however suggests that residents may perceive themselves as less educated and less of a part of society.

6.6.5 Conclusion on the social change matrix

Summing it up, the social change matrix suggests that the material-structural dimension has failed to address basic needs of the residents in Soweto. On the other hand, both of the material dimensions suggests an appreciation of the public spaces and cultural offerings, although the material-individual dimension suggests a need for being more connected to the outside world. Both of the symbolic dimensions suggests that Soweto is being perceived as a place with historical pride, with the individual dimension suggesting a strong connection to home and the structural showing optimism for future developments. The findings from this analysis suggests an overall need for fulfilling basic needs in Soweto as well as for making the residents feel more connected with the outside world.

6.7 Analysis using social sustainability model

Following the analysis of the overall social aspects of the problem using data gathered from design research methods, I will now take a look at the social sustainability model, which identifies the dimensions needed to develop a sustainable well-being in a setting.

6.7.1 Amenities and social infrastructure

The design research data suggests that basic amenities such as educational facilities, transport and electricity are not widely available in Soweto. On the other hand, there appears to be a strong appreciation for the current public spaces. Hence, the data suggests to focus more on fulfilling basic amenities before building more social infrastructure.

6.7.2 Social and cultural life

Going back to the elements of a community as discussed in the social science methods analysis, the design research data suggests that the research participants perceive Soweto as something unique and associate it with freedom, suggesting a historical pride. The appreciation of freedom again suggests an element of shared experiences, the same way the symbols generated by several research participants, such as the swimming pool, Wi-Fi and a school, does. The data, however, does not provide any information on whether the residents have stayed long. There is overall limited data to suggest the existence of community, aside from what appears to be an historical pride and common wishes for improvements. In terms of social capital, the various drawings of people and public spaces suggests that it exists, however, the suggested needs for free Wi-Fi and more education suggests that the social capital is bonding, that is focused within the community, rather than bridging, which would allow residents to feel more connected with people outside of Soweto and their own demographic group (Putnam, 2000). The data then suggests that Soweto is perceived as a place of freedom and uniqueness. Furthermore, there is a perceived community and high level of social capital, but that focus should be put into creating more bridging social capital (Putnam, 2000).

6.7.3 Voice and influence

Overall, the design research data suggests that residents feel as they have a voice in Soweto, as many consider Soweto part of themselves. Furthermore, the data suggests that the majority of the research participants associate Soweto with freedom and acknowledge the housing developments in the neighborhood. With the positive future expectations and the level of connectedness with Soweto, it would appear that this factor has been fulfilled.

6.7.4 Space to grow

As mentioned above, people generally seem to acknowledge the developments in Soweto and seem to feel strongly connected to Soweto. Still, in order to create future sustainability, it appears there is a need to focus on addressing basic necessities and improve connectivity with the outside world.

6.7.5 Conclusion

To conclude, the data suggested a lack of basic amenities and bridging social capital (Putnam, 2000). On the positive note, the data suggested appreciation of public spaces alongside a high level of overall social capital (Putnam, 2000). It is also suggested that the residents are positive towards current developments and feel very strongly connected to Soweto. Hence, the data suggests to create a higher sense of connectivity with the world outside of Soweto and improve basic necessities within Soweto.

6.8 Overall conclusion on design research methods findings

Overall, the findings from applying the social change matrix and social sustainability model are that the research participants are lacking basic necessities, yet feel strongly connected to Soweto and are optimistic on its future development. The findings suggest the residents perceive their home as a symbol of freedom and development and overall feel connected to it. However, improvements should focus on securing basic necessities and increasing a feeling of connectivity with the outside world.

7.0 Comparison of findings

7.1 Introduction to the comparison of findings from the different kinds of data collection

The combination of quantitative and qualitative methods in social science research is growing increasingly popular, in spite of some researchers' validity and reliability concerns (Bazeley, 2004). The case for mixed methods studies on poverty, such as in development studies and in my case study, has been particular strong due to its application in poverty and social impact assessments by the World Bank (Garbarino & Holland, 2009). The idea of mixing classic social science research methods with design research methods is, however, a fairly new idea and has not been well-tested.

Bamberger (2012) argues that the use of mixed methods may allow the study to appeal to researchers who traditionally are geared towards using either methodology. In this case, the aim is to appeal to both social science and design researchers and whereas the benefits for adding design research methods to social science research is investigated, its investigation may also indirectly raise interest in whether social science research methods also have the potential to add more value than they currently do in design research. In the previous two sections, I have conducted two analyses based on different data sets: one generated by surveys and interviews, the other by design research tools. Below, I will discuss the differences in findings. The chapter ends by concluding that design research methods are highly complementary to social science research methods, which is evident in their ability to provide new insights to the researcher's understanding of how home is perceived as well as their ability to enhance exemplification, thereby providing concrete suggestions for improvement.

7.2 Differences in data collection process

There are some major differences between the data collection process in social science research methods and design research methods. In terms of the design of the data collection process, social science research mainly uses existing data collection designs such as surveys or interviews. Hence, the focus is not so much on designing the data collection format, but rather on making it appropriate for a given study through its contents and structure.

Oppositely, design research considers the design of methods in a more literal way, putting as strong a focus on the design of an appropriate format as the contents within the format.

Moreover, some design research methods such as generative tools, which operates through visual media rather than discourses, may be less inhibited by the researcher's agenda than, say, an interview, as the researcher is mainly designing the format. As a result, these types of design research methods might be more likely to enable surprises to emerge. For instance, several of the research participants in the generative tools data generation drew a swimming pool as something their neighborhood needed, which was not brought up in any of the other data collection methods. This could, of course, also be due to a flaw in my design, as the surveys and interviews were clearly much more structured than the generative tools data collection.

In the analysis of data, the more structured social science methods had the advantage of being more easy to interpret due to having organized key themes prior to data collection and existing theory. With their multilayered levels of meaning and their diversity, the data generated from the design research methods provided a more complex and open output, which is harder to interpret due to the lack of pre-defined key themes and a clear connection to theory. For instance, in the graphic survey, I had one interpretation of what the toddler with the teddy bear symbolized, but I cannot be certain of how the research participants may have interpreted it. Gaining a full understanding of design research data, then, may potentially require several frameworks and types of researchers.

As a result, the design research method overall requires a stronger focus on the creation of a format, as opposed to simply the creation of content like in social science research. This may potentially allow for a higher degree of novel ideas within design research methods as suggested above, hence also creates a new dimension of complexity around the data collected and an increased risk of misinterpretations.

7.3 Evaluation of results in the social change matrix

I will now compare the data findings from applying the social change matrix to respectively social science research methods and design research methods in order to discuss variations between the two types of collected data.

Looking at the material-structural dimension, there is an interesting distinction between the findings of the social science methods data and the design research methods data. The social science data identifies the lacking local business environment and its meaning in terms of a perceived lack of jobs and opportunities, which is similar to

the secondary source findings in the empirical chapter. What the social science methods however do not pick up are the lack of basic necessities such as electricity, which must be considered prerequisites to developing business environment. Hence, design research data here offers a part of an explanation for why a local business environment is not thriving. Social science methods also identified a need for public spaces, whereas design research methods showed appreciation of existing public spaces. This may be due to the design of the methods, as social science methods motivated a more general talk on home, whereas the generative tools were designed to motivate the research participants to consider the material dimensions they already had and appreciated.

The social science methods identified challenges of substance abuse and crime and found that these had roots in the material-individual dimension. These findings are nicely supplemented by the findings of design research methods, which suggests that education is lacking, and that people place very high value on non-essential goods given their lack of basic necessities. If people are unable to get educated and at the same time are lacking basic needs, this suggests why some may be tempted to engage in criminal activities or substance abuse.

The findings on the symbolic-structural dimension are somewhat alike as both perceive their home to be unique a place of historical pride, yet also identifies it with respectively lacking opportunities and poverty. Whereas the social science research data show a perceived uncertainty regarding the future of Soweto, the design research data acknowledges the current development in Soweto, but this may again be down to differences in the design of the data collection.

Again, on the symbolic-individual dimension, both types of research suggest a strong level of attachment to Soweto. Other than that, social science research data reaches the interesting suggestion that people in Soweto do not perceive themselves as poor, whereas design research data reaches the suggestion that people may feel less educated and connected to the rest of the world. These insights are not opposites, nor are they definitively supplementary, they are just different types of inputs.

To conclude, there appeared to be a difference between the usefulness of adding design research methods in the symbolic and the material dimensions. Within the material dimensions, the exemplifications found in the design research data nicely complemented the social science research data by providing concrete suggestions for improvement. On the symbolic dimensions, both types of research methods identified a similar perception of home, however, it was interesting that the social science data suggested that the research participants did not perceive themselves as poor, whereas the design research data suggested that they perceived themselves as less educated and connected with the world outside of Soweto.

7.4 Evaluation of results in the social sustainability framework

Having identified beneficial elements of introducing the design research data to the social change matrix, I will now test if a similar patterns arises when comparing the analyses of the social sustainability framework. Just like in the social change matrix, I will compare each dimension's analyses separately before making a final conclusion based on the findings.

In the amenities and social infrastructure dimension, a similar pattern to the one found in the comparison of the material-structural dimension in the social change matrix emerges, as the social science methods have identified the need for a well-functioning local business environment, whereas the design research methods identify the need for building basic infrastructure and fulfilling basic needs, again suggesting concrete initiatives for improvement.

In terms of the social and cultural life dimension, the social science methods suggest a perception of Soweto as a local community with a high level of social capital. Interestingly enough, design research methods offer similar insights, but alongside the suggestion that the social capital may be bonding rather than bridging, which may suggest they do not perceive Soweto and themselves to be well-connected to the outside world (Putnam, 2000).

Within the voice and influence dimensions, the social science research methods suggested that a large percentage do not perceive themselves as involved in building a new community and do not feel that the neighborhood is developing in a positive direction. On the other hand, design research methods were basing its conclusions that people felt involved based on the acknowledgements of housing developments and the feeling of attachment and freedom, making the data much less specific on the matter of involvement.

Both types of data highlight the need for developing main amenities to create a sustainable space to grow. Social science data also suggests that people do not perceive themselves as involved in Soweto's development, whereas design research data suggests they do not feel connected enough with the outside world. These could easily supplement each other, as an enhanced connectivity would make it easier to become involved.

Overall, the two types of data supplemented each other on all dimensions except for the voice and influence dimension, in which social science had the strongest data. Some of the main insights added by design research methods in this analysis would be that the research participants do not perceive Soweto to be well-connected to the outside world and hence social capital is mainly bonding, and that there is a need for increased connectivity

and for building basic amenities (Putnam, 2000).

7.5 Conclusion

Overall, the inclusion of the findings from the design research methods added valuable inputs, often in the form of concrete suggestions for solutions to the challenges identified by social science research methods. Table 7 below summarizes the findings and elaborates on the comparison of methods, by also taking each separate data collection method into account.

Table 7: Overall findings

	Social change matrix key insight	Social sustainability framework key insight	Combined key insights
Social science: Survey	Happy to stay in Soweto, friends and family there, uniqueness, uncertain future	Do not feel involved, do not feel that the neighborhood is developing in a positive direction	Currently happy to stay in Soweto, however, do not feel involved in the development process and am skeptical of Soweto's future direction.
Social science: Interview	Lack of jobs and opportunities, lack of cultural offerings, do not perceive themselves as poor, community	Lack of well-functioning business environment and cultural offerings	There is a strong community, however, job opportunities and cultural offerings are lacking
Social science total	Strong community, but challenges are rooted in the lack of jobs and cultural offerings	Strong community, but lack of involvement and amenities	Strong community, but the lack of involvement, jobs and cultural offerings are challenges.
Design: User-centered	Strong attachment to Soweto	Supports the idea that people have an influence	People feel attached to Soweto and that they have a voice in the say on its development.
Design: Generative tools	Lack of basic necessities, want connectivity	Need of basic amenities, bonding social capital	There is a lack of basic necessities and need of connecting the population with other demographic groups
Design: Probes	Acknowledging development, perceiving themselves as free	Supports the idea that there is a community	There is a community in Soweto based on historic pride, still people acknowledge the current developments.

Design research total	Identified the lack of fulfillment of basic needs and the acknowledgement of the current development.	Identified the lack of basic amenities and the need for creating bridging social capital.	Need to address basic needs as well as lack of bridging capital in order to create economic growth.

As evident in the table, not only did the overall research methods bring different outputs, there was also large variety in data between the different methods used, with the interview for instance identifying a lack of opportunities and jobs, whereas the survey suggested the research participants were happy to stay in Soweto. The same goes for design research methods, where the participants for instance choose physical features to represent their home in the user-centered method collection, but primarily drew other people and objects in the generative tools data collection.

Taking into account the two frameworks applied, the use of design research methods was mostly beneficial in the material dimension of the social change matrix, whereas the insights generated by design research methods were valuable in all but one of the dimensions of the social sustainability. This, of course, points to the fact that the potential value of adding design research methods to social science research depends on the study and its aim. Overall then, design research methods offered new insights on people's perception of Soweto and brought very concrete examples for potential improvements compared to the social science research methods.

8.0 Discussion

Based on the comparison of the analyses, this section will focus on the potential benefits of adding design research methods to social science research based on my findings, as well as discuss potential obstacles. Overall, the application of design research methods brought along a number of benefits, which in my opinion by far exceeded the potential downfalls of applying it, but there is still a lot to learn about how to mix these methods productively while ensuring validity.

Benefits of applying mixed methods includes: i) triangulation resulting in increased validity and/or credibility of a study, ii) improving the research design of one type of data collection by using findings from a different methodology, iii) gain a more in-depth understanding of the studied phenomenon, iv) initiate new ideas by generating novel findings and v) diversification of values (Bamberger, 2012; Greene, Caracelli, & Graham, 1989). By combining the findings of the two types of research methods, this study benefits from an increased validity due to triangulation, a deeper understanding, the generation of novel ideas and through diversifying values

(Bamberger, 2012; Greene, Caracelli, & Graham, 1989).

The first claim, that the combination of the research methods provides increased validity through triangulation is supported by the idea that mixed methods generally can increase validity through the enhancement of understanding, as mentioned in the methodology chapter (Hesse-Biber, 2010).

Triangulation may be initiated when different types of methods, frameworks, interviewers, times or contexts are used in the same study to broaden the perspective (Bamberger, 2012). In this case, the study uses different methods as well as different frameworks to reach its conclusion (Bamberger, 2012). The aspect of triangulation is evident, as the two analyses are to a vastly complementary, as evident in Table 7. A strong example of triangulation in the study is the main amenities and social infrastructure section in the social sustainability framework, in which social science research identified a lack of a well-functioning business environment as a challenge, which was supplemented by the design research methods' findings of the lack of basic necessities, which must be considered a prerequisite to developing the local economy.

With triangulation often comes a deeper understanding (Bamberger, 2012). The deeper understanding is for instance evident in social science's findings of a local community with high social capital, however, design research shows that the social capital is actually bonding rather than bridging, which leads to a suggestion for a reason for the identified lack of jobs and opportunities as well as a deeper understanding of the perception of Soweto (Putnam, 2000).

The novelty generation takes place, as residents in the design research data collection brings their specific inputs on what they would have. Inputs such as the want for internet or a skate park, or the appreciation of pavements or electricity leads to novel ideas on how to invest future funds in development. The potential social change impact of these insights become evident when considered together with learnings from the social science research methods, that young people get involved with substance abuse and crime due to boredom or lack of knowledge on career opportunities.

At last, the usage of different types of research methods increases the diversity of values, as the researcher is forced to think from different perspectives in the design of the data collection process and as a result gains outputs of variable kinds (Bamberger, 2012). This was perhaps especially obvious in the symbolic dimensions of the social change matrix or the voice and influence factor in the social sustainability framework, which both generated a wide range of outputs.

The only benefit of those identified above, I did not draw from this study was the possibility of using the findings from one type of data collection to design another type of data collection using different methods, seeing as I used concurrent mixed methods rather than sequential (Bamberger, 2012; Greene, Caracelli, & Graham, 1989). In terms of future studies, it would be very interesting to engage in a sequential study to see if this would allow design research methods to provide additional value to the overall findings. As mentioned in previous reflections on the graphic survey, for instance, it would have been highly valuable to follow up on the findings with interviews to understand how the research participants interpreted the graphics.

Aside from Bamberger (2012) and Greene, Caracelli & Graham (1989)'s identified benefits of mixed methods research, I encountered a few other benefits from mixing design research methods with social science research methods, which will be elaborated below in the order: i) enhancing the researcher's level of empathy, thoroughness and creativity, ii) decreasing lingual and cultural barriers and iii) generating diverse data.

First, I found that the design research methods clearly enhanced my level of creativity, thoroughness and creativity throughout the entire research process. As previously mentioned, design research methods require the researcher to not only consider the content, but also adapt, and sometimes even design, the format of a method. The process of developing my data collection methods for the design research methods was iterative in the sense that I would first seek inspiration in existing design research literature; then develop prototypes and finally test these theoretically by considering the expected research participant reaction to the method and the potential outcomes to be gained from the method. This was a highly creative and empathetic exercise, which also led me to identify a number of my assumptions as a researcher. For instance, I had the idea of giving research participants a world map and asking them to place themselves on it. Although it certainly would have been interesting to discover where research participants would locate themselves, it ran the risk of intimidating research participants with a limited educational background, hence I dismissed it. As the data generated through design research methods were also more complex and open and not structured in key themes and related to theory in the same sense as social science research data, data interpretation also required a high level of sensitivity, thoroughness and creativity (Whittemore, Chase, & Mandle, 2001). By enhancing these abilities in the researcher, it can be argued that design research methods increase validity in qualitative studies by increasing the level of understanding.

A second benefit I discovered was how the use of visual language decreased lingual barriers and thereby enhanced understanding between me and my research participants. For instance, research participants being interviewed would refer to the shack, they lived in as a "house", whereas they identified their home with the

picture of shacks, a slum, in the graphic survey, hence clarifying their housing setting. This may be true of mixed methods in general, as the variety in methods provides more opportunities for the researcher to ensure a common understanding between her and her research participants, which is perhaps of particular importance under circumstances where the researcher has different language skills or a vastly different social and/or cultural background than her research participants.

Taking into account the comparison of analyses in the previous section, a third benefit was design research methods' ability to generate very specific examples, which complemented the social science research findings and would appear valuable in practice. For example, whereas the interviews found a need for additional sports facilities, generative tools pin-pointed a swimming pool as a facility the research participants would like to have.

There are of course also potential obstacles to be aware of when applying design research methods in social science research. First off, some claim that researchers should not engage in mixed methods due to validity concerns (Bazeley, 2004). This is a valid concern, given the lack of established formalities regarding how to implement or interpret results from mixed methods (Curry, Nembhard, & Bradley, 2009). In terms of design research methods, some researchers argue that these are art-focused rather than science-focused, enhancing the potential threat to validity (Borja de Mozota, 2003; Rampino, 2012). However, one could also argue that the addition of different methods improve validity through the different perspectives gained (Hesse-Biber, 2010)

Another important concern to address is the process of creating the data collection methods. As social scientists are not trained in this and cannot be expected to want to work creatively in the same way as design researchers, they might struggle to develop precise design research methods. Therefore, it might be valuable for design researchers to develop design research prototypes for usage in other types of research. This clearly also relates to the generated data, as design research methods generate complex data, which may run the risk of misinterpretation and of increased cultural barriers, as researcher and research participants may read symbols differently.

A final note on obstacles relates to the priming effect of research participants. Whereas certain design research methods such as generative tools may not be inhibited by the agenda of the researcher to the same extent as other data collection methods, priming may still take effect. A working paper by Gino and Ariely (2011) suggests that by motivating research participants to be creative, researchers might also motivate them to be more dishonest, as honesty is sacrificed in the name of creativity. This is an interesting potential obstacle, which should be studied further, but implies that generative tools are perhaps most valid in combination with other design

research and/or social science research methods.

To sum up the findings in the discussion, the potential benefits of using mixed methods include the enhancement of validity through triangulation, hence enhancing understanding and making room for initiation of novel understandings and value diversification, as well as potentially using one type of data to improve a different kind of data collection (Bamberger, 2012). Zooming in on adding design research methods to social science research methods, I identified potential benefits to be increased validity through enhanced creativity, sensitivity and thoroughness, decreased language barriers due to visual language and enhanced concreteness in the form of examples (Whittemore, Chase, & Mandle, 2001). Potential obstacles to be aware of includes the risks of misinterpretation either due to the data complexity or due to lack of formalities on combining the methods, as well as the risk of priming research participants.

9.0 Conclusion

Given today's complex societal problems, there is a need to create a stronger synthesis between the multidisciplinary findings within social science research in order to effectively address these challenges (Ravetz & Ravetz, 2016). It has been suggested that through increasing knowledge understanding and creating connections to practice-oriented learnings, visual methods such as design might help address this structural obstacle within academia (Ravetz & Ravetz, 2016).

This thesis has investigated the potential benefits of adding design research methods to social science research. The design research methods motivated more creativity and sensitivity in the researcher, both through the design of the format of the methods and through the interpretation of the complex data, hence arguably increasing the overall validity (Whittemore, Chase, & Mandle, 2001). Whereas mixed methods generally speaking have the potential to increase common understanding between researcher and research participants due to the variety of data, design research methods enabling visual language may prove extra beneficial in cases of language barriers, as it encourages exemplifications and a more visual way of expression. These benefits support the claim that visual methods may enhance understanding of knowledge and generate synthesis (Ravetz & Ravetz, 2016). Furthermore, design research methods provided very concrete ideas for improvement, which were complementary with the social science research findings, supporting the claim that visual methods may prove useful in linking research to more practice-oriented knowledge, which may again improve social science research's ability to address complex societal problems (Ravetz & Ravetz, 2016). Researchers should of be aware of the potential obstacles related to developing a precise data collection format, the complexity of interpreting the

design research methods data, the lack of formalities on validity in mixed methods research and the risk of priming research participants by motivating creativity (Gino & Ariely, 2011; Curry, Nembhard, & Bradley, 2009).

The findings of this exploratory study brings forward several suggestions for future research. As this study was conducted within the hermeneutic paradigm, it would be highly relevant to compare the findings of this study with findings from similar studies within other paradigms to investigate if other benefits may emerge. Additionally, this mixed methods study was concurrently, and, as suggested several times within the study, it would be highly relevant to investigate if additional value is generated when conducting a sequential mixed methods study, as the findings from one type of data collection might then be used to design the next phase of data collection.

As this study was limited to a choice of five data collection methods, it would also be relevant to investigate potential benefits from using other methods. The suggested complementarities between certain design research fields and methods and certain social science paradigms, such as the suggestion that critical theory might benefit from the inclusion of critical design methods, should also be explored further.

The findings may also allow for reflections on the format of social science research methods and investigations of whether the design of new method formats within social science research would be a value-creating activity to engage in. Finally, the findings imply that design research may also be able to benefit more from social science research methods than what is currently the case, for instance through the creation of a perspective that is less user-focused and more societally focused.

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References for picture sources for the graphic survey in order of appearance (Appendix 2):

Doll on strings picture: https://su15group3first.files.wordpress.com/2015/08/no-freedom.png

African woman picture: http://www.thisissierraleone.com/wp-content/uploads/2013/05/Africa-Culture.jpg

Toddler sleeping with teddy bear picture: http://sitegraphics.s3.amazonaws.com/ann/feeling-safe.jpg

Cross tunnel picture: http://www.imgrum.net/media/1037559716526269972_1933489968 https://scontent.cdninstagram.com/hphotos-xfa1/t51.2885-15/s320x320/e15/11261312_1765048847055480_1547374046_n.jpg

Man standing alone picture: http://wlbpa.org/wp-content/uploads/2013/11/lonley.jpg

Graffiti picture: http://www.where2stay-southafrica.com/blog/wp-content/uploads/2014/05/Screen-Shot-2014-05-21-at-11.26.30-AM.png

Mansion picture: https://photos.travelblog.org/Photos/9635/267781/f/2218008-Upper-Class-Housing-in-Soweto-2.jpg

Balloon picture: http://www.prevention.com/sites/prevention.com/files/styles/article_main_image_2200px/public/articles/2015/12/gettyimages-578678909-happy-people-artland-opener.jpg?itok=e-RU7LNQ

Beggar picture: http://previews.123rf.com/images/spn01/spn011001/spn01100100080/6292783-Poverty-Stock-Photo-poverty.jpg

Birds leaving the cage picture: https://su15group3first.files.wordpress.com/2015/08/no-freedom.png

Modern architecture (Soweto Theatre) picture: https://s-media-cache-ak0.pinimg.com/736x/f1/c7/2e/f1c72e37b13effc150d2638f810f08b0.jpg

Mouth mounted picture: https://s-media-cache-ak0.pinimg.com/236x/d4/d7/91/d4d791ad7be6ba19fe3a40d18516c433.jpg

South Africa nature picture: http://www.zastavki.com/pictures/originals/2015/Nature_African_nature_landscape_093879_.jpg.

Slum picture: http://thephoenixsun.com/wp-content/uploads/2011/07/Soweto-1.jpg

Shadow of man with knife picture: http://cdn.spectator.co.uk/content/uploads/2014/08/482905573.jpg.

People holding hands picture: http://www.yourcommunitycouncil.co.uk/wp-content/uploads/2014/11/community_people.jpg
Gold barres picture:
http://efdreams.com/data_images/dreams/wealth/wealth-01.jpg

Statue crying picture: http://www.cuded.com/wp-content/uploads/2014/04/Sad-angel.jpg.

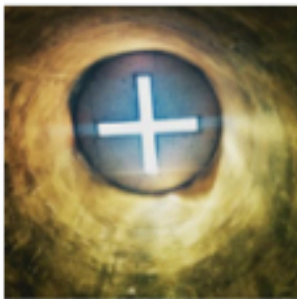**Appendix 1: Small dictionary for South African words, including slang.**
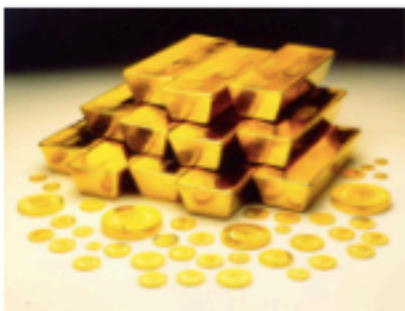Braai = Barbeque
DSTV = Tv services
Matric = High school graduation exam
Township = Ghetto, slum

Appendix 2: Graphic survey

Circle the graphics you associate with your home

Appendix 3: Structured questions for interviews

Qualitative research questions:
-Describe your neighbourhood/home? What makes it home to you/what's unique about it? Give examples
-Did you grow up here? If yes, as a child, did you see yourself live here as a grown up? If no, how did you end up living here?
-How is your relations with your neighbours? Give examples
-If you could change anything about your current home, what would you change? Give examples
-How often do you leave your current neighbourhood? What for?
-Where would you stay if you couldn't stay at your current location? And why?
-What do you think will have the biggest impact on whether you stay there for years to come?

Appendix 4: Transcripts
Interview 1: Momaagi, F, 30

E: Alright, so to begin with, can you just tell me your name?
I: My name is Momaagi.
E: And could I ask you to describe where you are living and the neighbourhood you are living in?
I: I'm living in Dobsonville. It's called the old Dobsonville because these are the first houses that were built in Dobsonville when they were moving people from uhm those old days, when they moved them to vindication, these were the first houses built.
E: Yeah, and did you grow up in this neighbourhood or did you move here?
I: Uh, my grandmother's been living here forever, but I was born in Gahitso, then we lived in Red Pocket. I only moved here 2000 - permanently I moved here.
E: And what made you move here?
I: Uh, just the parents divorce and stuff so, because they had a fight about the house we just ultimately decided to move back to grandmother's house.
E: And to you, what about this place makes it "home"?
I: It's the environment you know, living with the people you know, people that you grow up with. See how they succeed, if they do get ahead in life. I think that's what makes it a home, people that you grew up with, that actually make it in life, some of them go to TVs, you see them on TVs. Some of them are successful doctors. Thinking of the places they came from, some of them were poor, some of them didn't have such great backgrounds, didn't go to - I would say - maybe the best schools, but they still succeed somehow. That's what I like.
E: Okay, so would you say overall you have good relations with your neighbours here?
I: Yeah I would say that. Well, yeah. It's not proper background, like, we grew up together, but we are not as close as we were when we were little because we used to play together all the time. But when we see each other, we still know where we come from and we are still friends.
E: So, would you say there's a community around here?
I: There is a community, yeah. We do get along, we know each other. If there is something happening in the family - let's say there is a funeral - that's when you see that people are supporting each other. They all go out to support each other.
E: Okay, so what kind of things do you like about living here?
I: I love - I love the respect, I love how we all know whose older, whose not, whose the youngest and

then, we still respect each other. That's what I love. And I love the parties here (laughs). I love that! I just love meeting people. Because I will go to the gym and that's something. People who go there - sometimes you will go out to other places, gym with other neighbourhoods and you get to see other neighbourhoods as well, so that I love.

E: Great. And if there's anything you could change, what would you change about this neighbourhood?

I: I'd change a lot! But for now what I can think of is the schooling. I didn't to school around here, but I would change the schooling method, because kids nowadays they don't even go to Matric they don't even finish Matric, they don't have the ambition that we used to have. At first, you know, children will tell you "I want to be a doctor, I want to be a lawyer". Nowadays there's nothing like that. No one really knows what they want, I don't know what is changed, but there's no ambition that we used to have. And there's a lot of drugs as well. As soon as they get to grade 9, 10, they start doing drugs. They go to - it's not gangs, but they'll be robbers or yeah, they all go, they don't go the right way to say "I'm going to be a doctor", then study and finish it. That's what I don't like. And also, I think, if we had more of those other cultures, where they have dramas and things like that, I think then it would make it better, because they would have something recreational to do, better than doing drugs.

E: So do you think crime is an increasing problem?

I: Yes, definitely. Every year we get robbed. We don't even know what to do with our yards anymore because you build so much security, you can't even live in your house, you can't even leave and not have someone in the house because you don't know what's going to happen. If you leave for two days, chances are people are going to rob you, they are going to know that you are not there for two days and it's not safe, so that's the only thing that irritates me.

E: Okay, but that's the only thing?

I: (Nods)

E: Alright, and how often do you leave your neighbourhood?

I: I don't.

E: You don't? Alright. So do you work here as well or?

I: I work at home. We got a great son, so I need to be a teacher as well. So I work from home.

E: Okay, and any specific reasons why you don't leave?

I: Basically because I don't have a - I am not working far from home.

E: Okay.

I: But I am planning to leave eventually, let's say, if I get a stable job, I wouldn't mind leaving because I'm not happy about the surrounding. I don't want my kids to grow up here, so… And the schooling around is not so… what I want.

E: Okay, alright, but you don't leave for smaller, one-day trips? Going to town or something?

I: Oh, I do, I do go to town, I go to partying, maybe sleepovers. I have got uncles in Mafikeng and I like to go. Then I'll go visit for the weekend or even for the whole week.

E: Okay, and that's out of Soweto?

I: Out of Soweto.

E: Okay, and where would you stay if you couldn't stay here? Is there anywhere specific?

I: I'd go back to the rurals. Because I think the schooling there are good. I'm only thinking of my children! Because I studied in Mafikeng, I did my Matric there. And what I saw is that you know those kids are so focused. I feel as if I studied there from let's say grade 8 until my Matric I would have a better - should I say future? If I can say it like that. Like I would know what I want. They, they so focused. Even though they go to their parties and what not, but they'll tell you "When I finish Matric, this is where I want to study, this is what I want to do" and I didn't even have that, but that one year I

studied there made me learn so much. So if I could move, I would move back to Mafikeng, because of the schools there.

E: And is your family also there?

I: I've got an uncle that side.

E: And the last question I'd like to ask you is just what you think will have the biggest impact on where you will live in the future?

I: Impact, as in maybe crime?

E: Yeah, for example:

I: Yeah, I think it's so going to take over because the children that are growing up now are all going to be thugs and our children are going to learn from them and they are also going to be thugs. As much as you want to know what you can do with your children, but the surroundings count more. Because you can teach them so much at home but truly speaking, when they get out and they see people, they are always going to think that's the right thing. Very few of them actually go back to home to say okay this is what I was taught to do. Because the surroundings doesn't tell them that.

Interview 2: Boitumelo, M, 28

E: Alright, could you start by telling me your name?

I: My name is Boitumelo.

E: Alright, and were you born here in Soweto?

I: Yes, I was hey.

E: And have you lived here your whole life or?

I: Yeah, my whole life.

E: And could you start by just describing your home and the neighbourhood you live in?

I: Uhm at first it was normally a township, like it was only two homes. Then, as time goes by, then we managed to extend this house. And make it… uhm… how many rooms do we have now? One, two, three, four, five, six… Six rooms.

E: And to you, what about this place makes it home to you?

I: Uhm, the struggle that we had from the start, those days, and the peace we are having now. Now it's peaceful, now.

E: Okay, so do you like to live here now?

I: Yeah, most definitely.

E: And what about your neighbourhood, the people living around you?

I: Uhm, they are good, hey. I can't complain about them. I cannot.

E: Do you have good relations with your neighbours?

I: Yeah, we do hey.

E: How do you see that? Or can you give me any examples of where you had some good relations with your neighbours?

I: Uhm, like there's no jealousy. We are talking, we are talkative to each other, yeah. Conversations that we are having, conversation - like there is no, like, argument and stuff, yeah.

E: Okay that's very nice. And if there's anything you could change about where you are staying now, what would that be?

I: To create more jobs. Because most youth here, they don't work. Most of them just drop out, they are drop-outs. Just to create more jobs and more opportunities.

E: Would you say that you have a community here?

I: Yeah, we have hey. It's all about what are you doing with your life. To take the initiatives, to do something about your life. Because otherwise you are doing nothing with your life.
E: Okay, is there anything else you would change or is it mostly about the jobs?
I: There are some, like, uhm people taking drugs. Yeah, we can change that. Uhm, what else? Teenage pregnancy, yeah.
E: And how often do you leave your neighbourhood, go on trips elsewhere?
I: Hmm, no I don't do that much ey, because now, I'm at work now, I'm working now, so I don't see what's going on around me, I only take one day off now.
E: Okay, and you work here then?
I: No, I work at Randburg.
E: Okay, you work in Randburg? So you actually go to town quite a lot?
I: Yeah, quite a lot.
E: Okay, alright. And if you couldn't stay here, where would you like to stay?
I: Like Maboneng, I would like to go there. But it's fine here, ne? I would rather stay here.
E: Okat, but you would rather stay here?
I: Yeah, that's where my aunt and sisters are and everybody around me I grew up with. Yeah, they are here.
E: Alright and the last question is just: What do you think will have the biggest impact on where you live in the future?
I: Come again?
E: What do you think will have an impact, or influence, where you live in the future?
I: Uhm.. Impact? I don't..
E: So, is there anything you think will have some sort of influence on where - or if - you decide to ever move away, like say, what would make you move away? Like is there anything that would make you reconsider moving elsewhere?
I: Yeah, there is ey. Like crime, yeah. Uhm, what else? Uhm, there's crime and what do you call it less opportunities.

Interview 3: Cynthia, 39, F
E: Could you start name?
I: My name is Cynthia.
E: Yeah alright, and you live here in Soweto. Did you grow up here?
I: Yeah, I was born here.
E: Okay, and do you work here now?
I: No, I'm not working.
E: Okay, alright, and could I start by asking you to describe your home and your neighbourhood?
I: Hmm okay. It's sitting room, house, kitchen, dining room and bedroom. The toilet is outside.
E: And what about home makes it feel unique or makes it feel like "this is home"?
I: Ey! I feel because of these other people, they don't even have shelter, their teeny houses is so.. I see that I'm better than the others.
E: And what about your neighbourhood? What do you think about the neighbourhood here?
I: Uhm, my neighbourhood it's alright - a hundred percent fine.
E: Do you have nice relations with them (ed. note: the neighbours)?
I: Oh, a hundred percent.
E: And how do you see that? Do you do things together or?

I: If I need food for example, I can go to my neighbour. One, she was here. She give me food, because I am not working. And the other that side.

E: Okay, that's really, really nice. And if there's anything you could change about where you live, what would you change?

I: Uh, I could change this house! I'd make a big house, 8 room house, 3 bedroom and toilet inside and bathroom, because I don't have a bathroom.

E: And what about the surroundings, the neighbourhood? Is there anything you would want to change about it?

I: Yeah.

E: What, for example?

I: What can I change for neighbourhoods? Also, our houses are too small. Because it was two rooms before, we just add the one room, to be three rooms. It was only kitchen and bedroom, there was no sitting room. So we add the extension room, so we can have a sitting room.

E: Okay, and other than the physical, is there anything? Like, do you feel safe in your neighbourhood now?

I: A hundred percent.

E: Okay, so nothing like that you would want to change. It's just the buildings?

I: Yeah.

E: Okay, that's good. And then, I'd like to ask you, how often do you leave your neighbourhood?

I: Pardon?

E: How often do you leave from here, your home, to go some places, run errands?

I: Uh, I'm taking a taxi. It's like 7 rand to Sohala, you know Sohala?

E: Uhm no, is it also in Soweto?

I: Yeah, Sohala or Jo'burg.

E: You also go to Jo'burg?

I: Yeah, it's 10 rand, 50.

E: Alright, and what do you go to Jo'burg for?

I: To buy some clothes, because it is cheaper there.

E: Alright do you go often?

I: Ah, once a month or a fortnight.

E: Alright, nice. And then, where would you stay if you couldn't stay here?

I: There's no other place.

E: No other place that you would rather live in?

I: Mmm

E: And why not? Why no other place?

I: I am going to relatives, because this is my… It's at home. So my brother passed away, 2008, so I am the one responsible here.

E: Alright and do you have family nearby now?

I: Yeah, around Soweto.

E: Alright. And finally, what do you think will have the biggest impact on where you will live years from now?

I: Ey! If they can change Soweto to be a better place, ma'am. Our houses are small ma'am. Too small. You can see. The other people, they sleep also, at the kitchen.

E: Wow. So you have people sleeping in this kitchen?

I: Yeah, if I have visitors, they sleep here.

E: Alright and there's nothing that would acutally make you move away, you just want a different house?
I: Mmm

Interview 4: Cameriae, F, 76

E: Name?
I: Catherine
E: And did you grow up here in Soweto?
I: Yes
E: And did you stay here your whole life?
I: Not in this house. I started staying here in '64.
E: Okay, and what made you move here?
I: We moved from Westham, one other township to here.
E: Okay, and how would you describe your home?
I: This home?
E: Yeah.
I: It's full of silly children (laughs). My grandchildren. Ah, it's okay. I stay with my two grandchildren because their mother died. But it's fine.
E: Okay, and the neighbourhood in general?
I: Uh, I've got very little communication with them. I greet them, it's fine, but you know, I don't just go into their homes if there's no need. I only go there if there's a funeral or a party and I'm invited, but… I don't intrude.
E: Okay, so overall how would you say your relation is with your neighbours?
I: It's okay because when I need them (remainder of sentence unclear due to background noise).
E: Okay, that's good. And if there's anything you could change about where you are staying right now, what would you change?
I: Ah, I don't think there's anything… I would improve, but not change.
E: So what would you improve then?
I: Just maybe the structures or something, but I wouldn't change. Because I mean I'm too old to change and have maybe a big house - who's going to clean it? Look, it's still dirty now. Because I can't clean - I'm too old now. I just need something comfortable, which I can manage on my own. Because these (ed. note: grandchildren) might be gone tomorrow. Having their own houses, you know. Then I get to stay alone and I don't need that, I don't want to change, I just want to improve a little bit, paint maybe. Just that.
E: Okay, and is there anything in the neighbourhood that you would like to change?
I: I wouldn't like to change the neighbourhood. It suits me fine. It's near the bus stops, I'm used to the people here and they don't bother me. It's fine.
E: So what do you like about it?
I: Uh, I don't think there's much I like about it. It's just that, you know, I'm used to it.
E: Ah, okay, like that. Makes sense. And, can I ask you, how often do you leave this neighbourhood? Do you ever go to Johannesburg or?
I: Uh, I still do part-time work. In a hospital. So most nights I'm not here.
E: Okay, in a hospital in Johannesburg or here?
I: No, it's in Westend, it's… what can I say? It's not in Soweto like…
IG: In the suburbs!

I: It's not in the suburbs
IG: But it's an urban area
I: Mmm
E: Okay, so you leave Soweto to go to work?
I: Mmm
E: And that is the only time you leave?
I: Yeah, well, I visit my friends and I visit my relatives.
E: Okay, so do you go often?
I: No, visiting is very seldom because I still work.
E: Yeah, okay, that makes sense. And then, where would you like to stay if you couldn't stay here?
I: I… I think this is the best place.
E: This is the best place?
I: Mmm. For me, at this age.
E: Okay good, and the last question is just what do you think will have the greatest impact on whether you stay there for years to come?
I: Here? What can I say…
E: Is there anything that would make you move away? If something happened here? Or not?
I: I don't think at this age I'll move. Even though if what happens. Because I have lost my daughter already here. So I don't think I really can move. Even if I- I lose them all, I think, I'm okay. I'm used to the people here and they're used to me.

Interview 5: Thabo, 23 M
E: Start by stating your name
I: Name is Thabo.
E: And you live here in Soweto?
I: Yeah, Rockville to be specific, yeah.
E: Were you born here?
I: Mmm, well, I was born in town by Millpark Hospital, but I was pretty much raised here.
E: Okay, and how do you like to stay here so far?
I: I enjoy staying around here. I like how like easily accessible a lot of things are. I just, I like the community, people, like, look out for each other. You know, as much as the houses are very small and everything, but everyone seems to know each other and there's just like a nice friendly kind of atmosphere here.
E: Okay, so would you say, you have nice relations with your neighbours here?
I: Yeah, definitely, yeah.
E: And how do you see that? Can you give any examples?
I: Uhm, I'd wake up in the morning and I'm walking to the shops and at least five people greet me. If ever I'm at the shops and I'm short on some money, they'll give me some. Uhm, I get a lot of lifts so maybe if it's far to walk somewhere and a friend drives past, I can easily stop him and then he'll drop me off somewhere. So yeah, there's some nice community around here, yeah.
E: Good, and how about your home? How would you describe that?
I: Uh, my home? Where I stay?
E: Yeah.
I: Uh, very warm, very fun, because i've got a little sister and occassionally I stay with my cousin Hozo. So there's not - there's never a dull moment. We are always laughing and my gran's a nurse, so she's

very nurturing, you know? So it's very warm, it's a very warm atmosphere yeah.

E: If you could change anything about your home or the neighbourhood you live in, what would you like to change?

I: Uh, I'm old now, so I want to move out, but (laughs).

E: Out of Soweto or do you want to stay in Soweto?

I: I wouldn't mind staying in Soweto, but for me, I think I want to move out of Soweto, because I think I can do more business outside of Soweto. And, uhm, what I'd change around my neighbourhood would probably be the alcoholism - we drink too much. A lot of people drink a lot just to, you know, cover up their real problems. I mean, there's not much to around here other than to drink, you know? So, like from maybe when you're 16 to your late twenties or early thirties, that's what most people do around here. There's not enough sports facilities and places, there's not enough cultural activities, you know? Like, I don't like the fact that we glorify this alcoholic lifestyle. That, I'd change.

E: Okay, so if you could move anywhere, where would you like to go?

I: I like… I wouldn't… Honest, I like places like Melville, because there's just a lot of people from all over the world, not just you know Gauteng or South Africa. So Melville's quite nice. But ideally, for the future, I'd love to have a little farm because I love my own space and I like quiet.

E: Okay, and looking at Soweto, what do you think makes this place unique? Or what makes it home for you?

I: Uhm, I think the unity. The way, more than anything, like I've expressed it before, but I like the fact that people make it a point to know who you are and what you are about. And we actually do care for one another. As much as there is, you know, a little bit of competition amongst us, but I feel like it's healthy competition. It's not destructive, it's constructive.

E: Okay. How often do you leave your neighbourhood and what for? Like, leaving Soweto?

I: So I leave, like today, when I went to fetch you. So it's for work or… Mainly work, sometimes just to go to a restaurant. You know, we do have restaurants that are pretty nice here. I spent a lot of time in Soweto, actually, more than the average 9-5 working person. So it's usually just to get things, like I was telling you, that we don't have here. Instead of having to drink all day like I was telling you about. Rather go do something else outside of Soweto.

E: Okay, so how often do you go out?

I: Uhm, now that I started working, maybe three times a week, but before that, it would be like once a week.

E: And finally, what do you think will have the greatest impact on whether you stay in Soweto for years to come?

 I: Uhm, service delivery. If we keep - because, I see the government's trying. I mean now, we used to have load shedding quite often, but now they said that there wouldn't be any load shedding this winter. So I guess if that carries on and they keep fixing the streets, keep making more cultural and fun events, I think yeah that would definitely make me want to stay.

E: Okay, and could I also ask you, now that I'm recording you, your thoughts on why people are not too eager to do the drawings?

I: As I said earlier, I think it's mainly because we're not raised to be creative, you know? We're raised to do what we know. And what we know, usually, is what we learned at school. So people aren't comfortable being creative or expressive, you know? Like, I can give you a typical example. People would rather go out, partying instead of draws - or what's this - paints? You know these people who go out just to paint? So I think it's just the way we were raised and what we were exposed to.

E: Do you think there would be any benefit from introducing it more in school?

I: Oh, definitely! I think, I think because now we all think the same way, we think "oh it's either I want to be a lawyer or a doctor" or I mean, we don't think of arts as career paths, you know? So I think that will actually open people's eyes to more avenues that they probably weren't exposed to.
E: Okay, thank you very much.

Appendix 5: Author's pictures from Soweto